

Summary report on the

Regional technical consultation on eHealth standardization for data exchange and interoperability

WHO-EM/IEH/001/E

Cairo, Egypt
24–26 June 2013



**World Health
Organization**

Regional Office for the Eastern Mediterranean

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1. Introduction

The WHO Regional Office for the Eastern Mediterranean organized a regional meeting for national experts in eHealth or health informatics, as well as expertise in HIV, tuberculosis (TB), malaria, maternal, newborn and child health, and diabetes in Cairo, Egypt, from 24 to 26 June 2013.

The objectives of the meeting were to:

- highlight the key considerations in developing a national eHealth strategy, and illustrate how diverse countries can successfully implement eHealth going forward;
- conduct a technical consultation to provide a contribution from Member States of the WHO Eastern Mediterranean Region covering both health medical and health technical domains towards the goal of developing a handbook for the implementation of eHealth standards;
- contextualize the recommendations of the regional eHealth taskforce and discuss the WHO regional eHealth initiative for establishing dedicated, reliable and operational national health networks (HealthNet), the practical steps and projects involved within the national context.

The meeting was attended by participants from 10 countries of the Eastern Mediterranean Region: Egypt, Jordan, Lebanon, Libya, Morocco, Pakistan, Palestine, Saudi Arabia, Sudan and Yemen. Representatives of the WHO Regional Office for Africa and the International Telecommunication Union (ITU) Arab Regional Office also attended the meeting.

The head of the regional eHealth taskforce, and the head of the eHealth department, Ministry of Communication and Information Technology, Egypt, were both present.

The WHO Secretariat included representatives from various Regional Office programmes, namely: Vaccine Preventable Diseases, Hospital Care and Management, Tobacco Free Initiative, Health Publication and Production, Global Arabic Programme, Research Promotion and Development, and Information and Telecommunication Technology.

Dr Ibrahim Abdel Rahim, Acting Director, Information, Evidence and Research, WHO Regional Office for the Eastern Mediterranean delivered the opening remarks from Dr Alaa Alwan, WHO Regional Director for the Eastern Mediterranean. In his remarks, Dr Alwan noted the five regional strategic priorities and stressed that to achieve the desired effectiveness and efficacy in their implementation called for the development of innovative approaches and strategies, among which was eHealth.

Dr Alwan referred to his initiative, in August, 2012, of a regional taskforce on eHealth that had produced a list of the recommended actions felt to be necessary for the Region to catch up in, and promote, eHealth for the benefit of public health. He linked these regional recommendations to the resolution recently-adopted by the Sixty-sixth World Health Assembly (WHA66/26) on eHealth and its strategic directions, and stressed the need to take practical steps in their implementation.

Dr Salah Mandil, Senior Consultant on eHealth and eStrategies and Chairperson of the Regional Office eHealth Working Group, was elected as Chairman for the first day, and Dr Ahmed Balkhair, Director of the eHealth Strategy and Change Management Office,

Information and Communication Technology Department, Ministry of Health, Saudi Arabia, was elected Rapporteur.

2. Summary of discussions

National eHealth strategy development

The daily business of health relies on information and communication, and, increasingly, on the technologies that enable it, at every level and in every country. This is equally true for delivering care, deploying personnel, managing programmes and conducting research. To support this, WHO and the ITU have together produced a framework and method to help countries plan the construction and monitoring of national eHealth programmes.

Over four sessions of the meeting, participants discussed the rationale behind developing a national eHealth strategy, highlighted the key considerations in developing the strategy, illustrated how diverse countries can successfully implement eHealth, and outlined the process of national eHealth strategy development, starting with understanding the national context for eHealth development, and the steps for initiating a national eHealth strategy planning process towards developing and refining a vision and strategic recommendations.

Discussions covered many key points, including: confirming health sector leadership, establishing governance mechanisms, engagement of different stakeholders (decision-makers, key influencers, and engaged and broader stakeholders, including the public), establishing the strategic context for eHealth, learning from eHealth trends and experiences, identifying the required eHealth components and linking them to the desired outcomes, and the required expertise and knowledge of the eHealth strategy team.

Different country experiences in the Region were presented and discussed, ranging from those countries, at the initial stage of making the case for eHealth, that have a need for strengthening of the infrastructure, to those that are ready for scaling-up and have a need for improved integration and cost-effectiveness, and policies for privacy, security and innovation.

