CHAPTER TWO

Telemedicine for mental health in Latin America
Guillermo Alonso Castaño Pérez, Luz Angela Rojas Bernal,
Macarena Andrea Maldonado

Advances in technology are paving a new way forward for human relationships. These changes have also influenced how health is provided, in many cases replacing traditional clinical practice with the emerging capacity to offer long distance, real-time medical care. These practices are referred to as telemedicine, telehealth or telecare.

Telemedicine has become increasingly common, not only for imaging (probably the most frequent use), but also for evaluation in areas such as neurology, neurosurgery, dermatology, and psychiatry (Cornford & Klecun-Dabrowska, 2001). On the same note, the importance of mental health has increased worldwide in recent years. Mental and neurological disorders linked to substance abuse and suicide represent a major cause of impairment and mortality, constituting one third of all the years lost to disability (YLD) and one fifth of the disability-adjusted life years (DALY) in the Americas (PAHO, 2018).

The World Health Organization (WHO) has raised the alarm about the high number of people suffering from mental disorders not receiving competent care, if any (WHO, 2004). A review by García-Lizana and Muñoz-Mayorga (2010) emphasizes the importance of developing more effective mental healthcare service systems to reinforce access and quality of patient care. Advances in technology are radically improving mental healthcare, for example with the development of atypical antipsychotics (Guzman & Pignatiello, 2008).

Telepsychiatry has been used as a substitute for much of what was previously only applicable with traditional care methods. It can be applied as a supplement to face-to-face care, or as a standalone form of contact between patient and care provider. It can be used to perform evaluation for diagnostics or follow-ups, determine clinical treatments or therapeutic supports, assist the patient with emergencies in any given time and place, perform pre- and post-op evaluations, and supervise hospital admission (Koivunen et al., 2007).

Psychiatric emergencies can also be assessed by telepsychiatry, allowing a fast response and timely treatment of patients in crisis. In cases with a risk of harm towards oneself or others, telepsychiatry can also be used to provide recommendations to health professionals or those in contact with the patient (Grantham, 2010). It is also useful tool to reach people living in rural zones where hospitals or other health facilities are out of reach (Pignatiello et al., 2011), those with mobility or transport limitations, or incarcerated individuals. Telepsychiatry can work as a complementary instrument for the psychiatrist in order to control and supervise adherence to treatment and possible side effects (Norman, 2006). Consequently, telepsychiatry can be regarded as a proper tool to assess specific topics or cases among specialists, as well as to give training in psychiatry to other health professionals who deal with mentally ill patients (Moffatt & Eley, 2010).

Telemedicine has been reported to be viable for the evaluation and diagnosis for a number of patients with mental disorders in different environments (Baigent et al., 1997; Frueh et al., 2000; Hilty et al., 2013, 2018). Likewise, relevant research has pointed to benefits for a great variety of mental pathologies (Chakrabarti, 2015; Naslund et al., 2015), showing clinical results of virtual care equal to those of face-to-face practice, and at a lower cost (Backhaus et al., 2012).

Telemedicine has been promoted since the early days of modern computers and the internet in the 1970s as a way to surmount geographical barriers and improve access to health care in

CDS PRESS

remote areas (WHO, 2010), with the United States, Europe and Oceania leading the way (Castaño et al., 2016). But in Latin America there is a significant gap between public spending on mental healthcare and its associated disease burden (Vigo et al., 2019), causing inadequate treatment of mental disorders (PAHO, 2018). This is especially a problem among people of lower socioeconomic status, with barriers to care including stigma, insufficient public funding of health systems, and centralization of such services in and healthcare workers in large cities leading to a lack of availability elsewhere (Acosta & Trillas, 2010).

The implementation of telemedicine in healthcare aims to break geographical barriers, make access easier for patients, and optimize mental health-specialized human resources. The discipline is defined by the American Psychiatry Association (APA) as "the provision of behavioural and/or mental health care services using technological modalities in lieu of, or in addition to, traditional face-to-face methods (e.g., provision of therapy using the phone, diagnostic interviewing via video teleconferencing)." Telepsychiatry as a branch of telemedicine provides services including psychiatric evaluation, psychotherapy, patient education and drug management (García-Lizana & Muñoz-Mayorga, 2010), which presents an opportunity to provide mental healthcare more widely and at a lower cost (Fairburn & Patel, 2017). Patients are thereby able to access proven clinical care, anytime and anywhere, saving time and transportation costs. But despite these advantages, there has been a limited use of telemedicine in countries of low and medium wealth (Andersson & Titov, 2014). This includes Latin America, where technology-based solutions are not widely available (Naslund et al., 2017).

A scoping review about internet-based interventions for prevention and treatment of mental disorders (Jiménez-Molina et al., 2019) analyzed 22 articles from 1,673 studies after applying the inclusion and exclusion criteria, most of which found in Brazil (n = 6), Mexico (n = 5), Chile (n =

4), and other countries of Central and South America. These articles mainly focused on depression (*n* = 11), substance abuse (*n* = 6), anxiety (*n* = 3) and mental health education for healthcare and education workers (*n* = 2), in relation to telepsychiatry/psychology, guided and non-guided internet self-help programs, and internet-based programs for education and training.

Regarding legislation related to telemedicine, the advances of countries in the Americas are diverse. While 61% already have a national strategy in place to reach more people with telehealth, many of them are yet to implement policies and strategies to achieve it. Until 2015, the available data for WHO members in the region (through its regional office, the Pan American Health Organization [PAHO]), showed a mixed landscape of telehealth practices with great disparities in the rates of adoption. Moreover, this report showed that Telemedicine is in its early stage of implementation, since only 36.8% of the countries reported policies or strategies to further develop this field (Mariscal et al., 2018).

This chapter will cover the development of telemedicine/telepsychiatry for mental healthcare in Latin America, reviewing the following topics in six sections: (1) An approach to definitions and concepts; (2) Experience in telemedicine in Latin America; (3) Advances in legislation over telemedicine in Latin America; (4) Code of good practices in telemedicine; (5) What is there to learn from the countries leading in the field; and (6) Conclusions about the challenges and opportunities of its implementation in Latin America.

DEFINITIONS AND CONCEPTS RELATED TO TELEMEDICINE

The WHO defines telemedicine as the "the delivery of health care services, where distance is a critical factor, by all health care professionals using information and communication technologies for the exchange of valid information for diagnosis, treatment and prevention of

disease and injuries, research and evaluation, and for the continuing education of health care providers, all in the interests of advancing the health of individuals and their communities." (Rabanales Sotos et al., 2011; WHO, 2010).

Telemedicine and telehealth (also known as tele-health or e-health) are often used as synonyms, but while they are closely related concepts, they are not equivalent. Per the WHO (2010), telehealth is "the cost-effective and secure use of information and communications technologies in support of health and health related fields, including health-care services, health surveillance, health literature, and health education, knowledge and research". According to this definition telemedicine is a subgroup of telehealth.

In this section, Telemedicine will be acknowledged when a patient and one or more care providers communicate in different geographical locations throughout information and communication technology (ICT). It is possible for healthcare professionals available in the same location as the patient to offer telemedical assistance in conjunction with the provider who is not physically present (CENS, 2020). These encounters between two or more healthcare professionals are known as teleconsultations or telecommittees. With telepsychiatry in particular, remote psychiatric care is provided most often through videoconference and videocall platforms (Hariman et al., 2019).

