

Advance of telehealth in Ecuador

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Abstract

Introduction: Several telehealth initiatives are underway in Latin America, with the structuring of national telehealth projects. This article aims to know the progress of telehealth in Ecuador *Method:* A bibliographic review was carried out, involving articles and scientific standards, from 2003 (year of establishment of documents related to telehealth at the national level) until October 2020. *Results and discussion:* There was a set of resolutions and regulations related to telehealth in the years 2003, 2008, 2010, 2015 and more recently 2020, in which articulations with national health development projects are systematized, various technical standards for structuring the area. telehealth, as well as project implementation proposals. The most recent resolution of 2020 proposes to articulate the area of telehealth in the context of the development of digital health. *Conclusion:* despite these resolutions and regulations, the development of telehealth is still precarious. *Keywords:* Telehealth; Telemedicine; Digital Health.

Resumen

Avance de Telesalud en Ecuador

Introducción: Varias iniciativas de telesalud están en marcha en América Latina, con la estructuración de proyectos nacionales de telesalud. Este artículo tiene como objetivo conocer el avance de la telesalud en Ecuador. *Método:* Se realizó una revisión bibliográfica, involucrando artículos y estándares científicos, desde 2003 (año de establecimiento de documentos relacionados con la telesalud a nivel nacional) hasta octubre de 2020. *Resultados y discusión:* Existía un conjunto de resoluciones y normativas relacionadas con la telesalud en los años 2003, 2008, 2010, 2015 y más recientemente 2020, en las que se sistematizan articulaciones con proyectos nacionales de desarrollo en salud, varias normas técnicas para la estructuración del área. telesalud, así como propuestas de implementación de proyectos. La resolución más reciente de 2020 propone articular el área de telesalud en el contexto del desarrollo de la salud digital. *Conclusión:* a pesar de estas resoluciones y regulaciones, el desarrollo de la telesalud es aún precario.

Palabras clave: Telesalud; Telemedicina; Salud Digital.

Resumo

Avanço da Telessaúde no Equador

Introdução: Várias iniciativas de telessaúde estão em curso na América Latina, com estruturação de projetos nacionais de telessaúde. Este artigo tem como finalidade conhecer o avanço da telessaúde no Equador. *Método:* Utilizou-se uma revisão bibliográfica, envolvendo artigos científicos e normatizações, de 2003 (ano de instauração dos documentos relativos a telessaúde no plano nacional) até outubro de 2020. *Resultados e discussão:* Observou-se um conjunto de resoluções e normatizações relativas à telessaúde nos anos de 2003, 2008, 2010, 2015 e mais recentemente 2020, no qual são sistematizadas articulações com projetos nacionais de desenvolvimento da área de saúde, diversas normativas técnicas de estruturação da área de telessaúde assim como propostas de implementação de projetos. A resolução mais recente de 2020 se propõe a articular a área de telessaúde no contexto do desenvolvimento da saúde digital. *Conclusão:* Apesar destas resoluções e normativas, ainda o desenvolvimento de telessaúde é precário. *Palavras chave:* Telessaúde; Telemedicina.; Saúde Digital

Introduction

The purpose of this article is to learn about the progress of tele-health in Ecuador, for which it is also important to know what the term refers to. It refers to the use of electronic communications for the purpose of providing or receiving services related to health care; it is designed so that the user can receive health care without the need to go to health centers or posts; the user or patient can access this service using a telephone, computer or any electronic device¹.

Without a doubt, technology is one of the most effective ways to communicate in these globalized times. Using it in health is a very productive way to improve medical service in Ecuador and many Latin American countries.

In Latin America, telehealth is advancing by leaps and bounds. This is fundamental to improve access to health; at the same time users can obtain health information or even talk to their health care provider through video conferences, email or text messages. With this service society can monitor their vital signs, use of medication or any other doubt about their health or the health of the people around them; all this forms a support network for quality health care processes based on evidence.

The main objective of the advance of telecommunications in the health sector is to improve the quality of life of human beings. According to the World Health Organization this improvement in the quality of life and health of human beings has given rise to projects such as e-health, cyber-health and many others.²

Taking this into account, the following article will aim to know more about the subject. The objective is to learn about the development of telehealth as a tool for access to health in Ecuador.

Method

The approach we will use is that of literature review, this allows us to gather information from various sources on the particular subject of tele-health advancement and thus on the subject in depth. Through documentary research, involving laws and resolutions related to telehealth in Ecuador as well as articles published on the subject, documents were found from 2003, when the national telehealth project in Peru starts until October 2020, when the last resolution on telehealth in the country. After the documentary analysis, a systematization of the collected material was carried out, based on a historical trajectory.

