



## eHealth initiatives to transform health in the Region of the Americas

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The health of people living in the Region of the Americas has experienced noteworthy improvements over the past several decades. However, several critical goals remain unmet. Considerable challenges persist in both communicable and non-communicable diseases; in particular, marked increases in obesity, diabetes, cardiovascular diseases, and cancer, and the continued impact of diseases such as tuberculosis, dengue, and malaria. Suboptimal levels of maternal and child health, insufficient human and infrastructure resources, and wide geographical and cultural differences add further complexity to the situation in the Region. The availability of health services and health-related information varies greatly across communities, geographic areas, and countries, impeding universal access to health services and decreasing the quality of care. These differences are determined by a combination of geographical barriers and other social determinants of health, as well as policy processes and decisions. Viewing the glass as half-full, the spread and uptake of information and communications technologies (ICT) have the potential to level the playing field by reducing some of these barriers and enabling information-sharing that will assist in equalizing these differences. Many ICT systems and devices, initially expensive and of limited dissemination, have become affordable and are widely used across many levels of society.

The World Health Organization (WHO) defines eHealth as “cost-effective and secure use of information and communication technologies in support of health and health-related fields” (1). Today, ICT are present in arguably all aspects of health and healthcare, making it of critical importance to gain a deeper understanding of how they can transform health services and the broader health systems in which they are embedded. The Pan American Health Organization (PAHO), through its Strategy and Plan of Action on eHealth (2), promotes improving public health in the Region through innovative ICT tools and methodologies that favor the extension of universal health coverage and help to build societies that are more informed, equitable, competitive, and democratic.

There are multiple examples of how using eHealth in health systems can address the growing demand for better quality and more accessible and affordable health services. eHealth can facilitate access to services and to health information in remote areas through telehealth; it can enhance the exchange of information and health data among systems through standards and interoperability; it can capture medical information in a health record to improve efficiency and continuity of care; it can allow secure, remote access to patients' electronic health records; it can help monitor and report diseases more frequently and with reduced latency in the system through the use of mobile devices; it can address challenges in the skilled health workforce by offering continuing education through virtual education platforms; and it can promote the search for and sharing of information among different individuals and groups through forums and other social networks accessible via the Internet and other communication channels.

Considering the importance of the aforementioned trends and the potential of eHealth to strengthen health systems, this special issue of the *Pan American Journal of Public Health* on “eHealth in the Americas” aims to reflect the range of enabling factors, practical applications, and outcomes related to using ICT in health. The diverse collection of contributions shows how a variety of eHealth interventions and policies address specific diseases, such as cancer, obesity, diabetes, depression, and lupus, among others, in addition to showing the important role that governments and other actors play in this process of change.

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A lack of political commitment is one of the main obstacles to implementing eHealth-based systems and services (3). Political commitment is key to realizing its full potential, through sustainable, appropriate, and integrated implementation of eHealth initiatives, whether on telehealth, standards and interoperability, electronic medical records, digital literacy, or use of mobile devices for health. Strong and sustained political commitment is of great significance as it pertains to matters of infrastructure, specific devices (e.g., mobile phones), applications focused on particular diseases or conditions, regulating data sharing within and across systems, as well as promoting greater information sharing and health promotion practices. This special issue on “eHealth in the Americas” describes the advances made in the development of national policies on information technologies and compares them to the advances, still moderate, in national policies on eHealth. There are policy initiatives that show the effort being made in the Region of the Americas, some of which are described in the articles by Jimenez-Marroquin and colleagues, Marti and colleagues, and Curioso on Latin America, Argentina, and Peru, respectively.

Political commitment is also vital to telehealth efforts, including telemedicine, which can enable access to patient evaluation, diagnosis, treatment, and monitoring at a distance. This special issue also includes experiences with telehealth in the Americas, specifically articles by Kairy and colleagues, Marcolino and colleagues, Galván and colleagues, Vargas and colleagues, Bill and colleagues, and Santos and colleagues which describe a series of such projects carried out in Canada, Brazil, Paraguay, Bolivia, and Argentina.

The importance of standards for health data and for interoperable and extensible eHealth systems and services cannot be ignored (4). Several articles in this issue focus on these basic tenets of information technology in health. The review article by Ovies-Bernal and colleague presents the lessons learned in the implementation of interoperable national information systems, while Rivillas and colleagues from Colombia describe advances in the development of an eHealth system in oncology. Two additional articles present further results regarding the efforts to maximize the application of eHealth techniques in the Region. Danovaro-Holliday and colleagues analyze the progress of electronic immunization registries in the Americas, and Revoredo and colleague present the implementation of electronic medical records in Peru.

Similar to many other global efforts to slow the progress of chronic disease and to advocate for health promotion and patient engagement, the Region of the Americas has seen large increases in the use of mobile technologies for health. In the Region, there are 109 mobile phone subscriptions per 100 population (5), a fact that highlights the potential for health interventions to be carried out through these devices. The articles by Cabrera and colleagues and by Alcayaga and colleagues address diabetes monitoring through mobile devices; Herschman and colleagues give a step-by-step explanation of how an app for lupus patients was developed; and Sarno and colleagues address strategies that provide support for treatment of overweight and obesity. These articles provide practical information and lessons learned that will help to advance the science of eHealth via mobile devices.

The impact of digital connectivity on the population cannot be overemphasized: 60.8% of the people in the Region actively use the Internet (5). Therefore, the development of digital literacy efforts, such as the one presented in the article by Loria-Castellanos, is of particular importance. Similar concepts are presented by Herrera-Usagre and colleagues who address the use of physician-patient Internet communication channels, and Mercado-Martínez and colleague who explore and analyze the benefits of using virtual social networks with a group of patients affected by a common disease. Likewise focusing on patient support, Lara and colleagues describe an Internet-based self-help intervention for depressive symptoms, and Muñoz and colleagues present the experiences of an online patient support program for smokers.

This special issue intends to facilitate the exchange of knowledge and experiences in the field of eHealth and to motivate countries in the Region to establish governance models and the infrastructures needed to provide high quality, effective, extensible, and interoperable systems that will improve health and quality of life. Looking ahead, eHealth will continue to play an important role in addressing the present and future challenges facing public health, including the post-2015 development agenda. Garnering a deeper and more nuanced understanding of eHealth policies and effective practices to support eHealth will help coordinate critical efforts to improve health, well-being, and access to universal health coverage in the Region of the Americas.

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