While telehealth and other web-based communication technologies have become vastly more popular in America since the onset of the COVID-19 pandemic, psychiatry has been leading the use of ICT to provide telepsychiatry services since long before then. Research from before 2020 had already indicated telepsychiatry could be considered equal to face-to-face attention and was already preferred by some people (Parish et al., 2017; Shore, 2019). Nevertheless, despite the

great advances in telepsychiatry, more than 80% of the population in underdeveloped countries still cannot access mental health treatment (United Nations, 2020).

Lack of proper access to professional healthcare in remote areas has historically been a primary reason for the implementation of telemedicine programs. But changing to this method has proven to be difficult or uncomfortable to some, especially care providers, many of which have had difficulties adopting the new technologies (Simpson et al., 2020). The covid-19 pandemic may have increased the discomfort of these people by forcing them to interact only by telematic means.

Regarding the implementation of telemedicine programs, a ground-breaking study showed that psychologists often assessed the quality of therapy sessions they conducted through videoconference as worse than face-to-face therapy, even when it was identical in terms of content (Rees & Stone, 2005). It is understandable that care providers were reluctant to practice this non-traditional approach, especially if they were not used to the technology. Nevertheless, the physical distancing resulting from the pandemic has forced patients and mental health professionals to jump into the wagon of remote assistance, however reluctantly, in order to continue treatments when face-to-face meetings were not possible.

In Latin America, this forced implementation has been possible in some urban regions due to their high level of internet connectivity, but not so for rural areas where internet access is very limited or non-existent. A recent report from the Economic Commission for Latin America and the Caribbean (ECLAC) showed significant differences in connectivity between urban (67%) and rural areas (23%). The proportion of rural households with internet access varies by country, with less than 10% in El Salvador, Paraguay, Peru and Bolivia, but closer to half in wealthier countries such as Chile, Costa Rica and Uruguay (ECLAC, 2020).

This makes it clear that access to telepsychiatry is unequal in the region. Indeed, merely having an internet connection is not enough to enable telecare access, since low-speed connections cause poor-quality and unstable video calls. Fortunately, synchronous telepsychiatry does not only rely on an internet connection, but can be done through other mediums like telephone or radio. There is also asynchronous telepsychiatry through tools like e-mail and instant messaging, which can be done with even a low and unreliable internet connection.

EXPERIENCE WITH TELECARE IN LATIN AMERICA

The political will required to introduce and expand the use of ICT for health systems in Latin America has been pushed forward in order to achieve the goals set by international organizations. Since 1997, the WHO has planned the integration of ICTs necessary to overcome barriers to access and increase the reach of health systems. And in 2011, through PAHO, it establishes the strategy for eHealth to constantly improve public healthcare in the Americas with technology over the following years (PAHO, 2014).

Mexico was the first country in the region to introduce telehealth resources into the healthcare system. This early adoption was derived from experience gained by participating in NASA projects as a part of the team that received the first electrocardiogram transmitted from space, and launching the first national telehealth project in Latin America focused on remote care in 1995 (Gertrudiz, 2011). In the same way, in 1996 Costa Rica similarly launched its telehealth project in a context of great healthcare development in 1996, becoming a highly visible international leader from then onwards, such project would slowly develop (Dos Santos Luis et al., 2014).

On another front, Argentina has since 1986 connected 2000 hospital units within a computational medicine development process, supported initially by Canada and then by PAHO (Oliveri, 2010). By the turn of the millennium, Argentina's accumulated experience implementing ICT in healthcare culminated in the launch of its national telehealth program in 2000. Nevertheless, such project was not feasible, delaying the telehealth proposal development in Latin America (Dos Santos Luis et al., 2014).

Around the same time, telehealth development in Latin America and the Caribbean was also being greatly influenced by the projects developed in the context of the @LIS project (Alliance for the Information Society), a partnership between the European Union and Latin American countries. This strategy came with the creation of networks like RedCLARA (Latin American Advanced Networks Cooperation, in English), which links the research networks of Latin America to Europe, resulting in real cumulative experiences for all members (Dos Santos et al., 2013).

Two years later in 2002, Panama was the first country in Latin America or the Caribbean to launch a national telehealth project for radiology and pathology, which was later expanded to rural zones and the correctional population. This process was pushed forward by inter-agency relations between the Panamanian Ministry of Health and the Arizona Telemedicine Program of the United States (Vega, 2010).

The UN-associated EUROsociAL project, was also later conceived as a frequent trade centre for experiences in the field. This led to a number of countries taking their first steps towards national telehealth projects: Ecuador launched its national project in 2006, Brazil and Colombia in 2007. These programs particularly explored applications of telemedicine to primary care in remote

places (Hoyos & Correa, 2010; Mijares et al., 2010) and protocols to provide diagnostic and intervention services for patients with mental illness (Fernandes et al., 2010; Jaramillo et al., 2009).

Since then, the Brazilian and Mexican telehealth projects have cemented themselves as landmarks in the development of telehealth in Latin America due to their size (they cover approximately 900 interconnected municipalities inhabited by 11 million people), providing a template for similar programs that includes development of innovation, knowledge transference and experiences from universities (Dos Santos et al., 2013).

National telehealth projects have rapidly risen, especially in the aforementioned examples of Brazil and Mexico, as well as Chile and Colombia. This motivation has been possible thanks in part to actions by ECLAC, PAHO and the Inter-American Development Bank (IDB). Several publications on telehealth development in Latin America and the Caribbean have been done by ECLAC and PAHO; international seminaries, forums and debates have been organized by ECLAC, PAHO and IDB; and training processes for specialists have been implemented in Latin American universities with the support of PAHO and IDP. The creation of the Latin American Committee for Better Practices in eHealth in 2012 also constituted an important milestone for the development of telehealth in Latin America (Dos Santos et al., 2013).

Research in these countries has shown telepsychiatry to be effective in the treatment of patients in special circumstances, like those in prison, where the asynchronous model turns out to be more cost-effective than the synchronous model (Barrera-Valencia et al., 2017), with reports of high rates of acceptance and satisfaction from both patients and professionals taking part (Martínez Pérez et al., 2020). Tele-healthcare interventions have also shown to be effective (Martínez et al., 2019; Signor et al., 2013).

All of this was before the COVID-19 pandemic and the confinement measures taken in response, which has caused an unprecedented crisis in mental healthcare—especially in Latin America where healthcare systems were not sufficiently prepared for widespread use of telehealth and related technologies. This has worsened the prevalence of pathologies like depression, anxiety, and substance abuse disorders, as well as the inequality in access to healthcare due to technological limitations of public health institutions (González-Rodríguez & Labad, 2020; Rodríguez-Quiroga et al., 2020).

A number of countries in Latin America have issued regulations for the use of ICTs in healthcare, education and work (Agudelo et al., 2020), and particularly in the field of telehealth. This was partly to assist COVID patients, but also to assist and follow-up for those with chronic diseases, emphasizing the mental health of the professionals working on the front lines and patients suffering from mental disorders caused by confinement, uncertainty and fear of the disease (Brooks et al., 2020). But in reality, most of the efforts were focused on aiding health professionals with their mental health, and assistance to the rest of the population has been scarce. The measures introduced were also too hasty, poorly structured and with no little enforcement of rules like protection of patient data and privacy when using various technologies that weren't part of a real telehealth program. Nevertheless, it is worth mentioning a brief self-administered online intervention proposal for teenagers based on positive psychology techniques to lower psychological impact during the different phases of the COVID-19 pandemic (De la Rosa Gómez, Jiménez & De la Rosa Montealvo, 2020).

