With telemedicine progressively becoming more prominent in today’s society, the idea soon emerged that telemedicine can impact the lives of millions in remote areas as it is a technology that aids in the practice of “medicine at a distance” or “healing from a distance”. To further expand the reach of healthcare through telemedicine, research soon developed and tested the practicality of telemedicine in public health case studies that aid population living in remote areas. This was also an opportunity to gather data from patients to gauge the impact that telemedicine has on new treatments, diagnosis, feasibility, and medical consultations.

The telemedicine system consists of an interface between hardware, software and a communication channel aimed to bridge two geographical locations to effectively exchange information and enable teleconsultation between two locations.

Many developed countries have been applying telemedicine for epidemiological disease surveillance, dissemination of health information and health education, provision of health care in remote areas, and screenings for diseases through tele-cardiology, tele-cancer care, tele-ophthalmology, etc.

However, challenges arise in developing countries yielding a failure to adopt the service due to high costs, poor infrastructure, security issues, and lack of clarity of benefits among policy makers. In response, the Pan-American Health Organization (PAHO) developed telecentres in Latin America. This was an integral component...
of their Strategy and Plan of Action on eHealth (2012-2017), which was approved by the Member States in 2011.

In the United States, telehealth market is expected to increase over 19.5 billion U.S. dollars until 2025, which can also represent an important investment towards patients that are willing to receive telemedicine care. A study developed by Brandon et. al suggested that most patients are willing to accept Telemedicine, especially if the medical control is developed by trusted physician or institution. Additionally, the American Hospital Association determines that 65% of the hospitals from their network are connected with a telemedicine service, which not only helps the patient to get medical attention but also helps physicians to contact other physicians from different medical specializations in order to get a diagnosis faster.

Telehealth in Latin America is currently evolving and growing into its niche, as different Latin American countries develop national projects regarding telehealth. Ultimately this will impact the infrastructure of telemedicine worldwide and to some degree affect the structuring of collective forums. These forums, in addition to the ministries of health and universities, include cooperation agencies such as the Economic Commission for Latin America and the Caribbean (ECLAC), PAHO, the Inter-American Development Bank (IDB), the Latin American and Caribbean Economic System (SELA), and structures of civil society such as American Telemedicine Association Latin American & Caribbean Chapter (ATALACC) and Ibero-American Organization of Telehealth. With the current needs and growing incentives for telemedicine, it becomes pivotal for ongoing investment in health communication infrastructure such as telemedicine because it is a cost-effective solution for chronic health problems. This technology will provide medical consultations for patients in remote areas, facilitate remote screenings for diseases, treats non-life-threatening diseases like conjunctivitis, and even promotes diet consultations. Many healthcare providers and institutions are aware of this. As a result, the Latin American telemedicine market’s value is projected to grow with a Compound Annual Growth Rate (CAGR) of 17.2% between now and 2020 to reach 2.5 billion U.S. dollars—more than double its 2015 value of 1.13 billion U.S. dollars.

In 2008, the IDB approved the project Regional Protocols for Public Policies for Telehealth in Latin America, with the participation of six ministries of health in Latin America. Currently, 12 ministries of health officially participate in the protocol: Bolivia, Brazil, Chile, Colombia, Costa Rica, El Salvador, Ecuador, Guatemala, Mexico, Peru, Uruguay and Venezuela. PAHO and ECLAC have also expressed their support for the project.

The first contributions of ECLAC’s eHealth commission began to materialize under the Regional Plan for the Development of the Information Society in Latin America and the Caribbean - eLAC 2015. eLAC is an organization that consists of Member States of Latin America and Europe, and their current objective is to prioritize the development of the information society in Latin America and the Caribbean. Since 2007, meetings have been held to set priorities for their region.

Currently there are several existing telemedicine services. For instance, Brazil has the most municipalities with telemedicine services in the Latin-American Amazon region. Venezuela and Ecuador are in a telehealth resources incorporation process in their Amazon region, yet they already have existing services in the area. Colombia and
Peru are developing services in their respective region.


Mexico was the first country in Latin America to apply telemedicine in medical practice. The benefits that patients have received by this intervention are well shown, especially in the indigenous population. Despite the distance and language barriers that the indigenous population faced, they were still able to receive proper and specialized medical attention. Due to the positive feedback that telemedicine had in medicinal practice, Mexico’s Ministry of Health created the Telehealth Office, which now regulates the practice of telemedicine in their country.

Ecuador has a National Telehealth Project whose main objective is to bring specialized medical consultation services through teleconsultations to their country, and to give continuing education services to health workers, especially the ones serving in remote areas. The Ecuadorian National Telemedicine / Telehealth Program has developed pilot plans in three of the six Amazon region provinces (Pastaza, Morona Santiago, and Napo), which have undergone major infrastructure improvements within the structural wiring; however, there are still delays in the implementation and use of telehealth resources.

In Argentina, Garrahan Pediatric Hospital has been developing the first telemedicine program in their country since 1997. The project, called “Referencia-Contrarreferencia”, promotes health at the provincial and regional levels, and encourages equal access to consultations with specialists. Approximately 50,000 consultations were done since 1997 and 80% of the patients did not need to travel to the hospital, which is located in Buenos Aires.

Unfortunately, unbiased statistical data, like the one from the Garrahan Pediatric Hospital, is hard to obtain from other Latin-American countries. It is imperative to note that the pharmaceutical industry plays a monumental role in the implementation of telehealth and telemedicine services, just like international health organizations, local governments, and healthcare providers.

In order to improve the quality of health care services, computers and telecommunication technologies serve to promote the continuing education of health professionals by providing education that is unaffected by distance. With the cumulative knowledge and evidence obtained through research, telemedicine will have an impact on health by providing healthcare services for remote locations, advancing pharmaceutical trials more efficiently, monitoring drug safety and drug interactions, and delivering quality healthcare to all. Ultimately, telemedicine will establish networks that can easily predict determinants of health in varying populations, leading to more conclusive treatments and diagnosis. This will reduce the prevalence of accidents that occur in healthcare, overall protecting the patients’ lives, making it a useful tool in the execution of clinical trials and medical practice.

“Just as telemedicine is reshaping clinical care, it is poised to reshape clinical trials. New technologies and tools wearable sensors and virtual visits are rapidly changing the way that information is collected in clinical trials.”

Ray Dorsey, MD, MBA
Director, Center for Human Experimental Therapeutics
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