English

Creation of Framework Law of Telehealth in Peru and the context of the Health System

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Abstract

This article aims to describe the characteristics of the health system in Peru and its development in the last period contextualizing the creation of the framework law of telehealth.

Keywords: *Telemedicine; Telehealth.*

Resumen

Creación de la Ley Marco de Telesalud en el Perú y el contexto del Sistema de Salud

Este artículo tiene el objeto de describir las características del sistema de salud en el Perú y su desarrollo en el contexto de la creación de la Ley Marco de Telesalud.

Palabras clave: *Telemedicina; Telesalud.*

Resumo

Criação da Lei Marco de Telessaúde no Perú e o contexto do Sistema de Saúde

Este artigo descreve as características do Sistema de Saúde no Perú e seu desenvolvimento no contexto da criação da Lei Marco de Telesaúde.

Palavras-chave: *Telemedicina; Telessaúde.*

INTRODUCTION

The population of Peru currently has 31,776,264 million inhabitants (May 2016), it is the fifth most populous country in South America, being behind only Brazil, Mexico, Colombia and Argentina. 55% of the Peruvian population lives on the coast of the country, the rest is divided between the Andean and the Amazon region. 72.2% of Peru's population lives in urban centers and the remaining 27.8% lives in rural areas.

The life expectancy in 2016 is 75.1 years and the infant mortality rate is 16.6 per thousand. The fertility rate is 2.42 children per woman. The literacy rate is 87.7% (93.5% men and 82.1% women). The population density of Peru is 22.5 inhabitants / km.[1]

Analyzing the incidence of poverty by area of residence, it affects more the rural residents. It is observed that in the urban area, poverty affected 15.3% of its population and in the rural area was 46.0%, that is, three times more than in the urban area. At the country level, the poverty and indigence levels dropped from 47.5% and 25% in 1997 to 21.1% and 4.7% in 2013[2].

Regarding health spending in relation to GDP, in 2013, Peru spent about 5.33% of GDP on health, while the public spending on health was 58.3% of the total health expenditure.

The population of Peru is the result of miscegenation, with Amerindians being 45%, mestizos 36%, whites 15%, Asians / Africans 3% and others not specified 1%. The Amerindian element is represented, for the most part, by the Quechua and Aymara peoples.

The Peruvian constitution recognizes Spanish as the official language, but also Quechua and Aymara and others, in regions where they predominate. Much of the Peruvian population is bilingual.

With regard to the health system, both the reforms of the 1990s and the current ones tend to ensure universal provision of a package of basic services, with mixed provision (public-private), public financing management and state regulation[3]. It is in the context of the development of the health system in Peru with these characteristics that the framework law of telehealth is created in Peru in 2016.

This article aims to describe the characteristics of the health system in Peru and its development in the last period contextualizing the creation of the Marco law of telehealth.

METHOD

A literature review of the last 7 years on the development of the health system in Peru was carried out, based on the 2009 Universal Health Insurance Framework Law, which constituted a reference for the current structuring of the health system in Peru. From this process, the main characteristics of the health system in Peru were systematized, their evolution and the main results were achieved. Subsequently, the structure of the framework law of telehealth was detailed, highlighting its main contributions, contextualizing in the process of development of the health system in Peru[3].

RESULTS

The Peruvian health system underwent an extensive reorganization as a result of the approval of the "Ley de Aseguramiento Universal de Salud" by the National Congress on March 30, 2009. The law established a mandatory health insurance coverage for the entire population to accomplish this right it created the Essential Health Care Plan (PEAS), providing the legal basis for its supervision and management[4]. The PEAS contemplates the integral assistance to a group of diseases considered more relevant, according to the epidemiological profile of the country and respecting the regional realities. At the implantation stage, 45% of the morbimortality that affects the population were selected, giving priority to three regions of the country and four health networks that received pilot plans. In the following phases, the number of regions and the percentage of diseases covered were already expected to increase.