ADVANCES IN LEGISLATION FOR TELEHEALTH IN LATIN AMERICA

The second global poll about eHealth by the WHO (2010) contains information about 11 member states of the Latin America region that had developed and implemented telehealth. Nine of the countries declared having an electronic government policy, while five also had a strategy for eHealth and four reported a specific policy about telehealth (Dos Santos et al., 2013). Regarding spend, nine declared investments in hardware and software, eight also invested in pilot eHealth projects, and seven in digital training in the use of these technologies. In terms of privacy issues, nine had existing regulations guaranteeing personal data confidentiality, and six had rules protecting personal identification in the electronic clinical records. And while ten claimed to have undertaken projects for management of mobile health data or mobile device sanitary practice, but only two claimed formal evaluation and publications about these policies (Dos Santos et al., 2013).

According to ECLAC, the digital ecosystem of Latin America and the Caribbean has been at an intermediate level of development as of 2020 (Agudelo et al., 2020). With a rating of 49.925 on a scale from 0 to 100, it ranks higher than Africa (35.05) and Pacific Asia (49.16). However, despite important advances in in digital ecosystem development in the last 15 years, Latin America and the Caribbean are still behind Western Europe (71.06), North America (80.85), Eastern Europe (52.90) and the Middle East-North Africa (MENA) region (55.54; Agudelo et al., 2020).

Generally speaking, the Latin American countries that have, with support from WHO, moved forward in telehealth are Brazil, Chile, Colombia, Costa Rica, El Salvador, Guatemala, Jamaica, Panama, Peru, the Dominican Republic and Cuba. Many of these remain in the phases of development, implementation and practice of national strategies (Novillo-Ortiz et al., 2016). Table 1 shows the telehealth policies of Latin American countries, many of which are not formally

recognized as legal norms. It is important to note that these regulations are about telehealth in general and do not refer precisely to telepsychiatry.

Table 1

Telehealth Policies of Latin American Countries

Country	Policies
Mexico	National Digital Strategy "México Digital" (Digital Mexico) and National E-Mexico System. ISSSTE. National Telehealth Program (United States of Mexico, 2013).
Costa Rica	Costa Rican Social Security Bank. Telehealth manual – 2017. In 2020 came a new plan to promote telemedicine through clinics (Costa Rican Social Security Bank, 2017).
El Salvador	National Health Policy 2015-2019. Axis 7: Strategic information about health (Ministry of Health of El Salvador, 2016).
Panama	eHealth Strategy 2016-2025, based on the group of tools for an eHealth national WHO/ITU strategy created with technical cooperation from PAHO/WHO; Executive Decree no. 599 of the Ministry of Health in 2016 created the National eHealth Strategy Commission (Ministry of Health of Panama, 2016).
Brazil	Ministerial Order no. 1412, July 10th 2013, Constitutes the Health System for Primary Care; Ministerial Order no. 589, May 20th 2015, Constitutes the National Policy of Computerization in Health Computing; National Policy of Information for Health (Ministry of Health of Brazil, 2016).
Colombia	In Colombia, implementation of telepsychiatry falls into Law 1419 of 2010, according to which the guidelines for development of telehealth are set. Agreement 029, which regulates the use of telehealth to increase timely access to the services of the Mandatory Health Plan (POS in Spanish) and Resolution 2003 of 2014, which states the technical procedures for its implementation; Resolution no. 2654/2019. Dispositions for Telehealth and Values for the Practice of Telehealth; Resolution 3100/2019 Mechanisms for the Enabling of Health Services (includes Telehealth and requirements for services provided by foreigners).
Ecuador	National Model and Plan for Telemedicine and Telehealth – Ecuador (Lopez, R., Vilela, L., & Fernández, G, 2010).
Peru	National Telehealth Plan, Digital Peruvian Agenda 2.0 and Health Information "HIS" (National telehealth Commission, 2004); National Arrenged Plan of Healthcare 2007-2020; Ministerial Resolution no. 1010/2020. Peruvian National Telehealth Plan 2020-2023 (Ministry of Health of Peru, 2020).
Guatemala	National strategy of integrated networks of health services of Guatemala. (Ministry of Public Health and Social Assistance of Guatemala, 2019).

Country	Policies
Jamaica	National Health Information System Strengthening and e-Health Strategic Plan. (Ministry of Health of Jamaica, 2013).
Dominican Republic	Resolution no. 47/2012, which declares the strategic management of knowledge, information and technology in the Ministry of Public Health as cross-cutting.
Cuba	Plan of development and use of ICT of the National Healthcare System 2017-2021 (Ministry of Public Health of Cuba, 2017).
Argentina	Resolution no. 21/2019 of the Secretary of Government of Nation Health made official the creation of the National Plan of Telehealth 2018-2024. (Ministry of Health of Argentina, 2018).
Chile	Law no. 20584 Rights and Duties of People Related to Actions Linked to their Health Assistance 2012-2019.
Uruguay	Law no. 19869 states the general guidelines for the implementation and development of Telemedicine, like provision health services.

CODE OF GOOD PRACTICES FOR TELEHEALTH

As a relatively new field, it is necessary to consider certain standards for the proper use of

ICTs in psychiatry, regardless of specific context:

Identification, Familiarization, Acceptance of Methodology and Informed Consent

In order to validate informed consent in eHealth, an option for confirming the identity of

the patient may be to ask them to show their ID in front of the camera or to give some personal

information (date of birth, ID number, etc.) and prove that they match the data registered in their

clinical history. It is also important to record whether a family member or another person is in the

patient's company during a session.

Regarding methodology, patients and care providers must be familiarized with the

technical method of communication for sessions. It must be made clear what the sessions will

involve, and what will not be possible due to practical limitations (e.g., a physical exam). Care

providers should introduce themselves to the patient with their first and last names and explain that they are going to proceed according to the same professionalism and discretion standards that govern face-to-face meetings.

Once all doubts of the patient are answered, it is protocol for them to provide verbal consent to continue the session. Some healthcare centres have developed digital informed consent forms that are sent to patients beforehand to read and accept. Without such a form, since patients are not going to be able to sign a physical document, the care provider must leave a record of the consent in the patient's clinical history.

Unlike with face-to-face mental healthcare, informed consent in telepsychiatry must contain information about the virtual context of the session, including the warning that it includes a risk of technology failure causing abrupt interruptions and, in some cases, inability to re-establish communication. It is advisable to have a backup option for cases like this, like exchanging phone numbers. Informed consent for telepsychiatry must also explain how the information they share will be transmitted and stored, and to warn of the potential risks of telecare and how they may result in a bad diagnosis. Hyler & Gangure (2004) reports times in which patients tend to minimize the risk-benefit ratio of remote assistance; hence it is necessary for providers to explain such concepts to patients prior to consultation to clarify their expectations. Three major components have to be considered in this regard: disclosure of information, capacity- the ability to use and understand information to make a decision, and voluntariness (Hyler & Gangure, 2004).

Regarding these last components, the ability of each person to act autonomously is variable given the cultural, educational and emotional background. Professionals must to respect the autonomy of their patients, along with helping them make informed decisions regarding their health (Infante, 2017). It is not about a mere administrative formality, but a guided process in

which patients (or their healthcare proxy) make personal and voluntary decisions about their health.

