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À PROPOS DE NOUS

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ABOUT US

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THE REGULATION OF TELEMEDICINE IN BRAZIL AND ITS INSERTION IN THE CITY OF SÃO PAULO: BETWEEN THE FEAR OF COVID-19 AND THE BENEFITS OF A SMART CITY

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&

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This article aims to collect data on the regulation of telemedicine in Brazil and its insertion in the city of São Paulo, with emphasis on the use of the e-SaúdeSP application, launched during the pandemic resulting from Covid-19.

To this do, it first outlines, in a propaedeutic way, the contours of the SUS – Brazilian Unified Health System, since its constitutional conception – its principles, foundations, objectives, financing and structuring; through its infraconstitutional regulation – which deals mainly with its structure, distribution of competencies and criteria for collection and distribution of its resources; until its current realisation of fact in the institutions and services that currently compose it. It then begins to expose the contingency of the SUS in the municipality of São Paulo – the population covered the relevant legislation, the governmental structure and the available resources. Subsequently, based on the regulation of the use of telemedicine in Brazilian legislation, which gained new contours from the publication of Law No. 13,989 of April 15, 2020, which dealt, on an emergency basis, with the use of telemedicine in Brazil during the Covid-19 pandemic, the municipal legislation on the subject is presented,

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seeking to define the concept of telemedicine, understand its operating mechanisms, its objectives, its usefulness and the legal framework that guaranteed its insertion in the Brazilian health system. It exposes the context that motivated its implementation, as well as how it has developed since then, with emphasis on the performance of the municipality in this harvest.

Finally, it verifies the use of the e-SaúdeSP application as a tool of the SUS in the city of São Paulo, considering the entire breadth of the health system of the municipality, which directly serves about 12.4 million people, and the need to expand practices related to an intelligent city, especially in the area of health.

§1 – ABOUT THE UNIFIED HEALTH SYSTEM (SUS)

The Federal Constitution of 1988 constitutes a historical landmark of universal protection to the health of the Brazilian population. From it, the right to health was raised to the level of fundamental social right (art. 6º) and recognized as the right of all and duty of the State, to be guaranteed through social and economic policies aimed at reducing the risk of disease and other injuries, as well as universal and equal access to actions and services aimed at promoting, protecting and recovering the health of each individual (art. 196).

For this, it considered health actions and services to be of public relevance, delegating to the Public Authorities the competence to have, in law, on the regulation, supervision and control of such actions and services. Furthermore, it has determined that its execution be carried out directly or through third parties, by a natural or legal person of private law (art. 197).

Finally, it provided that public health actions and services are part of a regionalized and hierarchical network, and constitute a single health system - popularly called SUS (art. 198), and defined its basic constitutional competencies (art. 200).

It is worth remembering that, despite the provision of a single health system (SUS), the Magna Carta guarantees freedom to the private sector to participate in a complementary way to this system, always following the guidelines of this system (art. 199).

Law No. 8,080/1990 was left to lay down the conditions for the promotion, protection and recovery of health, as well as the organization and functioning of the corresponding services. According to this legal diploma, it is up to the SUS (1) to identify and disseminate the conditioning and determining factors of health; (2) formulate public health policies aimed at reducing the risks of diseases and other injuries, as well as establishing conditions that ensure universal and equal access to the actions and services provided for this purpose; and (3) assistance to people through actions to promote, protect and recover health, with the integrated implementation of assistance and preventive actions.

The colossal amplitude of the contours that outline the Brazilian Unified Health System is perceived.

According to the Ministry of Health, the SUS, over its 31 years of existence, has become one of the largest and most complex public health systems in the world, serving 212 million people, and 80% of them depend exclusively on the system to take care of their health.

It is a constant effort in the search for the universalization of the fundamental right to health, guided by guidelines of decentralization, integral care and popular participation, implemented in measures such as the expansion of disease prevention actions, the strengthening of primary care, investment in research and development of strategic equipment and insums such as vaccines and medicines, the development of information and management systems for monitoring results, the decentralization and municipalization of actions and services, and the increasing participation and social control.