Currently, there are five subsystems that serve the population: a) The Ministry of Health (MINSA), which covers the Comprehensive Health Insurance (SIS); b) the Social Security in Health (ESSALUD) attached to the Ministry of Labor; c) the assistance network of the armed forces (Navy, Aeronautics and Army), which serves the Ministry of Defense; d) the subsystem of the Peruvian National Police, which covers the Ministry of the Interior; and e) the private sector, made up of entities providing health services, private insurers, clinics and civil society organizations.

The health coverage of the population under the Universal Health Insurance is based on three financing regimes:

• Contributive: For people who have the purchasing power to obtain insurance, whether private or public (EsSalud, FFAA, etc.), protected by the current legislation and in relation to their employment status.

• Semicontributive: For people with limited ability to pay. It is determined by the Household Targeting System (SISFHO) and covered by the Independent SIS. EsSalud also offers this type of insurance.

• Subsidized: For poor and extremely poor people, it is provided free of charge through the SIS and its income depends on the Household Targeting System (SISFHO). The Peruvian population enters into any of the three regimes, depending on their ability to pay. As mentioned, the Peruvian Health System is a mixed system, based on the public, private and mixed subsectors that make up the health system that includes: social security (EsSalud), the public system (Regional Governments and MINSA), the health of the Armed Forces, the health of the National Police and the private sector[5].

According to Levino-Carvalho[6], this law does not serve the purposes it announces of universal access, because, among other reasons, it does not alter the segmentation of the Peruvian health system: it only proposes the operational unification of the various structures that are parallel and autonomous.

Throughout Peru, the share of the population on the margins of health insurances reached 58% in this period, which represented approximately 16 million inhabitants. Of the remainder, 20% are covered by ESSALUD, 18% by SIS and 4% by the armed forces and the private sector.7 The financing of the Peruvian health system has undergone considerable changes with the implementation of the Universal Health Insurance Framework Law.

In the previous situation, there were several autonomous funds that kept each segment of insurance. The standard established predicts the creation of a public health insurance fund to enable access to subsidized in-

surance and obliges all insurers to set up a solidarity fund that can guarantee the PEAS to all its affiliates. In order to administer the solidarity funds, the Funds Administrators of Health Insurance, which were supervised by the National Health Insurance Superintendence, were instituted. Levino & Carvalho[6] systematize the characteristics of the Peruvian health system (Table I).

Table 1: Characteristics of the Peruvian health system

Financing	The health system is segmented. The federal resources derived from the collection of taxes finance the Comprehensive Health Insurance (SIS) of MINSA; the insured contributions finance the Social Security of Health (ESSALUD) and the armed and police forces of Peru, while the private sector is financed by the direct disbursement of the insured
Relationship between financing and service provision (form of state participation in the supply and demand)	The management of public health systems is centralized at the federal level of government. The MINSA and ESSALUD service networks are parallel and autonomous in structure and operation. The private sector is hired by public insurance to meet the complementary demand
Access (universality)	The MINSA network serves the low income population, the ESSALUD network serves public servants and liberal professionals, the military network serves the navy, aeronautics, army and national police, the private insurances serve by direct disbursement. The access in all segments depends on affiliation that guarantees the Essential Health Care Plan (PEAS).
Public welfare coverage (completeness)	Since March 2009, the Universal Assurance Framework Law has enabled the coverage of comprehensive care to priority diseases through the Essential Plan for Health Care (PEAS).

Source: Levino A, Carvalho EF; 2011.

In Peru, the health services are organized into subsystems corresponding to the health insurance segments. In the Peruvian health system every user is entitled to full assistance, which must be offered by the insurance plan to which he is affiliated; however, the characteristics of the health network show that first and second level services predominate, with few third level units[7].