Confidentiality and Safety

The COVID-19 pandemic forced people to stay at home, including to work if possible, sharing the physical space and means of communication (cell phones, laptops, tablets) with the rest the household. In this context it may be difficult for patients to find privacy in their own homes, needing to retreat to spaces like the backyard or their car, which may not be the most comfortable for telepsychiatry sessions. On the other hand, having sessions in the house where others are present exposes them to the conversation, which may lead to them overhearing private matters, and reveals part of their living space and possibly those they live with to the care provider. Patients may even gladly display aspects of their lives like cooking, doing the laundry, smoking, etc., during a session (Cowan et al., 2019). This must be discouraged, first because they should pay full attention to the session, but also because it can result in a misconception of boundaries and lead patients to think they can contact their provider at any given moment, blurring the line between their daily life and the patient-doctor relationship. Special attention must be focused on avoiding unnecessarily frequent contact, or contact that gets less formal and more casual as if it were a conversation between friends. Stepping over these boundaries may be detrimental for therapy and the professionalism of the therapeutic alliance (Rees & Stone, 2005).

For confidentiality reasons, tele-sessions must not be recorded unless there is a necessity for it and the patient gives verbal authorization. Video or audio recordings must be stored under all safety protocols, with no access available to third parties. Only the patient is able to request a copy of the recording and the care provider has the obligation to deliver it (CENS, 2020).

Physical Setting and Interlocutor Appearance: Video vs. Audio Calls

As discussed earlier, home confinement can be an impediment for session privacy. All parties must make an effort to find a proper time and place for it. An ideal place would be a quiet place that is isolated from distractions, with good lighting, which makes conversations are more active and less anonymous.

A simple, clean background that is not distracting with the right positioning of the camera will allow for a better flow of information without inhibitions or compromising confidentiality (Kumar et al., 2020). On the providers end, it can be good to show certain details of the physical setting that convey that they can be trusted, such as ornamental figures, diplomas, recognitions, etc. For some patients, this could foster a good rapport in which they connect with their care provider both professionally and personally (Mesa & Pérez, 2020).

Ideally, the camera should be set to capture the face and upper torso of the patient, which is close enough to convey non-verbal body language of patients, but far enough to be comfortable. This also allows the hands to be seen, which is important to supplement verbal communication. When used correctly and without exaggeration, some voluntary hand movements may help foster rapport (Babonea & Munteanu, 2012). For example, raising the hand and showing the palm could be unconsciously read as a sign of transparency and honesty (Navarro, 2007). A nod with the head may also be a sign of understanding and paying attention to the message. And in the context of the pandemic, is also important that both parties are in a location where it is safe to not wear a mask, so that facial expressions can be seen, and lip-reading can assist with audio comprehension.

Despite video calls approximating face-to-face communication well in these ways, certain limitations remain. Mutual eye contact is impossible in a video call, because when one participant

looks at the camera they must stop looking at the video display of the other person—but without looking into the camera your feed will show you looking somewhere else (Parish et al. 2017). Still, while it may feel unnatural at first, it is advisable to look into the camera and not at the screen when talking, so they can make one-way eye contact while you speak (Matheson et al. 2020), and then when they speak you can change to look at their video feed to see their body language.

The provider should maintain a posture that communicates openness to dialogue, avoiding gestures like rising the shoulders, crossing the arms or legs, or putting the hands behind the head. Instead of interlacing fingers, steepling could be better to show confidence and safety (Navarro, 2007).

Telesessions through audio only, such as a phone call, may present a challenge for establishing trust between parties. As earlier discussed, communication includes visual and auditory elements. The removal of the visual elements forces the audience to fill in the gaps and judge the intonation and inflexion of the voice, which is an imperfect and subjective process that can lead to misinterpretation and miscommunication (Kumar et al., 2020). For this reason, phone-based consulting or audio only online calls are only advisable once there has been a sufficient level of previous face-to-face or visual contact between a patient and care provider.

Use of Proper Software and Data Security

The information shared during telehealth sessions must be managed with the utmost professionalism. This is particularly true in psychological and psychiatric care, where patients tend to provide personal details they would never reveal in other contexts. Even in an emergency situation like the pandemic where protocols had to be cobbled together quickly, the security standards for delivery and storage of patient information must remain at the highest level.

Although some Latin American countries have regulations regarding the rights and responsibilities of patients, there is still much to clarify regarding cyber security as it relates to clinical information. In the context of the pandemic, the United States Department of Health and Human Services published a list of videoconference platforms that are in compliance with the HIPAA privacy law (the Health Insurance Portability Accountability Act), which included Skype for enterprises, Updox, VSee, Zoom for Healthcare, Doxy.me and Google Meet (CENS, 2020).

Limitations of Telepsychiatry

Because of current legislation on psychiatric drug prescription, in some countries it is not possible to prescribe medication without an in-person visit, as prescriptions cannot be written in digital format through email. There are psychotropics and narcotics for which the prescription is kept by the pharmacy that distributes them, or require a special prescription that prevents falsification or willful alteration (prescription pads have features like watermarks, fluorescent fibers that glow under UV light, and micro printing).

Any patients that are unwilling to participate in telehealth, must not be forced to do so even in light of the negative outcomes that could arise without it. This becomes problematic when virtual contact is the only alternative to in-person healthcare, or the only one offered by the state, which threatens the autonomy and agency of patients and influences their perception of the therapeutic results.

It is common in psychiatry to see physically aggressive patients, or those that threaten to hurt others or themselves. In situations like this where physical restraints may be necessary, face-to-face care must be prioritized. The same applies to cases when bad news has to be communicated to patients and emotional support is necessary (Mesa Maldonado, 2019). Despite this general

recommendation, there are times when decisions made in a setting of remote attention do not differ from those made in face-to-face settings. Donahue et al. (2021) reported a case of a patient with schizophrenia having a psychotic episode during a video call session, after which the psychiatrist contacted the patient's primary care provider and family to decide on institutionalizing and treatment. The authors argue that this case counteracts the concerns about video calls aggravating patients or not being effective, especially if they are implemented for patients with psychotic disorders (Donahue et al., 2021).

Geographical Settings Lacking Digital Resources

In order to increase access remote geographic regions with unattended populations, local authorities must make an effort to provide digital devices that can enable telehealth, as well as training in their use. Psychotherapy services could also be more proactive in providing a number of options, like lending devices or giving patients the opportunity to access video therapy from their primary care centre or other local clinics. Video calling platforms designed to work with a smaller bandwidth should also be considered, especially to connect patients in areas with limited internet connectivity (Rees & Stone, 2015).

Self-Care Awareness in the Context of the COVID-19

According to the recommendations of CENS (2020), every available opportunity to educate in prevention and identification of cases of COVID-19 must be seized. Tele-healthcare should give emotional support, remind patients about basic hygiene practices to prevent the spread, and identify signs or symptoms that can raise suspicion of SARS-CoV2 infection—or other pathologies—in order to quickly refer the case to the appropriate healthcare centres (CENS, 2020).

Ethics and the Medical Practice

The ethical aspects of the caregiver-patient relationship are highly important in the digital era. It is already known that patients may feel comfortable in their virtual relationship with their care provider. Patients with high levels of anxiety may benefit from remote attention in particular, by avoiding physical proximity. It is also safer for healthcare professionals when dealing with patients that can be physically aggressive. According to Parish et al. (2017), "when technology is utilized to connect and engage with patients, rather than simply used as an adjunct to care, patient-provider communication is enhanced and opportunities to improve care and patient-provider rapport emerge" (p.4).

As the COVID-19 pandemic has forced many patients to migrate from face-to-face psychiatric care to virtual, it is probable that a hybrid format that incorporates various communication technologies as well as in-person visits will become typical going forward.

