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STRATEGY AND PLAN OF ACTION ON eHEALTH: FINAL REPORT

Background

1. In May 2005, the 58th World Health Assembly of the World Health Organization (WHO) adopted Resolution WHA58.28 on eHealth, the first on this subject (1). In the same spirit, in September 2011, the 51st Directing Council of the Pan American Health Organization (PAHO), through Resolution CD51.R5 (2), adopted the Strategy and Plan of Action on eHealth (Document CD51/13) to contribute to the sustainable development of health systems in the Member States, including veterinary public health (3). Furthermore, in response to the need to facilitate worldwide processing and transmission of electronic information on the provision of health services, in May 2013 WHO adopted Resolution WHA66.24 on eHealth standardization and interoperability (4), and in September of the same year PAHO approved its Program and Budget 2014-2015 (*Official Document OD346*), which included an output indicator to promote the implementation of the regional Strategy and Plan of Action on eHealth in the Member States (5). Finally, in November 2017, WHO submitted the report *mHealth: Use of appropriate digital technologies for public health* (Document EB142/20), which calls for increased capacity in Member States to implement digital health solutions to accelerate the progress toward universal health coverage (6).

Analysis of the progress made

2. The Strategy and Plan of Action on eHealth consists of four strategic areas, 13 specific objectives and a total of 26 indicators. This report follows the same structure to facilitate monitoring of the Region's main achievements and pending challenges in eHealth.¹

¹ Information on the specific actions carried out by PAHO with regard to eHealth for the period 2011-2015 is available in an article published in 2016 in the Pan American Journal of Public Health: *Role of PAHO/WHO in eHealth Capacity Building in the Americas: Analysis of the 2011–2015 period* (7).

<i>Strategic area 1: Endorse and promote the formulation, execution, and evaluation of effective, comprehensive, and sustainable public policies on the use and implementation of information and communication technologies in the health sector</i>		
Objective	Indicator, baseline, and target	Status
1.1 Support the processes of public policy formulation and adoption with regard to people-centered eHealth	1.1.1 Number of Member States that have a policy in place to support the use of information and communication technologies in the health sector Baseline: 12 Target: 31 by 2016	A total of 25 countries and territories ² (81% of the initial target) are in the process of formulating and adopting a public policy on eHealth. This policy enables every Member State to harmonize its national agendas for innovation and public health in a coordinated and sustainable manner.
1.2 Help set eHealth-related political priorities at the national and regional levels	1.2.1 PAHO will have an eHealth technical advisory committee in place Baseline: 0 Target: 1	The response capacity of the Member States with respect to eHealth has been also been complemented with an expert group and collaborating institutions ³ that have acted as a PAHO technical committee advisory on eHealth, when necessary.
	1.2.2 PAHO and its Member States will have set eHealth policy priorities at the local, national, and regional levels Baseline: No Target: Yes, by 2014	In order to set political priorities for eHealth, Member States, PAHO, and the Statistical Conference of the Americas of the Economic Commission for Latin America and the Caribbean (ECLAC) worked jointly between 2012 and 2014 to develop methodological recommendations for measuring access to and use of eHealth ₍₈₎ that enable Member States to track their progress in eHealth in terms of infrastructure, services and applications, and training.

² Argentina, Barbados, Belize, Bonaire, Brazil, British Virgin Islands, Canada, Chile, Colombia, Costa Rica, Cuba, Curaçao, Dominican Republic, Ecuador, El Salvador, Guatemala, Jamaica, Mexico, Panama, Paraguay, Peru, Trinidad and Tobago, United States of America, Uruguay, and Venezuela. Source: PAHO Strategic Plan Monitoring System (SPMS) and PAHO and WHO eHealth observatories.

³ PAHO collaborating institutions for eHealth: Organization of American States (OAS), International Telecommunications Union (ITU), National Center for Technological Excellence in Health (Mexico), Harvard University (United States of America), Hospital Italiano de Buenos Aires (Argentina), Johns Hopkins University, Global mHealth Initiative (United States of America), Universidad Carlos III de Madrid (Spain), University of Illinois (United States of America), Universitat Oberta de Catalunya (Spain), and University of Utah (United States of America).