The designation of Peruvian health establishments follows the typology of each segment of service provision. In the MINSA system, the basic units are identified as the health station type (PS I and PS II) and health center (CS I and CS II), which differ between them by the type of professional available and the work regime. The PS I have doctors and nurses, the PS II already have nursing technician and sanitary technician. In the case of CS I and CS II, the difference arises from the presence of the hospitalization room.

In the ESSALUD network, the units are health center (CS) and hospital type. The military system classifies its units as: health posts (PS) and hospitals. The private sector uses clinical and hospital terminology[8].

In 2013, Peru began a process of health reform framed in the recognition of health as a right, whose protection must be guaranteed by the state. The objective was to universalize the health protection, so that the entire population benefits from the state action to improve the social determinants, access more and better comprehensive care in the individual and populational field, and do not risk becoming impoverished as a consequence to care for its health or to cure its illness[7].

To justify this reform, the National Health Council in Peru in 2013 stresses that:

> *"Peru faced a political, economic and social scenario that favors and makes feasible the implementation of a policy of changes in the health sector. These factors are: the sustained growth of the economy, the increase in revenue, the strengthening of the democratic and institutional process, the gradualisation of the decentralization process, the growing expectation of the citizenship for the exercise and the realization of their rights, the growing culture for the responsible health care and, most importantly, the Government's willingness and political support to make decisions within the framework of a public policy of social inclusion. This set of factors must allow the necessary changes to be made to advance the social protection policy in health of the entire population, and to offer them more and better services. The social protection in health to which we refer is broad and comprehensive"*

The reform addresses different dimensions: it emphasizes that it is the State's inalienable responsibility to ensure the good health of all Peruvians; proposes to deepen the actions of health promotion; proposes to allocate resources so that health services are prepared and able to deal with disaster situations and mitigate their potential damages. In addition, with regard to the individual protection of individuals and their families, it proposes to extend the current insurance coverage until it reaches its universality, this will allow the entire population to be included in some of the care systems.

It also emphasizes in a significant way the need to orient the health system to primary care:

"In this context, the provider system must be reorganized, integrating and articulating it in functional networks, orienting it towards primary health care, for which emphasis will be placed on improving its levels of resolution. We propose a revaluation of the health worker, which must have the appropriate conditions for its full development and fulfillment of its functions, within the framework of a comprehensive human resources policy. In addition, we propose closing the gaps in infrastructure and equipment of health services, based on a greater and better public investment, based on the medium and long-term concerted planning with a territorial approach, that optimizes the use of available resource. Likewise, we propose to improve regulation and access to quality medicines and to strengthen the sectorial technological capacity for the production of critical inputs, such as medicines and vaccines. We plan to improve the use of resources for health, with the articulation and effective complementation of providers and financiers of the system through the exchange of services, already started. With regard to financing, we propose that household health spending be gradually reduced, which means an increase in public funding, accompanied by more equitable budgetary resources allocation policies that reduce inequities in access to health. These proposals for public policy measures are an expression of our commitment to the health and well-being of the Peruvian population, a basic condition for the country's development. (Health system reform, 2013)."

The reform recognizes that the enactment of the Universal Health Insurance Framework Law (Law No. 29344) 8 in April 2009, took a significant step in establishing the regulatory framework for universal coverage of individual health protection from a perspective integral. Thus, it was sought to jointly modify the conditions of population, benefit and financial coverage in force at that time; the law established mechanisms to increase the number of people financed under an insurance model and decided to expand the set of health benefits to which they would be entitled to be covered.

Thus, the Law No. 29344 states that all residents in the country must be affiliated to any of the three existing insurance schemes: subsidized, semi-contributory and contributory. The Essential Health Insurance Plan (PEAS) was also approved, which constitutes the set of benefits that every insured population is entitled to receive, and thus, reduce the large inequalities of existing health insurance coverage.

The various advances made in the country after the enactment of the law in 2009 are highlighted. The PEAS spells out a comprehensive package of benefits (preventive, diagnostic support, curative and rehabilitative) to address 140 insurable conditions throughout the life cycle, covering, in this way, the health problems that generate 65% of the burden of disease at the national level.