This is particularly useful for psychiatric care that goes beyond the caregiver-patient dyad and involves a team of multi-disciplinary professionals in different locations (Shore, 2019).While such a team-based approach can benefit from multiple points of view, it also poses a greater challenge when establishing the therapeutic alliance and ensuring a successful treatment. Team dynamic, communication, and functioning has the potential to either positively or negatively impact patient care. This can be further complicated by a team's background (composition, environment, individual backgrounds), and the technologies used to interact with the patient and each other. Therefore, it is vital for patients to feel identified to some degree with at least one of the members. An example of this are the telehealth services for Native American veterans with

PTSD in rural zones of the United States who are assisted by other Native Americans (Shore, 2019).

LESSONS FROM THE LEADING COUNTRIES IN TELEHEALTH

Developing capacity for digital and virtual healthcare services—and the healthcare system in general—is of vital importance in many countries. And with innovations like AI, advanced analysis and blockchain technologies recently breaking into the healthcare industry, regulations have not yet been updated to match the new situation (Pearce, 2020). Leading countries' experiences with these telehealth systems at a global scale allow drawing the following conclusions:

- Complex technologies are not essential: telephone, SMS messaging and email can suffice.

- Developing the communication technology infrastructure needed for a telehealth program is very expensive and takes a long time. It In addition to time and money, it requires political decisions and strategic planning, and to meet the logistical challenge of guaranteeing coverage to people across great distances in remote zones of low social-economic income.

- If government funds do not guarantee universal coverage, the private sector has to co-finance certain projects.

- While the barrier of distance is a great challenge to overcome, by providing access to primary and specialized care efficiently to urban areas and decongesting hospitals in cities, the benefits are significant.

- By altering the traditional method of in-person healthcare visits, it may weaken the caregiver-patient relationship—possibly eliminate it—if the necessary precautions are not taken.

- It is considered that in order to achieve a diagnosis, 60% of the required information comes from personal health histories, while the other 40% comes from the physical exam, including through non-verbal language of patients perceived by professionals in face-to-face settings (the clinical eye).

- Because telehealth poses a risk of "dehumanizing" medicine, it must be ethically implemented in a balanced in controlled manner. Control and management through technological resources like big data and AI to interact with patients and the defining of clinical conduct through algorithms may be detrimental in the context of mental health, where some pathologies can be worsened or even caused by a lack of emotional contact with others.

CONCLUSIONS

Generally, telehealth interventions, particularly in the treatment of mental disorders, are still at an early stage of development in Latin America. While evidence thus far shows promising results, it also reveals significant challenges not experienced in other parts of the world (Andersson & Titov, 2014).

Despite great advances made in telepsychiatry, it is still necessary to distinguish the type of patients that might benefit from it from those that need face-to-face treatment. Telehealth being developed in Latin America is generally focused in primary healthcare remote and low-HDI areas, but beyond that varies greatly depends on each country. It is difficult to exchange experiences because telehealth programs are scattered and less consolidated in Latin America.

Some countries have made great advances and others have gained significant experience, but there is a long way to go. Therefore, it is vital to guarantee safety and effectiveness of the

telehealth programs as well as to learn from the leading countries experiences, since the greatest and most urgent need is to combine methodologies and evaluation frameworks in order to analyze the rising number of emerging interventions in the field (Henson et al., 2019). Large-scale effectiveness studies are necessary, as well as cost-efficiency and implementation studies—especially in primary care services.

On the other hand, notwithstanding the success and developments achieved so far, it is necessary account for challenges particular to the Latin America region. For example, there is a deficit of infrastructure and its centralization, and no clear path to implementing 4G and 5G technologies in the future. Initiatives are also incipient, lacking specific plans for the necessary storage and processing of great amounts of data in most Latin American countries. Nevertheless, networks of academic institutions that research this aspect are starting to give glimpses of the possibility. There are also challenges with the human factor like the need to break the barriers of learning and accept the change to new technology. Overcoming this will require developing academic programs that train professionals in healthcare technologies, and ensuring the enforcement of the regulations protecting patients' personal and/or sensitive information.

There are two main institutional challenges: the formulation of coherent policies in the context of administrative fragmentation, and to ensure that national strategies are used in real situations. Implementation of strategies often fail mainly because the assigned resources are insufficient or not used efficiently. Another problem is the lack of specific strategies to deal with fragmentation and lack of coordination, making this a fundamental issue to change this situation.

Finally, despite all the benefits of telepsychiatry, it should be used as a complement to traditional, face-to-face psychiatry ever since the health care provider-patient relationship in mental health care requires empathy, and traditional face-to-face treatment generates a deeper and

tighter relationship. A special kind of bond in psychiatry is required between people, as is a fundamental pillar in the diagnosis and recover process like in no other health problem.

The new ways to practice medicine and to provide care for patients introduced by these technologies also raise ethical and legal challenges. According to the declaration of the World Medical Association (WMA) during the 69th General Assembly in October 2018, "face-to-face consultation between physician and patient remains the gold standard of clinical care" and "the delivery of telemedicine service must be consistent with in-person services and be supported by evidence" (WMA, 2020).

References

Acosta, S. R., & Trillas, F. (2010). Barreras y determinantes del acceso a los servicios de salud en Colombia [Barriers and determinants of access to health services in Colombia]. *Revista Universidad Autónoma de Barcelona*, 27–28.

Agudelo, M., Chomali, E., Suniaga, J., Núñez, G., Jordán, V., Rojas, F., … & Katz, R. (2020). *Las oportunidades de la digitalización en América Latina frente al COVID-19 [The opportunities of digitization in Latin America in the face of COVID-19]*. CEPAL, NU. Retrieved from https://www.cepal.org/sites/default/files/publication/files/45360/OportDigitalizaCovid-19_es.pdf

Al-Shorbaji, N. (2013). The World Health Assembly resolutions on eHealth: eHealth in support of universal health coverage. *Methods of Information in Medicine*, *52*(6), 463–466.

Andersson, G., & Titov, N. (2014). Advantages and limitations of Internet-based interventions for common mental disorders. *World Psychiatry*, *13*(1), 4–11. https://doi.org/10.1002/wps.20083

Babonea, A., Monteanu, A. (2012). Towards positive interpersonal relationships in the classroom. International Conference of Scientific Paper AFASES 2012- Romania. (pp. 1-4) Retrieved from https://www.afahc.ro/ro/afases/2012/socio/2.2/Babonea%20Munteanu.pdf

Backhaus, A., Agha, Z., Maglione, M. L., Repp, A., Ross, B., Zuest, D., … & Thorp, S. R. (2012). Videoconferencing psychotherapy: A systematic review. *Psychological Services*, *9*(2), 111–131. https://doi.org/10.1037/a0027924

Baigent, M. F., Lloyd, C. J., Kavanagh, S. J., Ben-Tovim, D. I., Yellowlees, P. M., Kalucy, R. S., & Bond, M. J. (1997). Telepsychiatry: 'tele' yes, but what about the 'psychiatry'? *Journal of Telemedicine and Telecare*, *3*(1_suppl), 3–5. https://doi.org/10.1258/1357633971930346

Barrera-Valencia, C., Benito-Devia, A. V., Vélez-Álvarez, C., Figueroa-Barrera, M., & Franco-Idárraga, S. M. (2017). Cost-effectiveness of synchronous vs. asynchronous telepsychiatry in prison inmates with depression. *Revista Colombiana de Psiquiatría*, *46*(2), 65–73.