Objective	Indicator, baseline, and target	Status
<p>1.3 Support the establishment of an intersectoral national network (civil society/ public network/ private network) to participate in the formulation of eHealth policies and standards, as well as decision-making in that area</p>	<p>1.3.1 Number of Member States that have created institutional mechanisms for forming national partnerships among civil society, government, and private sector entities to promote eHealth</p> <p>Baseline: 4 Target: 29 by 2015</p>	<p>Creating these institutional mechanisms is part of the methodology for adopting national eHealth strategies. As a result, 25 countries have this type of partnership (86% of the initial target).</p>
<p>1.4 Consolidate a regional system to evaluate and analyze the eHealth policies of the Member States</p>	<p>1.4.1 By 2012, a regional laboratory will be operating in the countries of the Hemisphere with the objective of analyzing and implementing eHealth policies, using methods and tools that support their implementation</p> <p>Baseline: 0 Target: 1 by 2012</p>	<p>In order to consolidate a regional system for the evaluation and analysis of eHealth policies, since 2012 the PAHO Regional eHealth laboratory has been in operation, providing resources to support the implementation of eHealth policies and projects (technical guidelines, education, research, knowledge exchange, etc.), and acting as the regional entity for the WHO Global Observatory for eHealth, including a directory with eHealth country profiles for the Region, published in 2017.</p>

Strategic area 2: Improve public health through the use of tools and methodologies based on innovative information and communication technologies

Objective	Indicator, baseline, and target	Status
<p>2.1 Improve organizational and technology infrastructure</p>	<p>2.1.1 Number of Member States that have funded at least five activities (research and/or projects) on the application of ICTs in the field of health at both the local and national levels</p> <p>Baseline: 8 Target: 26 by 2014</p>	<p>There is no available data on the exact number of eHealth actions financed at the local and national levels. However, it is known that the 19 Member States that participated in the regional eHealth survey in 2015 (73% of the initial target) have financed actions in this area (9).</p>

Objective	Indicator, baseline, and target	Status
	<p>2.1.2 PAHO and the Member States will have established a strategy for identifying and strengthening the basic organizational and technology infrastructure (telephones, Internet, and e-mail) in the health services</p> <p>Baseline: 0 Target: 1 by 2014</p>	<p>In addition to financing, improving the organizational and technology infrastructure is one of the main challenges in the implementation of eHealth, according to a study led by WHO, with the support of PAHO and the International Telecommunications Union (ITU) (10). In order to collaborate in this task, PAHO worked between 2013 and 2014 with the Member States to develop guidelines that serve as the basis for a strategy to establish and strengthen basic organizational and technology infrastructure in the health services (11).</p>
<p>2.2 Promote the use of epidemiologic surveillance services, including the human-animal interface, through the use of information and communication technologies</p>	<p>2.2.1 Number of Member States that use epidemiological surveillance services through information and communication technologies</p> <p>Baseline: 10 Target: 26 by 2015</p>	<p>Since 2011, the Region has seen a 23% increase (6 additional countries, for a total of 16) in the use of information and communications technologies in epidemiological surveillance services.</p>
	<p>2.2.2 Number of Member States that have made mobile technology part of their epidemiological surveillance systems</p> <p>Baseline: 10 Target: 26 by 2015</p>	<p>Specifically, a total of 16 countries⁴ (61% of the initial target) indicated that they make use of mobile devices (mHealth) for health surveillance and supervision, which shows that this is a key area of rapid growth in the Region (9).</p>
<p>2.3 Promote the sustainable, interoperable development of eHealth-centered programs and initiatives that are capable of expansion</p>	<p>2.3.1 PAHO and the Member States will have adopted a common framework for unique patient identification</p> <p>Baseline: 0 Target: 1 by 2016</p>	<p>A common framework for unique patient identification has still not been adopted. Unique patient identification is one of the key components to facilitate the circulation of personal information throughout the health system and services at the local, national, and regional levels. The challenges to moving forward at the regional level</p>

⁴ Argentina, Canada, Colombia, Costa Rica, Dominican Republic, Ecuador, El Salvador, Honduras, Jamaica, Mexico, Panama, Paraguay, Peru, Trinidad and Tobago, United States of America, and Uruguay. Source: WHO Global Observatory for eHealth.