All Brazilians can use the SUS in an integral, universal and egalitarian way. In addition, all foreigners who are in Brazil, and for some reason need some health care, can use your network free of charge. The network that makes up the SUS is broad and encompasses health actions and services. It covers primary care, medium and high complexity procedures, emergency and emergency services, hospital care, epidemiological, sanitary, environmental and pharmaceutical surveillance services and actions. For example, the SUS performs everything from very simple procedures, such as measuring blood pressure, to the most complex ones, such as organ transplantation. Such is the scope of its action, which is worth noting that, to try to pay for all the demands of the system, on September 13, 2000, the Constitutional Amendment No. 29, known as the “Health Amendment”, which guaranteed the participation of all spheres of the federation (Union, States, Federal District and Municipalities) in the financing of public health actions and services, was promulgated, setting minimum limits for the allocation of resources from each person to health.

The SUS is financed with taxes from citizens – with resources from the Union, states, municipalities and other additional sources of funding, contemplated in the social security budget.

All the entities of the Federation – Union, States, Federal District and Municipalities – are part of and make up the SUS, each with its co-responsibilities.

The Federal Health Management is responsible for the Federal Health Management, carried out through the Ministry of Health. The Federal Government historically finances half of all budget resources spent on public health in the country. The Ministry of Health formulates national health policies so that its partners (States, Municipalities, NGOs, foundations, companies, etc.) carry

them out. Thus, it is responsible for planning, the elaboration of federal standards, the evaluation and control of the SUS.

The States and the Federal District have state health departments (SES) and must apply their resources, as well as those passed on by the Union, including in municipalities. In addition to implementing national policies from the Ministry of Health, it formulates its health policies, coordinates and plans the SUS at the state level, always guided by federal standardization. State managers are responsible for organizing health care in their territory. Municipalities, from their municipal health departments (SMS), in turn, perform health actions and services within their territory, as partners of the Union and its State, from the transfers of resources of such entities. It also formulates its health policies, coordinates and plans the SUS at the municipal level, also respecting the federal standardization. They can also establish partnerships with other municipalities, aiming to ensure the full care of their population, to provide means for the availability of complex procedures that are beyond their resources.

It is worth noting that, in addition to the Ministry of Health, state and municipal health departments, they are also part of the SUS structure, the health councils (national, state and municipal), composed of government representatives, service providers, health professionals and users, who, constituted permanently and deliberative competence, act in the formulation of strategies and control the implementation of the health policies of their respective instances.

The SUS has standardized health care units with specific purposes and characteristics. They are divided into UBS (Basic Health Unit), UPA (Emergency Care Unit) and Hospitals.

The UBS, traditionally called the “health post”, is the user’s gateway to the SUS. This is called “primary care”. It is intended for routine care, such as general practice consultations, simple treatments, vaccination, prenatal care, dental care, etc. The UPA, responsible for secondary care, is mainly intended for emergency and emergency care, full-time (24 hours a day, 7 days a week). They are medium complexity care, at the outpatient and hospital levels. It comprises specialized medical services, such as treatment of cuts, fractures, traumas, strokes and infarctions. In addition, it covers and diagnostic and therapeutic support. In turn, hospitals, tasked with providing tertiary care, are destined to specialized medical clinics, treatments and care of medium and high complexity, such as neurosurgeries, transplants, dialysis, otology, traumatic-orthopaedics, etc.

§2– THE SUS IN THE MUNICIPALITY OF SÃO PAULO

The economic capital of São Paulo is the most populous city in Brazil, the American Continent and the entire Southern Hemisphere. The municipality is part of the Metropolitan Region

of São Paulo, consisting of 39 municipalities, which form one of the largest urban agglomerations in the world. According to an estimate by the Brazilian Institute of Geography and Statistics (IBGE), published in the Official Gazette, on 08/27/2021, the municipality of São Paulo already has 12.4 million inhabitants. The metropolitan region already exceeds 22 million inhabitants. Its importance derives not only from the high population density but also from the concentration of activities and social interactions with the rest of the country. Because of these numbers, one perceives the breadth of the municipality's health demand, as well as the need for a very well-structured device able to serve its entire population.