Brooks, S. K., Webster, R. K., Smith, L. E., Woodland, L., Wessely, S., Greenberg, N., & Rubin, G. J. (2020). The psychological impact of quarantine and how to reduce it: Rapid review of the evidence. *Lancet (London, England)*, *395*(10227), 912–920. https://doi.org/10.1016/S0140-6736(20)30460-8

Castaño, E. Y. P., Carvajal, L. C., García, J. J. B., & Rengifo, Y. S. P. (2016). Estado actual de la telemedicina: Una revisión de literature [Current status of telemedicine: A literature review]. *Ingeniare*, *12*(20), 105–120. http://dx.doi.org/10.18041/1909-2458/ingeniare.20.412

CENS. (2020). *Telemedicina durante la epidemia de COVID-19 en Chile: Guía de Buenas Prácticas y Recomendaciones (N.º Versión 1.0) [Telemedicine during the COVID-19 epidemic in Chile: Guide to Good Practices and Recommendations (Version No. 1.0)].* National Center for Health Information Systems, Chile. Retrieved from https://cens.cl/wp-content/uploads/2021/12/cens-gua-teleconsulta-en-tiempos-de-pandemia.pdf

CEPAL, N. (2020). *Universalizar el acceso a las tecnologías digitales para enfrentar los efectos del COVID-19 (Informe Especial N.º 7) [Universalize access to digital technologies to face the effects of COVID-19 (Special Report No. 7)].* Retrieved from https://www.cepal.org/sites/default/files/publication/files/45938/S2000550_es.pdf

Chakrabarti, S. (2015). Usefulness of telepsychiatry: A critical evaluation of videoconferencing-based approaches. *World Journal of Psychiatry*, *5*(3), 286–304. https://doi.org/10.5498/wjp.v5.i3.286

Cornford, T., & Klecun-Dabrowska, E. (2001). Ethical perspectives in evaluation of telehealth. Cambridge Q. *Healthcare Ethics*, 10, 161.

Costa Rican Social Security Bank. Health Services Network. (2017). *Procedures manual for consultation*. Retrieved from https://issuu.com/angelaavalos/docs/manual_procedimientos_telesalud

Cowan, K. E., McKean, A. J., Gentry, M. T., & Hilty, D. M. (2019). Barriers to use of telepsychiatry: Clinicians as gatekeepers. *Mayo Clinic Proceedings*, *94*(12), 2510–2523. https://doi.org/10.1016/j.mayocp.2019.04.018

De la Rosa Gómez, A., Jiménez, L. M., & De la Rosa Montealvo, N. G. (2020). Intervenciones eficaces vía internet para la salud emocional en adolescentes: Una propuesta ante la pandemia por COVID-19 [Effective interventions via the internet for emotional health in adolescents: A proposal in the face of the COVID-19 pandemic]. *Hamut´ay*, *7*(2), 2.

Donahue, A. L., Rodriguez, J., & Shore, J. H. (2021). Telemental health and the management of psychosis. *Current Psychiatry Reports*, *23*(5), 27. https://doi.org/10.1007/s11920-021-01242-y

Dos Santos, A. de F., Fernández, A., Alves, H. J., de Souza, C., de Melo, M. do C. B., & Messina, L. A. (2013). *Desarrollo de la telesalud en América Latina Aspectos conceptuales y estado actual [Development of telehealth in Latin America Conceptual aspects and current status]* (Vol. 26). Santiago de Chile: CEPAL. Retrieved from https://www.cepal.org/sites/default/files/publication/files/35453/S2013129_es.pdf

Dos Santos Luis, A. de F., Messina, A., Nogueira, J., Alves, H. J., de Lima Lopes, P. R., & de Souza, C. (2014, October 16). *I Congreso Iberoamericano de Telesalud y Telemedicina y VII Reunión Regional de ATALACC [I Ibero-American Congress of Telehealth and Telemedicine and VII Regional Meeting of ATALACC].* Presented at 29. Protocolos Regionales de Políticas Públicas sobre bienes y Servicios de Telesalud en América Latina [Regional Protocols for Public Policies on Telehealth Goods and Services in Latin America], Lima, Perú. Retrieved from https://revista.teleiberoamerica.com/numero-2/conferencias/29.Alaneir-ProtocolosRegionales.pdf

Fairburn, C. G., & Patel, V. (2017). The impact of digital technology on psychological treatments and their dissemination. *Behaviour Research and Therapy*, *88*, 19–25. https://doi.org/10.1016/j.brat.2016.08.012

Fernandes, S., Ferigolo, M., Benchaya, M. C., Moreira, T. de C., Pierozan, P. S., Mazoni, C. G., & Barros, H. M. T. (2010). Brief Motivational Intervention and telemedicine: A new perspective of treatment to marijuana users. *Addictive Behaviors*, *35*(8), 750–755. https://doi.org/10.1016/j.addbeh.2010.03.001

Frueh, B. C., Deitsch, S. E., Santos, A. B., Gold, P. B., Johnson, M. R., Meisler, N., … & Ballenger, J. C. (2000). Procedural and methodological issues in telepsychiatry research and program development. *Psychiatric Services (Washington, D.C.)*, *51*(12), 1522–1527. https://doi.org/10.1176/appi.ps.51.12.1522

García-Lizana, F., & Muñoz-Mayorga, I. (2010). What about telepsychiatry? A systematic review. *Primary Care Companion to the Journal of Clinical Psychiatry*, *12*(2). https://doi.org/10.4088/pcc.09m00831whi

Gertrudiz, N. (2011). Salud-e: El caso de México [E-health: The case of Mexico]. *Latin American Journal of Telehealth*, *2*(2). https://doi.org/10.32443/2175-2990(2010)71

González-Rodríguez, A., & Labad, J. (2020). Mental health in times of COVID: Thoughts after the state of alarm. *Medicina Clinica (English Ed.)*, *155*(9), 392–394. https://doi.org/10.1016/j.medcle.2020.07.007

Government of Uruguay. (2014). *Executive Power. Law 19286. Aprobación del código de ética médica [Approval of the code of medical ethics]*.

Grantham, D. (2010). Telepsychiatry's benefits are HD clear. *Behavioral Healthcare*, *30*(9), 25–27.

Guzman, C. S., & Pignatiello, A. (2008). The benefits of implementing telepsychiatry in the Brazilian Mental Health System. *Brazilian Journal of Psychiatry*, *30*(3), 300–301.

Hariman, K., Ventriglio, A., & Bhugra, D. (2019). The future of digital psychiatry. *Current Psychiatry Reports*, *21*(9), 88. https://doi.org/10.1007/s11920-019-1074-4

Henson, P., David, G., Albright, K., & Torous, J. (2019). Deriving a practical framework for the evaluation of health apps. *The Lancet Digital Health*, *1*(2), e52–e54. https://doi.org/10.1016/S2589-7500(19)30013-5

Hilty, D. M., Ferrer, D. C., Parish, M. B., Johnston, B., Callahan, E. J., & Yellowlees, P. M. (2013). The effectiveness of telemental health: A 2013 review. *Telemedicine Journal and E-Health*, *19*(6), 444–454. https://doi.org/10.1089/tmj.2013.0075

Hilty, D. M., Rabinowitz, T., McCarron, R. M., Katzelnick, D. J., Chang, T., Bauer, A. M., & Fortney, J. (2018). An update on telepsychiatry and how it can leverage collaborative, stepped, and integrated services to primary care. *Psychosomatics*, *59*(3), 227–250. https://doi.org/10.1016/j.psym.2017.12.005

Hoyos, B., & Correa, L. (2010). Desarrollo de actividades de telesalud en Colombia [Development of telehealth activities in Colombia]. *Latin American Journal of Telehealth*, *2*(2).

Hyler, S. E., & Gangure, D. P. (2004). Legal and ethical challenges in telepsychiatry. *Journal of Psychiatric Practice*, *10*(4), 272–276.