Objective	Indicator, baseline, and target	Status
		involve, first of all, devising an electronic procedure for personal identification at the national level. Electronic records of live birth could be useful for this, as has been demonstrated by experiences in Mexico and Peru.
	<p>2.3.2 Number of Member States that provide online services (e.g. individualized citizen identification, digital clinical records, electronic prescription of medicines) and telemedicine at the different levels of care through health facilities</p> <p>Baseline: 13 Target: 22 by 2016</p>	Practically all the Member States offer online health services. For example, initiatives related to telemedicine and electronic health records are the most widespread and at least 18 countries (82% of the initial target) have implemented at least one of those two services. Specifically, 10 countries ⁵ already have a national electronic health records system that provides immediate and secure information to authorized users. Furthermore, 17 countries ⁶ offer teleradiology services.

Strategic area 3: Promote and facilitate horizontal cooperation among countries for development of a digital health agenda for the Region

Objective	Indicator, baseline, and target	Status
3.1 Promote intersectoral cooperation, both within each country and among several countries, and identify electronic mechanisms for sharing best practices, regional resources, and lessons learned	<p>3.1.1 PAHO, in collaboration with the Member States participating in the regional eHealth laboratory, will disseminate biennial reports evaluating the policies of the Member States</p> <p>Baseline: No Target: Yes, by 2014</p>	Since 2011, in collaboration with the Member States, PAHO has worked in preparing and disseminating biennial progress reports regarding advances on eHealth in the Region (prepared in 2013 and 2015).

⁵ Canada, Chile, Costa Rica, El Salvador, Jamaica, Mexico, Panama, Paraguay, Peru, and Uruguay. Source: WHO Global eHealth Observatory.

⁶ Argentina, Canada, Chile, Colombia, Costa Rica, Cuba, Dominican Republic, Ecuador, El Salvador, Guatemala, Mexico, Panama, Paraguay, Peru, Trinidad and Tobago, United States of America, and Uruguay. Source: WHO Global Health Observatory.

Objective	Indicator, baseline, and target	Status
	<p>3.1.2 PAHO and the Member States will have adopted a strategy for communicating and disseminating information to stakeholders and the general public</p> <p>Baseline: 0 Target: 1 by 2014</p>	<p>Although a formal communication strategy was not developed, mechanisms have been put in place for communication and dissemination of information in the PAHO regional eHealth laboratory (use of distribution lists, communities of practice, and social networks).</p>
<p>3.2 Promote the standardized interoperability of health systems (organizational and technological interoperability)</p>	<p>3.2.1 Number of Member States that have a standard protocol for information-sharing on their health information system</p> <p>Baseline: 0 Target: 17 by 2017.</p>	<p>The standardized interoperability of health systems (organizational and technological interoperability) continues to be a challenge for the Region due to the lack of integration among the existing information systems. Given this challenge, in 2017 PAHO launched the Information Systems for Health (IS4H) initiative, which will focus its efforts on improving information systems in the Region. Data collection efforts are now underway to respond to this indicator.</p>
	<p>3.2.2 PAHO and the Member States will have defined a common framework for the development of a compatible standard for information exchange among systems</p> <p>Baseline: 0 Target: 1 by 2015</p>	<p>The absence of a standard protocol for information exchange in the health information system has hindered regional progress toward a compatible standard for information exchange between systems, something that the IS4H initiative will also affect. As a result, this indicator has still not been achieved.</p>
	<p>3.2.3 Number of Member States that have a methodology for determining the arrangements and procedures to be used by the different organizational and administrative units that interact in the technology-mediated delivery of medical/public health services</p> <p>Baseline: 0 Target: 17 by 2017</p>	<p>No advances have been observed in the development of this type of methodology.</p>