Results and Discussion

Telehealth has been defined by numerous international entities such as the World Health Organization (WHO), Pan American Health Organization (PAHO), European Economic Community (EEC) and others, establishing that telehealth is a process of care in distant places, distance being a critical factor for health. This process is carried out by qualified personnel, who make use of ICTs and telecommunications to establish diagnosis and care in areas to improve the health of society.³

Telehealth is also known as telemedicine, mobile health, remote patient monitoring and eHealth. As we already know, tele-health seeks to facilitate and speed up the receipt or provision of health care services, contrary to what it seems to be a commonly used service in underdeveloped or third world countries, this being an effective way to reduce costs as well as to avoid inconvenience to both health care providers and patients; without a doubt the globalized world in which technology and the Internet are within everyone's reach is a useful way to exchange health information.

In Ecuador the term could be considered as something new; it appeared only in 2006 when the country held the V Aerospace Conference of the Americas, this year the development of telemedicine in Ecuador was proposed as a topic in the agenda of the international conference; This opened the door to something completely new, and in 2007 the Universidad Técnica Particular de Loja was the pioneer in implementing tele-health in the "Tutupaly Zamora-Loja Project"; since then, several state institutions and universities have joined forces to implement tele-health in Ecuador.⁴

For Lopez telemedicine or telehealth will always be framed in the plan of the government of Buen Vivir; one of the objectives of the program is access to high quality and free medical care; taking into account that and the concept of telehealth, both go together; this undoubtedly has several advantages for the country as well as for users of the same, of which four advantages can be rescued, the first is accessibility; if we take into account that we all use the internet or smart phones it is much easier for the patient to link up to the teleconsultancy no matter where he is; the second advantage would be efficiency; if I can access from my home or wherever I am this service would eliminate the long waiting lists; as a third advantage we would have the improvement in quality of care and service provided, this is achieved to diagnostic accuracy always with the possibility of having a second opinion, and one of the most important advantages of telehealth would be equity, because this method universalizes the health service and allows access to people living in rural or marginal areas, and thus avoids the marked inequality in the availability and quality of medical care.⁵

Taking into account each of the advantages of telehealth, one could say that it is an excellent option to improve the health system and accessibility to it, something that is also very important, is that this type of program guarantees constant training for doctors, there is also feedback regarding clinical cases, making them able to contact other people or even exchange experiences, even at present in careers related to the health branch many universities have already introduced telehealth as a subject of academic curriculum; if technology advances, it's very important that we as a society do so as well.

Currently, information technologies are a fundamental part of the social and economic environment, they help by facilitating the storage of information, its processing and one can access data as quickly as possible; therefore, information technology (ICT) is not alien to the area of medicine and health, together it can facilitate and improve it.

In Latin America there are several countries where telehealth has been implemented; improving access to health in the most vulnerable sectors; in 2009 the International Development Research Center (IDRC) publishes a paper called Telehealth in the Developing World; Telehealth in a Developing World development; this document mentions the importance and above all the need for ICT and the health system to interact.⁶

In the case of Latin America; Mexico was the pioneer in introducing telehealth in its health system, then there have been several countries that have chosen this modality.⁶

One of the advantages of Ecuador over countries like Peru, Bolivia or Venezuela is the development of its ICTs; one of the first disadvantages of many of the countries of the Americas is that access to the Internet is still limited, which makes access to telehealth difficult. One of the countries that is best positioned in telemedicine is Brazil, whose telehealth program covers almost 50% of family health teams.

In terms of the number of people, Colombia ranks second on the list of Latin American countries that have improved their public health services, which have instead been targeted at hard-to-reach populations. Costa Rica launched its telemedicine project in 1996, but upon analysis of the data, and knowing that the expected results were not achieved, it was discontinued.

The problem in Latin America is not only the lack of access to health, but also the difficulty in accessing the Internet. We would even say that in a globalized world there are still people who do not know how computers work; that is why telehealth is a strategy for countries with little access to health or with deficient health services. According to the WHO (2011) stated that countries like Peru has 9.2 doctors per 10,000 inhabitants, compared to the United States

which has 26.7 and Cuba which has 64 doctors per 10,000 inhabitants; and the problem was aggravated when rural areas or

Indigenous peoples have no access to medicine or medical services, and these depend not only on health ministries but also on geographical borders.

In 2018 Judith Mariscal conducted a study on telehealth in America and the world, she stated that 61% of Latin American countries had a national strategy and plan on e-health; although many of them are in the stage of the formulation of the politics and others in the stage of implementation, Hence the importance of creating cooperation groups with universities to be able to advance in telemedicine.