Infante, J. P. B. (2017). La autonomía del paciente en la práctica clínica [Patient autonomy in clinical practice]. *Revista Chilena de Enfermedades Respiratorias*, *33*(4), 269–271.

Jaramillo, N. L., Jaramillo, P. A. C., Durango, D. M., & Ibáñez, C. R. (2009). Protocolo de telemedicina para la consulta psiquiátrica [Telemedicine protocol for psychiatric consultation]. *Revista Ingeniería Biomédica*, *3*(5), 43–49.

Jiménez-Molina, Á., Franco, P., Martínez, V., Martínez, P., Rojas, G., & Araya, R. (2019). Internet-based interventions for the prevention and treatment of mental disorders in Latin America: A scoping review. *Frontiers in Psychiatry*, *10*, 664. https://doi.org/10.3389/fpsyt.2019.00664

Koivunen, M., Välimäki, M., Pitkänen, A., & Kuosmanen, L. (2007). A preliminary usability evaluation of web-based portal application for patients with schizophrenia. *Journal of Psychiatric and Mental Health Nursing*, *14*(5), 462–469.

Kumar, M. S., Krishnamurthy, S., Dhruve, N., Somashekar, B., & Gowda, M. R. (2020). Telepsychiatry netiquette: Connect, communicate and consult. *Indian Journal of Psychological Medicine*, *42*(5 Suppl), 22S–26S. https://doi.org/10.1177/0253717620958170

Law no. 1419/2010. (December 13th 2010). Congress of Colombia. https://www.funcionpublica.gov.co/eva/gestornormativo/norma_pdf.php?i=40937#:~:text =La%20presente%20ley%20tiene%20por,Art%C3%ADculo%202%C2%B0

Law no. 20584 of 2012. (April 24rd 2012). Ministry of Health of Chile. https://www.teleiberoamerica.com/legislaciones/Chile-Ley-20584_24-ABR-2012-DeberesPacientes.pdf

Law no. 19869 of 2020. (April 15th 2020). Ministry of Health of Uruguay. https://www.teleiberoamerica.com/legislaciones/Uruguay-Ley19869-Telemedicina-3abril2020.pdf

López, R., Vilela, L., & Fernández, G. (2010). *National Telemedicine/Telehealth Program - Ecuador*. Latin American Journal of Telehealth, 2(3). Retrieved from https://www.researchgate.net/publication/233786437_Programa_Nacionalde_Telemedici naTelesalud_-_Ecuador

Mariscal, J., Herrera Rosado, F., & Varela Castro, S. (2018). *Estudio sobre TIC y salud pública en América Latina: La perspectiva de e-salud y m-salud [Study on ICT and public health in Latin America: The perspective of e-health and m-health]*. Retrieved from https://www.itu.int/dms_pub/itu-d/opb/str/D-STR-E_HEALTH.13-2018-PDF-S.pdf

Martínez Pérez, D. C., Agudelo García, Á. M., Andrade Carrillo, R., García Cano, J. F., & Porras Cataño, S. M. (2020). Telepsiquiatría: Una experiencia exitosa en Antioquia, Colombia [Telepsychiatry: A successful experience in Antioquia, Colombia]. *Revista Colombiana de Psiquiatría*, *49*(4), 239–245.

Martínez, V., Rojas, G., Martínez, P., Gaete, J., Zitko, P., Vöhringer, P. A., & Araya, R. (2019). Computer-assisted cognitive-behavioral therapy to treat adolescents with depression in primary health care centers in Santiago, Chile: A randomized controlled trial. *Frontiers in Psychiatry*, *10*, 552.

Matheson, BE, Bohon, C, Lock, J. (2020). Family-based treatment via videoconference: Clinical recommendations for treatment providers during COVID-19 and beyond. *Int J Eat Disord*, 53: 1142– 1154. https://doi.org/10.1002/eat.23326

Mesa, M., & Pérez, I. (2020). El acto médico en la era de la telemedicina [The medical act in the era of telemedicine]. *Revista Médica de Chile*, *148*(6), 852–857.

Mesa Maldonado, M. A. (2019). *El acto médico a la luz de la telemedicina:¿ es necesario actualizar el concepto? [The medical act in the light of telemedicine: is it necessary to update the concept?]* Pontificia Universidad Católica de Chile. Retrieved from https://repositorio.uc.cl/handle/11534/23664

Mijares, M., Morocho, V., & López, R. (2010). Diagnóstico de la situación de telesalud en Ecuador. *Latin American Journal of Telehealth*, *2*(2).

Ministerial Resolution no. 1010/2020. (December 9th 2020). Ministry of Health of Peru. https://www.teleiberoamerica.com/legislaciones/Peru-ResolucionMinisterial-1010-2020-MINSA.pdf

Ministry of Health of Argentina. (2018). *National Plan of Telehealth 2018-2024.* Retrieved from https://www.argentina.gob.ar/sites/default/files/anexo_plan_nacional_de_telesalud_def.pdf

Ministry of Health of Brazil (2016). *National Policy of Information for Health.* Retrieved from https://bvsms.saude.gov.br/bvs/publicacoes/politica_nacional_infor_informatica_saude_2016.pdf

Ministry of Health of El Salvador. (2016). *National Health Policy 2015-2019.* Retrieved from https://mcpelsalvador.org.sv/wp-content/uploads/2020/01/Anexo-8_Pol%C3%ADtica-Nacional-de-Salud.pdf

Ministry of Health of Jamaica. (2013). *National Health Information System Strengthening and e-Health Strategic Plan.* Retrieved from https://moh.gov.jm/wp-content/uploads/2015/07/MOH_NHIS-eHealth_StrategicPlanFINAL.pdf

Ministry of Health of Panama. (2015) *Agreement for the Electronic Health Information System.* Retrieved from http://www.minsa.gob.pa/sites/default/files/programas/convenio.pdf

Ministry of Health of Panama. (2016). *National Health Policy and Strategic Guidelines 2016-2025.* Retrieved from http://extwprlegs1.fao.org/docs/pdf/pan174954.pdf

Ministry of Health of Peru (2020). *National Arrenged Plan of Healthcare 2007-2020.* Retrieved from http://bvs.minsa.gob.pe/local/MINSA/000_PNCS.pdf

Ministry of Public Health and Social Assistance of Guatemala (2019). *National strategy of integrated networks of health services of Guatemala*. Retrieved from https://www.paho.org/hq/index.php?option=com_docman&view=download&alias=51081-estrategia-nacional-de-redes-integradas-de-servicios-de-salud-de-guatemala-2019&category_slug=sistemas-servicios-salud-1934&Itemid=270&lang=es

Ministry of Public Health of Cuba. (2017). *Plan of development and use of ICT of the National Healthcare System 2017-2021.* Retrieved from http://revinfodir.sld.cu/index.php/infodir/article/view/432/512

Moffatt, J. J., & Eley, D. S. (2010). The reported benefits of telehealth for rural Australians. *Australian Health Review*, *34*(3), 276–281. https://doi.org/10.1071/AH09794

Naslund, J. A., Aschbrenner, K. A., Araya, R., Marsch, L. A., Unützer, J., Patel, V., & Bartels, S. J. (2017). Digital technology for treating and preventing mental disorders in low-income and middle-income countries: A narrative review of the literature. *The Lancet Psychiatry*, *4*(6), 486–500. https://doi.org/10.1016/S2215-0366(17)30096-2

Naslund, J. A., Marsch, L. A., McHugo, G. J., & Bartels, S. J. (2015). Emerging mHealth and eHealth interventions for serious mental illness: A review of the literature. *Journal of Mental Health (Abingdon, England)*, *24*(5), 321–332. https://doi.org/10.3109/09638237.2015.1019054

National telehealth Commission. (2004). *National Telehealth Plan*. Retrieved from https://www.urp.edu.pe/pdf/id/21617/n/plan-nacional-de-telesalud.pdf

Navarro, J. (2007). Testifying in the Theater of the Courtroom. *Jury Expert, 19(1),* 7-10.