Objective	Indicator, baseline, and target	Status
<p>3.3 Identify a legal framework that supports the use of information and communication technologies in the health sector and facilitates the electronic sharing of clinical information at the national and regional level. This legal framework will promote the validity of telemedicine activities and safeguard the protection of personal data</p>	<p>3.3.1 Number of Member States that have a legal framework to promote the security of information systems and protect personal data and confidentiality in computerized information systems</p> <p>Baseline: 6 Target: 25 by 2017</p>	<p>At least 18 countries in the Region⁷ (72% of the initial target) have legislation to safeguard the privacy of people's personal data.</p>
	<p>3.3.2 Number of Member States that have a legal framework that facilitates the electronic sharing of clinical information at the national level</p> <p>Baseline: 4 Target: 17 by 2017</p>	<p>The number of legal frameworks that support the use of information and communications technologies in the health sector and facilitate the sharing of clinical information has increased in recent years. Specifically, at least nine countries⁸ (53% of the initial target) report having a legal framework that facilitates the electronic sharing of clinical information at the national level.</p>
	<p>3.3.3 PAHO and the Member states will develop a legal framework that promotes the electronic sharing of clinical information at the regional level</p> <p>Baseline: 0 Target: 1 by 2017</p>	<p>Once progress has been made at the national level, a joint effort could be made to identify a legal framework that promotes the sharing of clinical information at the regional level. As a result, this indicator has not yet been achieved.</p>

⁷ Argentina, Canada, Chile, Colombia, Costa Rica, Cuba, Dominican Republic, Ecuador, El Salvador, Guatemala, Honduras, Mexico, Panama, Paraguay, Peru, Trinidad and Tobago, United States of America, and Uruguay. Source: WHO Global eHealth Observatory.

⁸ Argentina, Canada, Chile, Colombia, Dominican Republic, Mexico, Paraguay, United States of America, and Uruguay. Source: WHO Global eHealth Observatory.

<i>Strategic area 4: Knowledge management, digital literacy, and education in information and communication technologies as key elements for ensuring the quality of care, health promotion, and disease prevention activities, guaranteeing training and better access to information in an equitable manner</i>		
Objective	Indicator, baseline, and target	Status
4.1 Promote training in information and communication technologies in universities and among health professionals	4.1.1 Number of Member States that have a training plan for universities in the area of information and communication technologies and health Baseline: 9 Target: 28 by 2015	The number of countries that have a training plan for universities in the area of eHealth has remained steady. Specifically, at least 16 countries ⁹ have training of this kind in some universities.
4.2 Provide reliable, quality information on health education and disease prevention to the population and health professionals	4.2.1 Number of Member States that have a policy governing open access to certified public health content Baseline: 0 Target: 10 by 2017	No advances have been observed in the development of certified public health content.
	4.2.2 Number of Member States with a national virtual health library with information sources and services that address the topics of education for health, disease prevention, and the health priorities identified in their national health plans and strategies and that are clearly and systematically available in the VHL [Virtual Health Library] Baseline: 0 Target: 11 by 2013	Reliable, quality information on health education and disease prevention has been provided to the population and to health professionals through the following methodologies, products, and services of the PAHO/WHO Latin American and Caribbean Center on Health Sciences Information (BIREME): the Virtual Health Library (VHL), which includes 109 national, thematic, and institutional initiatives (entities) in 30 countries (The regional portal of the VHL registered nearly 13.6 million visits, facilitating access to more than 27 million documents, of which more than 10 million have full-text access.); the LILACS database (Latin American and Caribbean Health Sciences Literature),

⁹ Argentina, Canada, Chile, Costa Rica, Cuba, Dominican Republic, Ecuador, Guatemala, Honduras, Jamaica, Mexico, Paraguay, Peru, Trinidad and Tobago, United States of America, and Uruguay. Source: WHO Global eHealth Observatory.

Objective	Indicator, baseline, and target	Status
		<p>with 924 indexed journal titles, which operates in collaboration with libraries in 26 countries of the Region; courses at the Virtual Campus for Public Health (VPHC), which include 14 courses on neglected diseases, one on access to and use of scientific information on health, and one on evidence-based health policies. This list of actions reflects the achievement of this objective.</p>
	<p>4.2.2 Number of Member States with a national virtual health library with information sources and services that address the topics of education for health, disease prevention, and the health priorities identified in their national health plans and strategies and that are clearly and systematically available in the VHL [Virtual Health Library]</p> <p>Baseline: 0 Target: 11 by 2013</p>	<p>Reliable, quality information on health education and disease prevention has been provided to the population and to health professionals through the following methodologies, products, and services of the PAHO/WHO Latin American and Caribbean Center on Health Sciences Information (BIREME): the Virtual Health Library (VHL), which includes 109 national, thematic, and institutional initiatives (entities) in 30 countries (The regional portal of the VHL registered nearly 13.6 million visits, facilitating access to more than 27 million documents, of which more than 10 million have full-text access.); the LILACS database (Latin American and Caribbean Health Sciences Literature), with 924 indexed journal titles, which operates in collaboration with libraries in 26 countries of the Region; courses at the Virtual Campus for Public Health (VPHC), which include 14 courses on neglected diseases, one on access to and use of scientific information on health, and one on evidence-based health policies. This list of these actions reflects the achievement of this objective.</p>