According to Municipal Decree No. 59,685/2020, "the Municipal Health Department aims to carry out actions to promote, protect and recover the health of the population of the municipality of São Paulo, through the Unified Health System (SUS" (art. 2). It is worth remembering that all management instruments of SMS-SP must be previously evaluated by the Municipal Health Council (item IV of Art. 3).

SMS-SP has in its administrative structure an Executive Secretariat of Administrative Management, an Executive Secretariat of Regulation, Monitoring, Evaluation and Partnerships, an Executive Secretariat for Evaluation and Control of Complementary Care, and an Executive Secretariat of Hospital Care. It is a complex structure with a robust budget, with impressive figures.

According to Law 17.544/2020 (Annual Budget Law - LOA - of the Municipality of São Paulo for 2021), the budget foreseen for health in 2021 was R\$ 12,094,012,036.00, from a total budget for the municipality of R\$ 67,962,707,820.00, second only to the Budget for Education.

In 2020, it was already the second-largest budget of the municipality, having received R\$ 9,839,353,462.00 from a total municipal budget of R\$ 68,989,440,667.00, according to the 2020 LOA (Law 17,253/2019). It is noticed that from 2020 to 2021, even though there was a decrease, around R\$ 1 billion, of the total budget of the Municipality, there was an increase in the health budget, of more than R\$ 2 billion.

It is also noted that, throughout 2021, the municipality of São Paulo, even affected by the serious economic effects of the pandemic, managed to increase its budget revenue by almost R\$ 2 billion, from a surplus result in 2020, when it received a series of extraordinary revenues to combat coronavirus (emergency aid of R\$ 1.4 billion; extra transfers related to SUS, the Union and the State, which total approximately R\$ 1 billion; and the suspension of payments of debt instalments with the Union of R\$ 2.4 billion). Of this total, most of them went to education (R\$ 559 million), social assistance (R\$ 548 million) and health (R\$ 322 million).

§ 3 – TELEMEDICINE IN THE CONTEXT OF COVID-19

Despite considerable amounts invested in the health system, the use of telemedicine is a recent reality in the city of São Paulo, as well as in Brazil.

The concept of telemedicine has not yet been pacified, which is why it has small differences in the literature, but it can be considered that the core of the concept is the use of *big data* and cloud computing, as well as high-speed connectivity, to monitor and help people in need of medical assistance³.

Telemedicine, therefore, is “a health-related service with the help of telecommunications and electronic information technologies”⁴. It has a wide range of use, such as online patient consultations, remote monitoring, nursing in telehealth and remote physical and psychiatric rehabilitation. One of the consequences of the adoption of such a service is that it makes it possible to expand the calls, reduces time to make a diagnosis and saves costs for physicians and patients by optimizing clinical procedures and reducing travel expenses⁵.

According to A. Haleem *et al.*, “in the era of the Covid-19 Pandemic, where physical interaction becomes risky, people prefer telemedicine. Fortunately, medical visits can be reduced when telemedicine services are used through video conferencing or other virtual technologies.”⁶ This possibility, which gained prominence in this tragic pandemic period, provides time to save both the patient and the health professional who attends it, with possibilities to streamline the workflow of hospitals, clinics and medical offices. And if an efficient system is used, this disruptive technology would make it easier to monitor patients who were discharged to monitor their recovery. As a result, it is sufficient to state that telemedicine can create a win-win situation for the individual and society, as it reduces the loss of consultations and optimizes patient outcomes⁷.

Telemedicine technology, which provides treatment through the use of wireless technologies such as laptops and smartphones, has access to various treatment options, including primary care

³ C. RAMÍREZ-RIVAS, J. ALFARO-PÉREZ, P. RAMÍREZ-CORREA, and A. MARIANO-MELO, “Predicting Telemedicine Adoption: An Empirical Study on the Moderating Effect of Plasticity in Brazilian Patients”, *Journal of Information Systems Engineering and Management*, 6(1), 2021, p. 2:

<https://doi.org/10.29333/jisem/9618>.

