Healthcare regions and their care networks: an organizational-systemic model for SUS

Abstract This paper describes a comprehensive effort to develop studies regarding Brazil’s Unified Healthcare System (SUS), as a result of the combination of public services in a network that follows a region-based rationale (tripartite organization). The SUS emerges from such an integration and should be organized as such. The intention is to demonstrate that this type of organization is essential, given that Brazil is organized as a Federation, and all three governmental levels are, in a broad sense, equally responsible for healthcare. Healthcare services and actions are a complex set of activities that are interconnected on behalf of citizen health, which is a global concept that cannot be split up. Services must follow this rationale and be organized as such. Thus, healthcare services must be systematically organized to serve everyone equally, regardless of where a citizen lives. This systemic organization requires permanent interaction between federative units to discuss and operationalize reference services, funding and other technical and administrative aspects. These are the essential elements that make the SUS so complex and demand it be organized regionally, as a network of healthcare services.

Key words Healthcare region, Healthcare network, Systemic organization
Introduction

The Unified Health System, SUS is constitutionally defined as the result of integrating public healthcare services and activities in a regional and hierarchical network. This integration gives rise to the unified system, and healthcare is the shared responsibility of all federative units.

Furthermore, given the overall, comprehensive concept of healthcare, which requires an interconnected and complex set of activities to foster health, prevention and recovery, there is no way a single entity alone could provide the entire chain, from vaccinations to transplants. It is impossible due to the huge demographic, geographic and socioeconomic differences between cities and towns, and because the country is a single federation, which requires decentralized healthcare services and measures as the three spheres of power to share responsibility for healthcare, and the grouping of independent states into health regions to provide comprehensive healthcare. Political-administrative decentralization and comprehensive healthcare are two guiding beacons to understand the systemic organization of public health.

As the constitution did not hand out responsibility for healthcare to each of the federative units, Law 8,080 was signed in 1980, assigning responsibilities so as not to facilitate a definition of responsibilities, it was up to the federative units themselves to define, on a national, state and regional level, the details of healthcare execution at the inter-management level, with the public healthcare organizational contract used to define these inter-federative agreements, limited to each healthcare region, as defined in Decree # 7,508 of 2011. This will provide legal security for joint and independent responsibilities for organization, funding, control and assessment of healthcare services and activities.

Regional integration of services is required to ensure comprehensive healthcare as a reference for services. It is the responsibility of the larger units of the federation to provide more complex services that require scale, and handle other administrative and technological complexities that can then be used by citizens of other cities and towns. Thus, the citizens of a small town requiring a more complex service will resort to the services offered by a larger city within a given healthcare region. Another relevant aspect is that cities are not required to fund services for people who do not live in the city, in the name of local and constitutional interests. This requires the state and federal governments to co-fund healthcare services and measures.

It is imperative that SUS group federative agents within a given region to specify their field of activity and organize reference services, given the health, technology and financial complexities involved. Without this, SUS will not be able to become a comprehensive, universal and fair system.

Article 198 of the Constitution requires that services be integrated across the federative units, where it states:

Art. 198. Public healthcare measures and services are part of a regional, hierarchical network and comprise a unified system according to the following guidelines [...].

Integration is required as it makes up the system. SUS is the result of this integration, which is not optional but required as being constitutional.

This integration is regional, it is the responsibility of, and coordinated by the States, in agreement with the cities, as per article 25, paragraph 3 of the Federal Constitution. Healthcare regions are defined by Decree 7,508 of 2011, which governs healthcare regions, their characteristics and minimum services offered. As the State means anything that is regional, and combines all of the cities and towns within its borders to perform shared activities, healthcare regions, even if not stated as such in said paragraph of article 25, are within the responsibilities of the State. It remains to be discussed if healthcare regions, as a decision of the State and the cities, should be the governed by supplemental laws or by simple decrees or other type of legal statute. This is relevant for healthcare regions, and is a topic that has not been considered.

In addition to the territorial format defining healthcare regions, other elements are essential, among them that healthcare networks be organized in a hierarchical manner in terms of the technological complexity required for diagnosis and treatment, using healthcare as the guiding element of the health-systemic chain, and the link between individuals and their healthcare needs at all levels of technological complexity. Primary care, as the gateway to the system and the guider of care in all dimensions, provides the framework for the networks and other services. The purpose of this effort is to analyze the regional organization of public healthcare services from a legal / health point of view.
Healthcare regions and their organization

Healthcare regions, even if inferred in article 198 of the Constitution, were not immediately regimented. Law 8,080, signed in 1990, says nothing of healthcare regions as an institution. It discusses regionalization without describing healthcare regions, which appear for the first time in Decree 7,508 of 2011. Although mentioned previously in Ministerial Decrees, these do not have the legal weight and security of Law 8,080. The more relevant question for the system is how to decentralize the measures and services provided by a given federative unit to another. One must first decentralize what had been at a government level outside its vocation, to later discipline healthcare regions.