In the case of the SIS, the application of the PEAS has been extended to all its insured persons at the national level. Likewise, the Intangible Solidarity Fund for Health (FISSAL) has been strengthened to finance benefits linked to high-cost diseases that are not covered by the PEAS, such as the oncology contained in the National Plan for Comprehensive Cancer Care-Plan Hope; likewise, the National Superintendence of Health Insurance (SUNASA), which focuses on user protection, has been in charge of monitoring the health benefits provided to the insured persons of all insurance schemes.

However, it recognizes that in 2013, still 27% of the population does not have uninsured coverage, concentrated in the independent or poor segments located in remote areas. With regard to the benefit coverage, the human resources and equipment gaps within the public sector impede an adequate provision of the health services contained in the PEAS, in terms of volume and quality.

It also points out that one of the important limits in the period relates to the insufficient financing, and it is necessary to consolidate this process by strengthening the functions of the health system in order to fulfill the mandate of social protection in health.

The reform text points to the following for the health sector reform, as detailed in the table 2.

Table 2: Health sector reform guidelines

Guideline 1	Strengthen the strategies for intervention in public health.
Guideline 2	Strengthen primary health care.
Guideline 3	Improve the efficiency, quality and access to hospital and specialized services.
Guideline 4	Reform the human resource management policy.
Guideline 5	Close the gap for the por population.
Guideline 6	Extend the insurance in the subsidized regime according to vulnerability criteria.
Guideline 7	Promote insurance as a means of formalization. • guideline.
Guideline 8	Consolidate comprehensive health insurance as a financial operator.
Guideline 9	Strengthen the fissal as a second floor funder.
Guideline 10	Apply new payment modalities that encourage the productivity and quality of health services.
Guideline 11	Strengthen the funding of social health insurance, esSalud.
Guideline 12	Strengthen the rectory of the health system.

Source: National Health Council of Peru, 2013

It will be in this context of the health system that the framework law on telehealth will be discussed and promulgated on April 2, 2016. The law establishes that the principles underlying telehealth showed at table 3.

Table 3: Principles that support the telehealth in Peru, according to the telehealth framework law

Universality	Telehealth services ensure access for all people to health services.
Equity	Telehealth services are provided with equal quality and similar options to the population, reducing the gap in their access
Efficiency	The resources of the national health system are used in a rational way, optimizing care in health services through the different axes of development of telehealth.
Quality of service	Through telehealth services, an improvement in the quality of health is promoted and the capacities of health personnel are strengthened, based on user satisfaction.
Decentralization	Telehealth is a strategy of utilization of health resources that optimizes care in health services by strengthening the process of decentralization of the national health system using information and communication technologies (ICT)
Social development	Through telehealth services, the development of society is promoted, allowing the population to have greater access to information on health, knowledge of their duties and rights in health, promoting the empowerment of people as the main subjects of care of their own health, of their family and their community, creating spaces for new practices of citizen participation

The purpose of the law is to establish general guidelines for the implementation and development of telehealth as a strategy for the provision of health services, in order to improve its efficiency, quality and increase its coverage through the use of information technologies and communication (ICT) in the national health system.

In defining the scope of application of the law, it states that it covers all health establishments and medical support services, public, private and mixed health sector. The law also details the definitions for telehealth and telemedicine, stating that the overall direction of the process is from the Ministry of Health. It is also in charge of elaborating the National Telehealth Plan as well as defining quality standards for the provision of telehealth services.

The law recreates the national telehealth commission with the following functions (Table 4).