Saudi Arabia's national eHealth strategy and its development process were presented, including the challenges, available resources, strategic objectives and the national eHealth strategic framework. The Saudi eHealth vision was formulated in 2011 to be "a safe, quality health system, based on patient centric care, guided by standards, enabled by eHealth".

Special cases were discussed such as those countries with different levels of development at the subnational level due to the nature of the decentralized health system in some countries or the political situation in others. The example of Punjab in Pakistan was discussed.

Participants stressed the need for WHO to influence the reform process in the health sector to ensure a successful re-engineering of existing policies and processes to facilitate the establishment of an enabling environment for developing, funding and implementing a realistic national eHealth vision and plan.

Among the challenges at the national level, are the cross-cutting nature of eHealth and the lack of a dedicated body or team in some countries to manage the planning and monitoring of eHealth-related activities.

The key activities required to support the process of developing national eHealth strategies were discussed. These include: (1) development of training packages and providing regional/country

support; (2) establishment of a roster of consultants from every region; (3) raising awareness and improving capabilities; and (4) reporting progress via the WHO Global Observatory on eHealth (the number of countries with national eHealth strategies is an indicator approved by the World Health Assembly for 2015).

Technical consultation on eHealth standardization for data exchange and interoperability

Interoperability is essential to achieving the full potential of information and communication technology (ICT) and medical devices in supporting health systems as part of the overall socioeconomic development of countries. WHO has a normative and standard setting function as part of health system strengthening. Integral to advancing health care is the need for appropriate use of ICT to deliver quality health services, reduce cost and achieve universal access.

Transmitting personal or population data across ICT-driven health information systems requires adherence to health data standards and related technology standards for timely exchange of data for health care decisions. Whether it is the counting of the health workforce by cadre and facilities, providing patient care through review of digital images, managing patient information through electronic medical records or conducting public health surveys and surveillance—all require interoperability of data within and between systems based on a set of standards.

The importance of the need for further development in this area was recently highlighted during the 132nd session of the WHO Executive Board, which recommended that Member States “consider, as appropriate, options to collaborate with relevant stakeholders,

including national authorities, relevant ministries, health-care providers, and academic institutions, in order to draw up a road map for implementation of health data standards at national and subnational levels.”

Over six sessions, a regional technical consultation was conducted towards the goal of developing a handbook for the implementation of eHealth standards. Using five realistic “use cases” depicting care delivery environments related to HIV/AIDS, tuberculosis, malaria, maternal, new-born and child health, and diabetes, a review was conducted to identify the essential and priority health information standards needed for the collection and transmission of person-centric electronic health data. The existing health information standards that are applicable at various stages were also identified. The categories of standards reviewed included: (1) data standards, (2) information content and terminology standards, (3) information exchange standards, (4) identifier standards, (5) privacy, security and safety standards (requirements), (6) functional standards, (7) transport standards and (8) medical device standards.

The consultation resulted in the identification of the following regional priorities for categories of standards:

- identifiers, (person, facility, service, provider, equipment)
- classification of diseases, classification of interventions (procedures)/drugs, diagnostics
- privacy, security and confidentiality standards/data management
- data exchange standards/transport standards.

Regional eHealth strategy

While there is high interest in the Region in eHealth and rapid increase in ICT investment, adoption and acceptance rates have not been high enough for health care systems to experience the maximal benefits eHealth has to offer. WHO eHealth surveys show that one third of the countries of the Region have only partial implementation of a national eHealth policy or strategy, and that only around 12% of the potential use of eHealth applications such as mobile health (mHealth) and telemedicine are established in less than quarter of the countries of the Region. Among the top identified barriers for adoption of eHealth technologies in the Region is not including such technologies in national policies or strategies as a priority.

Recognizing these issues at the regional level, the Regional Director has recently established a task force, composed of experts with extensive knowledge and experience in the domain of eHealth, to recommend the actions needed for the Region to catch up in, and promote, the area of eHealth for the benefit of public health.

Over two sessions, discussion provided an opportunity to reflect on the recommendations of the regional eHealth taskforce, including the proposed challenging objective that “by the end of 2014, all Member States of the WHO Eastern Mediterranean Region would have an operational health network linking as many of its health care providers and health care institutions as possible”.