2011 Decree 7,508 governs federative articulation, healthcare regions, the organizational agreement for public healthcare measures, regional planning, gateways to the SUS and other items. This Decree leaves it up to the federative units in healthcare regions to define, by common agreement, the responsibilities to be stipulated in the organizational contract for public healthcare activities to provide the necessary legal security.

Assigning responsibility within SUS is only possible if it is done in a flexible manner, hence the use of contracts whereby agreements can be made between federative units, which freely define their responsibilities within the region in a contract. This contractual model is the one that best fits the diverse realities of the federative units of this country.

The region is a territorial, administrative/health segment that enables integrating what allegedly decentralization fractioned, defining a set of health services for the population made up of healthcare units with health intelligence, which allows people to access the proper therapeutic pathway for their needs. Healthcare regions are a means of organizing healthcare with the specific purpose of ensuring the population has access to services and activities within a limited and disciplined territory, which may be inter-regional, depending on the specific healthcare needs. Within each region, the SUS should ensure that people have their healthcare needs met, in agreement with inter-federative references and shared management, all defined in agreements and stipulated in the contract.

This inter-federative contract is not an adherence of the entity coordinating the process, but a federative consensus regarding concrete realities and regional targets to be met. Metaphorically, the contract is the zipper on a dress, it provides the final shape of how healthcare actions and services will coordinate across the federative units in the region, ensuring business security.

This institutional design of regions, networks and healthcare responsibilities coordinated by the State, within national goals and guidelines, is at the heart of the organization and operation of SUS as a systemic entity.

Decree 7,508 of 2011 defines regions as:

Article 2

II - Healthcare Region: a continuous geography made up of a group of cities and towns delimited by shared cultural, economic and social identities, communication networks and transportation infrastructure, with the purpose of integrating the organization and planning of healthcare services and actions.

The State is responsible for implementing healthcare regions, in agreement with the cities and abiding by the agreements of inter-management committees. The follow are the minimum required services to be provided:

I - Primary care;
II - Urgent and emergency services;
III - Psychosocial care;
IV - Specialized outpatient and hospital care;
V - Health vigilance.

Once a healthcare region has been formally defined by the State, and given its constitutional responsibility of governing groups of cities and towns as mentioned above, the region’s geographic borders must be defined, as well as the population that will use the service in both numbers and home location, the list of services and actions the region will ensure the population, and the responsibilities of the federative units for execution and funding. Access and scale of services will also be defined.

Once a healthcare region and its permanent organizational elements have been defined, such as the number of cities and towns, the regional inter-management committee, regional governance and care networks, periodic macro-processes must be defined, such as regional planning, organization of inter-management networks, healthcare maps, regional management reports, assessment and control, and the public healthcare organizational contract (Article 15 and subsequent articles, and article 33 and subsequent articles of Decree 7,508 of 2011).

Article 6 of the decree states that a healthcare region is the reference for transferring resources between federative units, giving rise to regional planning, which at that time was not disciplined
within the scope of SUS, which should integrate the healthcare needs of the region’s population, the services provided by all entities and the financial resources. The State and Federal governments are responsible for fostering regional equality, minimizing regional differences and transferring funds to the region based on its needs and characteristics to reduce socioeconomic and demographic asymmetries, so that public assets are no longer exclusively for those who are better located. A strong component of healthcare regions is to provide citizens with equal rights to healthcare services and actions close to where he or she lives, as a complete citizen, regardless where he or she is and without burdening any federative units beyond its socioeconomic, demographic and spatial capabilities.

A healthcare region should be a microcosm of the national SUS, providing healthcare for its citizens. This results in shared and cooperative management, fostering integrated planning, regional funding and a number of measures to ensure regional, policy and operational governance, such as the regional inter-federative collegiates, which the decree addresses and which must be interpreted in accordance with Law 12,466, published a few months later. Regional inter-management committees are where a healthcare region’s decisions are made. They must appoint an executive board to ensure governance within the healthcare region.

**Inter-Management Health Committee and regional governance**

Something else that is relevant for organizing the healthcare regions are the Inter-Management committees created by Law 12,466 of 2011, and Decree # 7,508 of 2011. Starting with the Tripartite Inter-Management Committee, in charge of decisions that are cooperative and solidary across all three spheres of SUS management - Federal, State and City -, and thus reproduced at the state and regional level.

Inter-Management committees were first mentioned in Decree # 7,508 of 2011, creating regional committees that are essential for the operational governance of healthcare regions. Before this these committees were only mentioned in Ministerial Directives, and were never regulated by law or decree, which finally happened in 2011. These committees are in charge of defining, by common agreement, how the health policies will be implemented by the federative units within their spheres of government. Health policies are defined by the federative units, initially in healthcare plans approved by the Boards of Health and based on the healthcare needs of the population. These must also abide by the guidelines and goals defined in state and national health plans, which guide SUS policies at the state and national level, so that their unicity is a national reality, and each unit may set its own local, regional and state specificities. SUS plans must simultaneously meet local healthcare needs and be consistent with national planning, ensuring a single policy and operation of the public healthcare system.