Table 4: Functions of the National Telehealth Commission of Peru

1. Propose the technical mechanisms for the implementation, monitoring and evaluation of the National Telehealth Plan, suggesting priority lines of intervention within the framework of the National Plan.
2. Propose the rules and procedures on the use, development and implementation of new information and communication technologies. 3. Propose indicators and standards of the National Telehealth Plan at national level, in coordination with the regional drivers according to the sector, monitoring their adequate implementation.
3. Propose indicators and standards of the National Telehealth Plan at national level, in coordination with the regional drivers according to the sector, monitoring their adequate implementation.
4. Propose training programs and training of human resources in the use, development and implementation of new information and communication technologies
5. Issue technical reports and recommendations on the use, development and implementation of new information and communication technologies according to the technological advances of information and communication that are presented.

The law establishes that the development axis of telehealth includes the provision of health services; the management of health services; the information, education and communication to the population on health services; and the capacity building of health personnel, among others. In this way, it defines the scope of telehealth activities, making it very broad.

It also establishes that the institutions providing health services (Ipress) should gradually incorporate in their portfolio of services the provision of telehealth services, guaranteeing their sustainability.

Another important aspect of the law is the financing of telehealth services. It says in its text: "the institutions administering health insurance funds (Iafas) and other forms of insurance guarantee the financing of telehealth services."

This legal framework allows the development of telehealth actions in Peru, particularly because it makes possible its sustainability over time and liberates the provision of services to the various institutions that make up the broad health system in Peru.

DISCUSSION

Garcia (2001)[9] systematizes some characteristics of the Peruvian health system, situating its potentials and its limits. In the relationship between financing and provision, the author identifies as tendencies: the financing of demands; greater budgetary and financial autonomy of public servic-

es; and the integration of public and private health services. These characteristics are present in Colombia and Peru, with slight variations between the two models that tend towards a uniformity after Peru adopted the PEAS, in the mold of the Colombian POS. Differently, in Brazil the public sphere finances, regulates and acts in the provision of services, while the private sector, despite its magnitude, has only a complementary participation in the health system

Regarding the targeting of public financing, García[9] points out that it tends to the following forms: free supply only for the needy population, as it happened in Chile; offer for the population insured with collection of the services rendered, as it happened in Uruguay; or publicly subsidized insurance, as is the case in Colombia with the POS and henceforth in Peru after the implementation of the PEAS.

The last characteristic identified by Garcia as a general trend of the basic food baskets, just what we find in Colombia and Peru, where the POS and PEAS imply a contingency of coverage. Peru, which previously had an integrality that was foreseen but not guaranteed in the public system, now has a provision that is foreseen and regulated but restricted to a package of priority diseases[9].

In this perspective, after 2009, with the institutionalization of PEAS, there was a need, expressed in the 2013 reform, to advance the population's access beyond the package of diseases. Currently, it has created and structured programs in the area of high complexity, particularly the national cancer network - ESPERANZA. Also the coverage of the population reached by the PEAS increased, going from a situation of 27% without insurance to about 20% in the current situation.

Velasquez[10] in 2016 conducts an evaluation of the health system in Peru and systematizing the results achieved, states that:

> *"With regard to health insurance, coverage is shown above 80% of the population, based on the growth of members of the Comprehensive Health Insurance System (SIS), and the inclusion of health-priority population, such as pregnant women and children under 5 years; in addition to the innovation in the management and control mechanisms, especially in the way in which funding is allocated to the first level, which has resulted in a preponderance of preventive care, improved satisfaction of SIS insureds and reduction of out-of-pocket spending on medicines. The SIS benefit package has expanded, even for high-cost diseases such as cancer. The Plan Esperanza was created for the prevention and comprehensive oncological care financed by the SIS. There are challenges in health insurance coverage, such as increasing financing, expanding subsidized insurance coverage to health-priority population, providing semi-contributory insurance linked to the reduction of informality, and contributory insurance to independent and formal workers; in addition, to consolidate the SIS as a public insurance with purchase capacity to non-public suppliers."*

Other authors in 2016, also analyzing the situation of the health system with regard to the provision of services, affirm that there has been an expansion and the strengthening of the offer of services and comprehensive care that is unprecedented, from the development of a multi-year policy and intergovernmental investment and the definition of an investment plan with emphasis on the second level, which has executed projects for more than 8 billion soles and leaving 265 projects of hospitals and health centers in progress. It is reported that the investment is three times greater than in previous periods. It is also reported that the reform made it possible to level the main component of the remuneration of the workers of the interior of the country with those of the capital and created a system of compensations to compensate the effort made with incentives. These measures allowed an increase of 27,120 professionals over the last five years, which places us above the OMS standards for middle-income countries, as opposed to previous periods[10].