Norman, S. (2006). The use of telemedicine in psychiatry. *Journal of Psychiatric and Mental Health Nursing, 13*(6), 771–777. https://doi.org/10.1111/j.1365-2850.2006.01033.x

Novillo-Ortiz, D., D'Agostino, M., & Becerra-Posada, F. (2016). El rol de la OPS/OMS en el desarrollo de capacidad en eSalud en las Américas: Análisis del período 2011-2015 [The role of PAHO/WHO in the development of eHealth capacity in the Americas: Analysis of the period 2011-2015]. *Revista Panamericana de Salud Pública*, *40*, 85–89.

Oliveri, N. (2010). *Antecedentes y aplicaciones de salud electrónica en Argentina [Background and applications of electronic health in Argentina].* In Salud electrónica en América Latina y el Caribe: Avances y desafíos [eHealth in Latin America and the Caribbean: Advances and challenges] (pp. 27–38). Santiago de Chile: United Nations, CEPAL. Retrieved from https://repositorio.cepal.org/bitstream/handle/11362/35240/lcl3252_es.pdf

PAHO. (2018). *La carga de los trastornos mentales en la Región de las Américas [The burden of mental disorders in the Region of the Americas].* Pan American Health Organization, Washington. Retrieved from https://iris.paho.org/bitstream/handle/10665.2/49578/9789275320280_spa.pdf

PAHO. (2014). *Conversaciones sobre eSalud Gestión de información, diálogos e intercambio de conocimientos para acercarnos al acceso universal a la salud [Conversations on eHealth Management of information, dialogues and knowledge exchange to move closer to universal access to health].* Pan American Health Organization. Retrieved from https://iris.paho.org/bitstream/handle/10665.2/28391/9789275318287_spa.pdf

Parish, M. B., Fazio, S., Chan, S., & Yellowlees, P. M. (2017). Managing psychiatrist-patient relationships in the digital age: A summary review of the impact of technology-enabled care on clinical processes and rapport. *Current Psychiatry Reports*, *19*(11), 90. https://doi.org/10.1007/s11920-017-0839-x

Pearce, C. (2020). *Worldwide initiatives*. En Fundamentals of Telemedicine and Telehealth (pp. 331–342). Elsevier. https://doi.org/10.1016/B978-0-12-814309-4.00015-X

Pignatiello, A., Teshima, J., Boydell, K. M., Minden, D., Volpe, T., & Braunberger, P. G. (2011). Child and youth telepsychiatry in rural and remote primary care. *Child and Adolescent Psychiatric Clinics of North America*, *20*(1), 13–28. https://doi.org/10.1016/j.chc.2010.08.008

Rabanales Sotos, J., Párraga Martínez, I., López-Torres Hidalgo, J., Andrés Pretel, F., & Navarro Bravo, B. (2011). Tecnologías de la información y las telecomunicaciones: Telemedicina [Information and telecommunications technologies: Telemedicine]. *Revista Clínica de Medicina de Familia*, *4*(1), 42–48.

Rees, C. S., & Stone, S. (2005). Therapeutic alliance in face-to-face versus videoconferenced psychotherapy. *Professional Psychology: Research and Practice*, *36*(6), 649.

Resolution no. 47/2012. (December 13th 2012). Ministry of Health of Dominican Republic. https://repositorio.msp.gob.do/bitstream/handle/123456789/1106/Resolucion000472012.pdf?sequence=1&isAllowed=y

Resolution no. 2003/2014. (May 28th, 2014). Ministry of Health and Social Protection of Colombia.https://www.minsalud.gov.co/Normatividad_Nuevo/Resoluci%C3%B3n%202003%20de%202014.pdf

Resolution no. 2654/2019. (October 3rd 2019). Ministry of Health and Social Protection of Colombia. https://www.teleiberoamerica.com/legislaciones/Colombia-TelesaludResolucion-2654-2019.pdf

Resolution no. 3100/2019. (November 25th, 2019). Ministry of Health and Social Protection of Colombia. https://www.teleiberoamerica.com/legislaciones/Colombia-Resolucion3100-noviembre.25-2019ServiciosSalud.pdf

Rodríguez-Quiroga, A., Buiza, C., Mon, M. A. Á. de, & Quintero, J. (2020). Update on COVID-19 and mental health. *Medicine*, *13*(23), 1285–1296. https://doi.org/10.1016/j.med.2020.12.010

Shore, J. H. (2019). Best Practices in tele-teaming: Managing virtual teams in the delivery of care in telepsychiatry. *Current Psychiatry Reports*, *21*(8), 77. https://doi.org/10.1007/s11920-019-1052-x

Signor, L., Pierozan, P. S., Ferigolo, M., Fernandes, S., Mazoni, C. G., & Barros, H. M. T. (2013). Efficacy of the telephone-based Brief Motivational Intervention for alcohol problems in Brazil. *Brazilian Journal of Psychiatry*, *35*(3), 254–261.

Simpson, S., Richardson, L., Pietrabissa, G., Castelnuovo, G., & Reid, C. (2020). Videotherapy and therapeutic alliance in the age of COVID-19. *Clinical Psychology & Psychotherapy, 28*(2), 409–421. https://doi.org/10.1002/cpp.2521

United Nations. (2020). *Policy brief: COVID-19 and the need for actions on mental health*. Retrieved from https://unsdg.un.org/sites/default/files/2020-05/UN-Policy-Brief-COVID-19-and-mental-health.pdf

United States of Mexico. Government of the Republic (2013). *National Digital Strategy*. Retrieved from https://www.inr.gob.mx/Descargas/trc/EstrategiaDigital.pdf

Vega, S. (2010). *Programa Nacional de Telemedicina y Telesalud en Panamá [National Telemedicine and Telehealth Program in Panama].* In Salud electrónica en América Latina y el Caribe: Avances y desafíos [Electronic health in Latin America and the Caribbean: Advances and challenges] (pp. 105-112). Santiago de Chile: United Nations, CEPAL. Retrieved from https://repositorio.cepal.org/bitstream/handle/11362/35240/lcl3252_es.pdf

Vigo, D. V., Kestel, D., Pendakur, K., Thornicroft, G., & Atun, R. (2019). Disease burden and government spending on mental, neurological, and substance use disorders, and self-harm: Cross-sectional, ecological study of health system response in the Americas. *The Lancet Public Health*, *4*(2), e89–e96. https://doi.org/10.1016/S2468-2667(18)30203-2

WMA. (2020). *Declaración de la AMM sobre la ética de la telemedicina [WMA statement on the ethics of telemedicine]*. World Medical Association. Retrieved from https://www.wma.net/es/policies-post/declaracion-de-la-amm-sobre-la-etica-de-la-telemedicina

WHO. (2004). *Invertir en salud mental [Invest in mental health]*. Geneva, Switzerland. World Health Organization. Retrieved from https://apps.who.int/iris/handle/10665/42897

WHO. (2010). *Telemedicine: Opportunities and developments in member states. Report on the second global survey on eHealth.* World Health Organization. Retrieved from http://www.who.int/goe/publications/goe_telemedicine_2010.pdf