⁴ A. HALEEM, M. JAVAID, R. PRATAP SINGH, R. SUMAN, “Telemedicine for healthcare: Capabilities, features, barriers, and applications”, *Sensors International*, vol. 2, 10011, 2021, p. 2:

<https://doi.org/10.1016/j.sintl.2021.100117>, p. 2.

⁵ R.S. WEINSTEIN, A.M. LOPEZ, B.A. JOSEPH, K.A. ERPS, M. HOLCOMB, G.P. BARKER, E.A. KRUPINSKI, “Telemedicine, telehealth, and mobile health applications that work: opportunities and barriers”, *Am. J. Med.*, 127 (3), 2014, pp. 183–187.

⁶ A. HALEEM, M. JAVAID, R. PRATAP SINGH, R. SUMAN, art. cit., p. 2.

⁷ Ibidem.

consultations, psychotherapy, physiotherapy and many more. In most cases, videoconferencing is used, as some choose to provide treatment by email or telephone messages. This technology is quite useful when a patient must maintain physical distance or cannot visit a health centre.

It is important to highlight that the use of technology here in question is intended to complement the physical consultation, cannot be understood as a substitute for this, which in several cases will continue to be necessary. Today, this technology is a safe choice for patients who cannot go to the doctor, especially during a pandemic. Telemedicine is a technology that, for sure, can facilitate the obtaining of preventive treatment, besides helping people, in the long run, to take care of their health. It emerges as a propitious means of good care for those who are distant from the centres of medical excellence but has ample possibility of application, including with the potential to make health care more effective, organized and available. Despite the research in this area still being recent, it has already been found that telephone care and telemonitoring of vital signs in people with heart disease, decreased the risk of mortality and hospitalizations, with increased quality of life⁸.

Considering that going to the doctor's office usually involves several issues, such as finding other people and generating the transmission of diseases, something especially risky for people who have chronic medical problems or a weakened immune system, the fact will imply the need for the individual to be absent for long periods of work and, in the case of children, to be attended even by specialized professionals, such as paediatrics. For all this, the benefits that telemedicine can bring are evidenced⁹. In the specific case of Brazil, more precisely in the city of São Paulo, digital connectivity by telemedicine, due to the pandemic of Covid-19, has gained a new level of social acceptance, reducing the existing prejudice towards this type of care, thanks to the fear of contagion, a fact that made many people take as much precaution as possible to avoid displacement and agglomerations.

For remote public health care to work, the urban digital infrastructure was used in part, which has been decisively integrated into public health demand. In the municipality under analysis, the e-SaúdeSP application was created, "clinical data integration platform and telemedicine that brings together the entire history of the SUS patient in the state capital and offers several other functionalities"¹⁰. As an instrument of telemedicine,

⁸ *Ibid.*

⁹ F. SARHAN, "Telemedicine in healthcare. 1: exploring its uses, benefits and disadvantages", *Nurs. Times*, 105 (42), 1st Oct 2009, pp. 10–13.

¹⁰ See CIDADE DE SÃO PAULO, *Aplicativo e-saúdeSP integra dados clínicos e telemedicina e agiliza atendimento e diagnóstico de Covid-19 na capital*, 30 december 2020,

<https://www.prefeitura.sp.gov.br/cidade/secretarias/saude/noticias/?p=306756>.

Access on 27 October 2021.

it made the care and diagnosis of patients with suspected Covid-19 more agile, but not only that. After the patient answers, some questions about symptoms and the answers are analysed by physicians and nurses, the municipality receives back “a report based on the declared symptoms, which contains all the necessary guidelines, such as referral to a teleconsultation or a Basic Health Unit (UBS). The patient may also receive additional guidance, be medicated (the prescription is sent directly by the platform) or, if necessary, forwarded to an emergency unit [...]. All following the legislation and safety rules in force for telemedicine”¹¹.