She concludes that the most important challenges in the region are budget, electronic identification, lack of institutional support, and in countries with large indigenous populations, one of the biggest problems is language differences.

Since 2003, Peru has been discussing the development of a national telehealth plan. It consists of the development of a national telehealth plan. The National Telesanity Commission has been created, in charge of preparing and proposing the necessary actions for the development of Telesanity in Peru. This commission prepares the National Telehealth Plan of Peru and already in 2005 it was approved, established in Supreme Decree No. 028-2005-MTC1. The plan outlines the role of telehealth:

.... the incorporation of Telehealth as a Health Technology to support the National Coordinated and Decentralized Health System, will serve as a strategic tool to facilitate change, which uses ICT to satisfy the health needs of the population;

The 2005 National Telehealth Plan emphasizes the strategic role of telehealth, placing it in the context of the development of the health system and highlighting its main potential to contribute to this development:

..... telehealth is not only the implementation of technology, it is a whole process, it is more than an assistance tool that allows the provision of health services at a distance. It is also a strategic tool for organizational change for the National Coordinated and Decentralized Health System (SNCDS); Because by promoting the integration of information between the subsystems that compose it, it facilitates adequate coordination between them and between the levels of care and organization of each one at the national level.

In 2008, the telehealth technical standard⁴ (MINSAL, Peru, 2008) was drawn up, the objective of which was to contribute to the decentralization and integration of the health system and the universalization of health services with quality, efficiency and equity through the incorporation of Telehealth.

The general objective of the standard is to regulate the applications of Telehealth in the management and actions of Information, Education and Communication (IEC) in health services, as well as in the provision of health services under the modality of telemedicine. São gives specific objectives of the standard:

- Establish quality and timeliness criteria for telehealth applications in the provision of services under the telemedicine modality;
- Define the applications in the management of health services;
- Define the applications in the Information, Education and Communication actions in health services.

In 2015, Altamirano⁶ highlights no more than six or seven ongoing non-country projects. : Project “Information and Communication Technologies for the integral development of the Candarave Communities” and “Take care of your Mobile Health” Program, financed by MINSAs; Online Live Birth Registration System, Mobile Emergency Care System - SAMU; National Network of Virtual Technical Assistance in Neonatal Critical Care; Tele-electrocardiography service in the Regional Directorate of Health in Tumbes and EsSALLUD, which has established a National Telemedicine Center (CENATE).

The author recalls that, in 2013, co-financed by MINSAs and the Telecommunications Investment Fund (FITEL) of the Ministry of Transport and Communications, a Telediagnosis and Training System was launched. The System allows access to intranet / internet, incorporates an education and training module, allows the examination in real time with monitors and screens that simulate the face-to-face patient-doctor relationship, with a streaming TV infrastructure and high definition video streaming service and medical image quality, as well as various digitally connected medical devices.

Gozzer Infante⁷, in 2015, reaches the conclusion that there were 57 telehealth initiatives, managing to detail 38 experiences, and of these 66% are still ongoing. The author systematizes and concisely describes its characteristics, classifying the initiatives into four general groups: remote management; remote diagnosis; telehealth in PHC and rural areas and telemedicine area. The projects focus on the area

of telemedicine.

In 2020, the Ministry of Health of Peru passes a ministerial resolution of the Digital Agenda. It is a technical document that is known to all directions that contains the objectives, strategies and actions oriented towards the future vision of health and digital transformation in Peru, how is the Electronic and TeleMedicine Medical Record and has the support from BID experts.

In that document - resolution 816 of the Ministry of Health of 2020, - once again the issue of telehealth has been addressed. The resolution's general objective is to improve the quality of health services provided to the population through the use of digital technologies.

Many articles talk about the potential of tele-health, especially because it provides access to care for individuals in rural and remote locations. It is this potential that must be made a reality for the developing world in order to improve the lives of many individuals living in inhumane circumstances.

Conclusion

Telemedicine can benefit its users and health care providers in training, which can prevent certain types of diseases and their complications;

Telemedicine has an unlimited scope, because it goes hand in hand with the development of telecommunications and information technology;

Telehealth seeks to break down social barriers, making health services accessible to the entire Ecuadorian population;

In Ecuador, tele-health advances together with ICTs; the problem lies in the fact that many people do not know about the subject and others do not know how to access

service, it is important to educate and train users on this topic so that they can reach more people;

In conclusion, in a world full of technology and the Internet, tele-health must be used to the fullest extent possible to improve the efficiency and effectiveness of medical services.

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