In analyzing concrete experiences of structuring health systems, for example, in the Loreto region, there were problems in accessing the types of units - the least complex without a doctor - are more accessed, as in Loreto. The type that usually counts only with nursing technicians is more frequent, representing 77.01% of the health units of Loreto. The type that has a full team of professionals reaches 3% of the entire network[6].

Also in analyzing the situation of the health system in Peru, the Ministry of Health affirms that, in spite of the efforts, the services of greater complexity are still concentrated, affirming that primary health care services have a wide national coverage, serving the applicant population, mainly in rural and marginal urban areas. There are also intermediate level hospitals in the regions; however, specialized centers are located in the capital of the country or in the areas of greatest socioeconomic development - Lima, Arequipa, Trujillo, Piura, Lambayeque. It is also noted that the most important gap is that of human resources. The AUS needs a greater number of health professionals - general and specialized doctors.

Unlike the universal health systems, one can observe in the experience of structuring the Peruvian health system, which despite the expansion in the PEAS, it is still a model in which the population as a whole has not ensured its care

in any pathology - only under defined conditions. Velasquez says that the non-Peru health sector is heading towards universal coverage and with greater capacity for response, for which it will have to continue to face challenges such as articulation of the system, greater supply and improvement of the quality of services throughout the subsystems of health[10]. In spite of this, 20% of the population is not covered by insurance.

As for the structuring of the framework law on telehealth and the structuring of the health system, it is observed that this law expresses a process of effective insertion of telehealth in the dynamics of construction of the health system in Peru. In proposing the insertion of telemedicine actions in the context of the structuring of service provision, particularly involving what are perceived as problems of the system in the highly complex service delivery network - a necessary expansion of the provision of services - telemedicine actions have the possibility of inserting strategically in the dynamics of the construction of the health system in Peru.

Gozzer already identifies the need for telehealth actions in Peru to make a leap: the need for collaborative work, an institutional effort and funds to move from innovative interventions at the local level to interventions at the national level with a systemic approach that already developed and promotes new uses of Telesalud to give a greater impact to health policies and strategies[11].

Curioso[12] also states that telehealth provides greater accessibility to health care personnel, especially in rural areas, isolated areas and with limited capacity to resolve through the connection with health facilities. Through telehealth, the interaction between health personnel and the user transcends geographical and temporal boundaries by avoiding unnecessary travel, shortened waiting times for care and allows diagnosis and support to remote treatment from specialized health facilities, covering the gap created by the lack of qualified human resources and necessary physical resources. In a structuring context of the health system in which human resources management is identified as one of the major problems - existence, qualification and concentration - telehealth can contribute in an important way to the structuring and qualification of the Peruvian health system.

It is observed that the framework law of telehealth establishes some principles for its structuring, which can potentiate actions. Correa notes that health and ICT standards establish principles that are in line with universal access. This coincidence makes possible an important point in the development of this plan, since it allows establishing strategies whose priorities and actions will be joint, optimizing the work for the development of Telehealth[13].

Another important aspect of the telehealth framework law, in defining telemedicine and telehealth and proposing that the telehealth actions and services defined by the law may be eligible for funding, telehealth is an important step in relation to its sustainability process over time in Peru. It is hoped that with the publication of the law, its execution and its concrete insertion into the Peruvian health system, the telehealth will become a national telehealth project, contributing to improve the access and quality of the service offered to the Peruvian population.

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