Therefore, particularly in the health area, it is observed that new technological means are appropriated from the perspective of smart cities, so that the issue of health has become practically a universal consensus, elevated as a leading theme among public policies, so that cities have been equipped with digital means to integrate their basic actions of care and provision of health services to the population, being telemedicine one of these technologies. One of the factors contributing to this is that “in the last decade, there has been an increase in the use of mobile phones and access to high-speed mobile networks. This technology shift has created an increase in mobile-related offerings, from food delivery services to mobile health services.”¹² The first initiative of the introduction of telemedicine in Brazil aimed to allow patients from the most remote areas to have access to quality health services, “as well as enabling faster access to medical care since telemedicine aims to reduce the demand load for face-to-face consultations”¹³.

According to Ramírez-Rivas et al

“Since attitude has proven to be the most determining factor in a patient's intention to use telemedicine services, providers of these services could focus on shaping patients' attitudes toward these systems to make more people use telemedicine services. Although there is currently not a great acceptance of this technology (Ipsos Global, 2018), the move to telemedicine instead of face-to-face medical care will prove to be an essential item in providing quality medical care in developing countries, as it brings an effective solution for patients who would otherwise have difficulty obtaining medical attention due to mobility or distance problems. This is especially true in the context of travel limitation during the COVID-19 pandemic (Oliveira et al., 2020). Government strategies for the dissemination of

¹¹ Ibidem.

¹² C. RAMÍREZ-RIVAS, J. ALFARO-PÉREZ, P. RAMÍREZ-CORREA, and A. MARIANO-MELO, art. cit., p. 2.

¹³ Ibidem.

telemedicine in Latin America could consider these results for their project.”¹⁴

§ 4 – REGULATION OF TELEMEDICINE IN BRAZIL AND THE CITY OF SÃO PAULO

In Brazil, the Federal Council of Medicine (CFM) regulated telemedicine for the first time on 26.08.2002, through CFM Resolution No. 1,643/2002. This standard, still in force, defined telemedicine, in its article 1, as “the exercise of medicine through the use of interactive methodologies of audio-visual and data communication, with the objective of health care, education and research”¹⁵. And yet he had, briefly, that the use of telemedicine would be limited to the care of patients in remote locations and, nevertheless, “provided that (i) through the use of appropriate technological infrastructure (capable of ensuring the quality of the consultation, the preservation of the doctor-patient relationship, professional secrecy and confidentiality of patient data); (ii) under the professional responsibility of the doctor; and (iii) by registering with the CFM of the intermediary company of telemedicine services”¹⁶.

Subsequently, the CFM issued sparse Resolutions, intending to regulate specific aspects, such as CFM Resolution No. 2,107/2014 (which had on the use of teleradiology) and CFM Resolution No. 2,264/2019 (which had on the use of telepathology). However, given the restrictions present in CFM Resolution No. 1,643/2002, it was unable to stimulate the use of telemedicine, giving rise to CFM Resolution No. 2,227/2019, which established clearer and more permissive rules, delimiting and regulating “services that can be provided by telemedicine (teleconsultation, teleradiology, telesurgery; among others”¹⁷.

Because of the restrictions arising from the pandemic resulting from Covid-19, the National Congress eventually enacted Law No. 13,989, of April 15, 2020, on an emergency basis, which dealt with the use of telemedicine in Brazil during the aforementioned pandemic phase, predicting that the regulation will be up to the Federal Council of Medicine (CFM) after the period of the crisis caused by the new coronavirus (art. 6).

In the context of the Municipality of São Paulo, Law No. 17,340 of April 30, 2020, was promulgated, which defined, in its 9th, a

¹⁴ Ibid, p. 5.

¹⁵ ABMES, *Resolução nº 1.643, de 7 de agosto de 2002 (define e disciplina a prestação de serviços através da Telemedicina)*,

<https://abmes.org.br/arquivos/legislacoes/Resolucao-CFM-1643-2002-08-07.pdf>.

Access on 26 October 2021.

¹⁶ R. GRANJA, J. KESSELRING and B. OHNUKI, *Regulamentação da telemedicina: o impacto da pandemia de Covid*, <https://medicinasa.com.br/regulamentacao-da-telemedicina/>. Access on 28 October 2021.

¹⁷ R. GRANJA, J. KESSELRING and B. OHNUKI, op. cit.

single paragraph, telemedicine as being “the exercise of medicine mediated by technologies for care, research, prevention of diseases and injuries and health promotion”¹⁸.