Discussions covered the main issues at national and regional levels, as well as making recommendations and identifying priority eHealth applications and services, including national health networks, management of health care services, telemedicine and tele-education, mHealth, capacity-building, WHO collaborating centres, WHO-

Country Cooperation Strategy documents, and eHealth governance and standards.

Among the topics discussed was the Regional Director's invitation to countries of the Region, following the regional eHealth taskforce recommendations, to consider a regional initiative to establish dedicated, reliable and operational national health networks (HealthNets).

WHO has so far received positive responses from seven countries (Afghanistan, Jordan, Kuwait, Lebanon, Morocco, Oman and Saudi Arabia), demonstrating appreciation of the value of this regional eHealth initiative and an enthusiasm and willingness to contribute to its projects and share experiences in the eHealth domain with other countries. One of the objectives of this initiative is to address the informational gap in the Region, identified in the WHO second eHealth survey, on the necessary infrastructure to implement eHealth applications.

Other opportunities, challenges and technical issues related to the HealthNet initiative discussed during the meeting, included the need for mapping bandwidth per health facility for accurate estimation of resources, the anticipated issues relating to providers and their willingness to cooperate to facilitate connectivity among each other, and the challenging objective, and its related cost, of ensuring 99.99% availability of services.

A detailed breakdown of the scope of the HealthNet initiative was developed and endorsed during the meeting, covering five main components: (1) network and infrastructure (2) applications (3) coverage (geographical, health system, services, etc.) (4) national capacities (available versus required) and (5) legislative blockages.

It was suggested that an independent WHO assessment of country experiences and environments should be done, elaborating the specifications, costs and how to go about implementation of pilots and applications for the proposed health network (e.g. telemedicine, information flow between hospitals, and between hospitals and health centres, eSurveillance, access to eLearning or tele-education facilities, mHealth).

3. Recommendations

To Member States

1. Establish a national eHealth unit/programme at the ministry of health, with the proper expertise, and identify a national eHealth focal point for coordination of the strategy development process and project implementation, as well as for improved communication and collaboration with subregional/regional/global levels.
2. Utilize, and tailor, as required, the WHO/ITU national eHealth strategy toolkit to support the development and implementation of national eHealth strategies in order to provide the necessary context for the implementation of eHealth and health data standards, and to undertake regular evaluation.
3. Organize pilot studies and research projects to demonstrate the potential of eHealth for health care delivery and outcomes.
4. Start gathering and collecting information about the current eHealth environment present in the country at the national and subnational level as a first step towards national eHealth strategy development. Information should include: leadership, governance and focal points; strategies, policies and plans; services and applications; a prioritized list of core standards, and existing country-specific health data standards; opportunities, gaps, risks

and barriers to adoption of eHealth technologies, applications and data standards; infrastructure; legislation, regulations and compliance; the eHealth workforce.

5. Ensure compliance in the adoption of eHealth and health data standards by the public and private sectors by reviewing and developing, as appropriate, policies and legislative mechanisms linked to an overall national eHealth strategy.
6. Establish/strengthen reliable and operational health networks and eHealth platforms, promoted via the WHO regional HealthNet initiative, to enable countries to harness the potential of eHealth to accomplish tangible improvements in population health.
7. Arabic-speaking countries of the Eastern Mediterranean Region should support the review process of the Arabic version of the national eHealth strategy toolkit for better harmonization of language and identifying areas for further content development.

To WHO

8. Strengthen eHealth capacity at the Regional Office in order to provide technical support as required by interested countries to utilize the WHO/ITU national eHealth strategy toolkit.
9. Organize periodical web-based seminars (webinars), covering common topics of interest as identified by participating countries including the strategic context, good governance arrangements, working with stakeholders, experience of other regions, standards and interoperability, and assessing funding options.
10. Coordinate regional/subregional workshops for national eHealth strategies, standardization and interoperability, and developing national unique identifiers over the next 18 months.
11. Support Member States that are considering participating in the regional initiative to establish dedicated, reliable and operational national health networks (HealthNet).

12. Utilize the network of WHO collaborating centres for health and medical informatics, and eHealth, in order to support Member States in related research, development and innovation in these fields.
13. Establish a regional virtual network for an eHealth community to facilitate innovative discussions, webinars, and easy access to WHO resources, reports and national strategies, and successful case studies and projects.



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