Objective	Indicator, baseline, and target	Status
	<p>4.2.3 PAHO and the Member States will have defined a common framework for the development of Web portals containing certified public health content</p> <p>Baseline: 0 Target: 1 by 2014</p>	<p>Although a common framework has not been defined for the development of a portal with certified public health content, measures have been taken to advance in that direction soon. Specifically, BIREME signed an agreement of understanding with the University Hospital of Rouen (France) for the translation of the exclusive terms of the Health Sciences Descriptors (DeCS) into French, and for the interoperability of the VHL and the DeCS with France's health knowledge platform (Health Terminology/Ontology Portal—HETOP) and the French health sciences index (<i>Classifies et Index des Sites Médicaux de Langue Française—CiSMéF</i>).</p>
	<p>4.2.4 Number of Member States with access and local capacity to produce and use the content of the Virtual Health Library</p> <p>Baseline: 26 Target: 35 by 2015</p>	<p>A total of 23 countries¹⁰ have access and local ability to produce and use the content of the Virtual Health Library (66% of the initial target).</p>
<p>4.3 Facilitate the dissemination, communication, and widespread distribution of health information, with emphasis on emergencies, through social networks</p>	<p>4.3.1 Number of Member States that have a strategy for using social networks in emergencies</p> <p>Baseline: 0 Target: 15 by 2017</p>	<p>It has been observed that the Member States are using social networks to facilitate the dissemination, communication, and socialization of public health information, although strategies have not been identified for this purpose, even in emergencies, or for health promotion and disease prevention. Nevertheless, a sample of</p>

¹⁰ Argentina, Belize, Bolivia, Brazil, Chile, Colombia, Costa Rica, Cuba, Dominican Republic Ecuador, El Salvador, Guatemala, Guyana, Honduras, Mexico, Nicaragua, Panama, Paraguay, Peru, Puerto Rico, Trinidad and Tobago, Venezuela, and Uruguay. Source: BIREME.

Objective	Indicator, baseline, and target	Status
	<p>4.3.2 Number of Member States that have a strategy to support the use and presence of social networks as a medium for health promotion and disease prevention activities</p> <p>Baseline: 12 Target: 29 by 2016</p>	<p>18 countries¹¹ shows that social networks (mainly Twitter and Facebook) are commonly used in emergencies (surpassing the target), and for health promotion and disease prevention (62% of the initial target) (12).</p>

Action Necessary to Improve the Situation

3. In the PAHO Strategic Plan 2014-2019 (*Official Document OD345*), eHealth is identified in Category 4 (Health Systems), and in programmatic area 4.4 (Health Systems Information and Evidence) (13). In the Sustainable Health Agenda for the Americas 2018-2030 (Document CSP29/6), eHealth is addressed in Goal 7 (Develop capacity for the generation, transfer, and use of evidence and knowledge in health, promoting research, innovation, and the use of technology) (14).

4. Given the above, the following measures should be considered going forward:

- a) continue formulating national eHealth strategies in countries that do not have them, and monitor those that are already in the implementation phase;
- b) promote the use of innovation and digital health solutions by requesting this approach in the working documents presented to the PAHO Governing Bodies;
- c) strengthen the Region's information systems by supporting the Information Systems for Health (IS4H) initiative;
- d) establish a road map for the role of eHealth within the framework of the Sustainable Health Agenda for the Americas 2018-2030 (14), specifically Goal 7.

Action by the Directing Council

5. The Directing Council is invited to take note of this report and provide any comments it deems pertinent.

¹¹ Argentina, Bolivia, Chile, Colombia, Costa Rica, Cuba, Ecuador, El Salvador, Guatemala, Honduras, Mexico, Nicaragua, Panama, Paraguay, Peru, Dominican Republic, Uruguay, and Venezuela. Source: PAHO and WHO eHealth observatories.

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