With such legislation, the use of technology for medical care without the need for physical proximity to the patient was expanded during the pandemic. Furthermore, “remote consultation must follow the common normative and ethical standards of face-to-face care, including to the financial compensation for the service provided, and it is not for the public authorities to pay or pay for such activities when it is not exclusively a service provided to the Unified Health System (SUS)”¹⁹.

Municipal Law No. 17,340/2020, regulated by Decree No. 59,396/2020, considered telemedicine activities, in its article 9²⁰:

“I - teleorientation: guidance and referral of patients at a distance;

II - telemonitoring: monitoring of health parameters or disease at a distance;

III - teleconsultation: exchange of information and opinions between physicians for diagnostic or therapeutic assistance;

IV - telediagnosis: a medical act at a distance, geographical or temporal, with the transmission of graphs, images and data for the issuance of a report or opinion by a doctor with a Certificate of Qualification of Specialist (RQE) in the area related to the procedure;

V - telesurgery: remote surgical procedure, mediated by safe interactive technologies, with executing physician and robotic equipment in different physical spaces;

VI - telescreening: an act performed by a physician with symptom assessment, at a distance, to define and direct the patient to the appropriate type of care he or her specialist.”

Based on the aforementioned norms, the Municipal Health Department issued Ordinance No. 340 of September 4, 2020, which regulated, on an exceptional basis, the performance of teleassistance actions, including telemedicine practice actions in the public municipal health network of São Paulo, while the State of public calamity declared by Decree No. 59,291/2020 persists. The public administration, based on the legislation already issued by the federative entities and Class Councils, aware of the broad possibilities that telemedicine can provide, determined, in the

¹⁸ See Lei nº 17.340 de 30 de Abril de 2020, <http://legislacao.prefeitura.sp.gov.br/leis/lei-17340-de-30-de-abril-de-2020>. Access on 20 October 2021.

¹⁹ See Agência Senado, *Conselho de Medicina vai regulamentar telemedicina após pandemia*, 20 October 2020, <https://www12.senado.leg.br/noticias/materias/2020/08/20/conselho-de-medicina-vai-regulamentar-telemedicina-apos-pandemia>. Access on 20 October 2021.

²⁰ See Lei nº 17.340, op. cit..

single paragraph of article 1 of the Ordinance in committee, that the Municipal Health Department must keep this regulation updated and under the norms and legislation established in the period after the confrontation of the Public Health Emergency due to Covid-19.

In its article 2, Ordinance No. 340/2020 defines teleassistance as a remotely performed care modality (remote) mediated by information and communication technologies (ICT), with health professionals and patients located in different geographical spaces, and the actions consist of: (i) teleservice, which is divided into teleorientation and telemonitoring; (ii) teleconsultation and; (iii) teleinterconsultation.

With a substitute in the legislative order brought to light, the Municipal Administration of São Paulo launched, in June 2020, the e-SaúdeSP application.

§ 5 – E-SAÚDESP AND TELEMEDICINE IN THE CITY OF SÃO PAULO

According to the CEInfo Saúde bulletin in data, from the municipality of São Paulo²¹, the corresponding teleservice system began operating in March 2020, having had only 42 consultations during that month. However, in the following months there was an exponential increase in the number of consultations: in April - 360, in May - 1,834, in June (the month that was launched by e-SaúdeSP) - 23,140, and in July reached the mark of 40,235 consultations, maintaining the average of more than 30,000 consultations per month in the months that followed that year. It should be recorded that these numbers refer to teleconsultations performed by medical professionals in Primary Care.

It is inevitable, when studying telemedicine, not to enter the field of health applications. This subject, by itself, comprises countless possibilities, both technical and service. There are numerous possibilities for creation, operation and management, but in general, they unite essential tips for the area, such as better and greater access of the population to health; documentation of the calls; and the possibility of planning, based on the information obtained directly from the services, in an efficient, fast and accurate way.

In the specific case of the city of São Paulo, it makes available the application called e-Saúde SP, in Android and iOS formats, as an official source of information for the population through mobile devices. It is a creation of the Municipal Health Department of São Paulo in partnership with Duosystem, a technology company, having been launched in June 2020, within the actions of the Avançar Saúde program.

²¹ September/2021 version – Year XX, n° 20, august/2021.

In its beginning, the application was intended for screening and guidance of patients with suspected Covid-19 but progressed and currently provides a system for integrating clinical data and telemedicine that gathers the patient history of the Unified Health System (SUS) in the city of São Paulo.

The App allows citizens to record their health data daily, allowing the monitoring of important information, such as blood pressure and blood glucose measurements, weight recording, allergies and continuous use medications. It also gathers a large amount of useful health information, such as official guidelines from the Municipal Health Department of the city of São Paulo, storage of the patient's clinical history, and georeferencing for the location of health units, an important fact ahead of the large dimension of the city, as seen earlier.

Due to the advent of Covid-19, e-SaúdeSP provides information on pandemic vaccination in the city of São Paulo in the Sampa Vaccine Module. This service, in particular, is articulated with the UBSs of the city, which monitor by telephone or in-person the confirmed cases of the disease transmitted by the new coronavirus.

With the e-SaúdeSP, the patient has on the cell phone screen all his history of passages through the Unified Health System - SUS, such as reports of laboratory and imaging tests, consultations and prescriptions made in the health equipment of the municipality. The App, therefore, provides a system of integration of clinical data and telemedicine with the patient history of the SUS. The addition of the Sampa Vaccine Module to the device, which brings updates from the groups that can already be vaccinated against Covid-19 and the locations of vaccination stations, gained the App greater penetration among citizens.

One show that the telemedicine system was indeed a necessity, and that fell in the graces of those who use the public health system in the municipality under analysis, is the fact that the care, in a short time (it was launched in June 2020), has reached and exceeded the mark of 1 million hits in May 2021, totalling more than 223,000 registered users, therefore, in less than a year of its launch²². By the end of October 2021, the e-SaúdeSP application had already surpassed the mark of 4.5 million hits and 1.1 million users²³. As it turns out, the solution, recognized as one of the largest platforms for the integration of clinical data in Latin America, has achieved significant numbers of productivity, which

²² See CIDADE DE SÃO PAULO, *Aplicativo e-saúdeSP ultrapassa a marca de 1 milhão de acessos*, 17 May 2021,

<https://www.prefeitura.sp.gov.br/cidade/secretarias/saude/noticias/?p=312306>.

Access on 31 October 2021.

²³ See CIDADE DE SÃO PAULO *Passaporte da Vacina amplia alcance do aplicativo e-saúdeSP*, 22 October 2021,

<https://www.capital.sp.gov.br/noticia/passaporte-da-vacina-amplia-alcance-do-aplicativo-e-saude-sp>. Access on 31 October 2021.

demonstrates that the use of telemedicine begins to be recognized as of paramount importance by end-users.

FINAL CONSIDERATIONS

Brazil has an integrated health system among the various federative entities, with the investment of a large sum of resources, but that requires improvements mainly in the care of part of its population.

Particularly in the case of the city of São Paulo, this, despite its wealth, reproduces characteristics of Brazil as a whole, in the face of its inequality, but with some nuances that differentiate it from other regions of the country. An example is the large presence of health professionals in its territory, the great development of its medical centres and studies and the ability to invest in technology. With this, the creation of the e-SaúdeSP device, which allows the application of telemedicine on a large scale in the municipality, in line with recent laws at the federal and municipal levels, which disciplined and regulated this practice, opened up a huge perspective for improvement of medical care in the municipality, as well as throughout Brazil. It is essential to emphasize that concerning municipal legislation we had the opportunity to participate in the respective discussions when we were in the City Council of São Paulo, in 2020.

Telemedicine, therefore, is effective in both preventive and curative treatment, being a path without return to those cities that claim to be called intelligent. Anyway, digital connectivity by telemedicine during the Covid-19 pandemic became a reality in the search for more effective, organized and available health care. The quality of the service offered, catapulted by fears arising from the pandemic effect, eventually increased social acceptance to this type of care, reducing the existing prejudice, with broad and great prospects of expanding its use very shortly.