When Law 12,66 of 2011 was signed, it assigned the responsibilities of Inter-Management committees and ensuring the institutionality and legality of what had been practiced for over 20 years. The committees then became a relevant body for shared management and operational governance of SUS. Without removing the power of the federative units regarding their responsibility and authority to define healthcare policies, the committees make sure that healthcare operational, financial and administrative governance, which imply in cooperation and sharing, happen within these inter-federative bodies.

Inter-Management committees are essential for regional healthcare governance, given the absence of any formal regional body, and the real need to regionalize decentralization to enable the SUS to work in the integrated and systemic manner it should. Regional governance, a legal fiction implicit in SUS, requires suitable tools, one of which - perhaps the largest -, is a regional Inter-Management committee, where, by common agreement, important regional issues can be addressed, such as references, guidelines for integrated planning, and care network organization, control and assessment, among other elements. It these are not present within a healthcare region, relevant aspects of cooperation and regional sharing will never emerge.

**Regional Planning**

Regional healthcare planning is essential to organize the activities and services provided within the healthcare region. With no planning, SUS will be ineffective and will lack solid agendas to guide its activities. Article 176 of the constitution states that planning is required for the State, and a fostering agent for the private sector.

How the SUS is organized in all its complexity brings to the cities the need to not only plan their healthcare services and activities, but also to look at the healthcare region they are a part
of, and become familiar with the services offered, the population using these services, and local and regional health realities. With this expanded knowledge, which goes beyond the city proper, they can plan local healthcare with a view to the healthcare region. Large cities must thus consider the healthcare needs of the smaller cities and towns, which will be provided within the region's system of reference services, which in turn is the result of constitutional integration of federative services and activities. Smaller cities and towns must consider regional resources as references for their citizens, thus ensuring comprehensive joint, shared, and cooperative care.

Law # 8,080 of 1990, Complementary Law # 141 of 2012, and Decree # 7,508 of 2011 address integrated planning. The last two define data regarding regional planning.

Finally, it is important to remember that healthcare regions are a requirement, not an option. The foundation is always the Constitution, which demands a regional network of services. For this reason, the concern expressed by Machado as to how to introduce a standard of joint conduct across government entities makes sense within the context of regionalized healthcare, which in fact is the essence of SUS.

With no solidarity in managing healthcare and its references, the SUS as constitutionally stipulated - federative cooperation and solidarity -, cannot exist. Regional planning is the source of solidarity and cooperation. Planning is used for cooperation and solidarity. Without it nothing can be satisfactorily achieved.

**Healthcare Network**

This means organizing a regional healthcare network, to provide services of different levels of technical/health complexity, ensuring that the aggregate network of services provided is technologically robust. Some services are spread out so that many cities and towns may use them, while others are concentrated for economies of scale. According to Mendes, as a rule, services that are less technologically intense, such as primary care, should be dispersed, while the more technology intense services such as hospitals, clinical pathology labs, imaging equipment and the like should be concentrated.

This network should be comprised of different types/levels of services, and be designed so that citizens will not go to a higher technology facility for a need that could be perfectly handled by a smaller/simpler service. This rationality is linked to efficiency, economy, convenience at the point of service, scale and many other items managed by government agents. Efficient organization of healthcare networks must be based on economies of scale, resource availability, quality of access, horizontal and vertical integration, replacement processes, health territories and levels of care.

It is important to list some of the elements essential for an integrated (and regional) healthcare network, taken from Kischner e Chorny. The authors list the following features: population and territory; network of healthcare facilities with comprehensive services; primary care covering the entire population; gateway to the system that coordinates the system; a single governance system for the entire network.

It is within these fundamentals that the decree defines the gateway to the (regional) healthcare network comprised of structured a) primary care; b) urgent and emergency care; c) psychosocial care; d) special open access situations, requiring that these services refer people to technology intense services, such as hospitals and specialty services. Gateways are the result of regulated access. The system regulates gateways from a technology, health and administrative point of view.

Although everyone proposes primary care as the gateway and ordering element of healthcare networks, 21 years later nothing has been regulated. With the regulation in the Decree, primary healthcare becomes the main access to the healthcare network.

Organized access requires that healthcare professionals analyze the severity of individual and collective risk, which must come first in the chronology of care (citizen order of arrival). All other things being equal, chronology prevails. In risk situation, severity of risk prevails.

Also relevant is the requirement that citizens be assured their healthcare needs will be addressed by the regional network, or by a cross-regional network. From this emerges the figure of reference services (the hierarchical ordering referred to in the Federal constitution regarding complexity or technological intensity of services).

When references leave a region for another region or regions, this must be regulated to ensure legal security across the federative units in the region and their ability to ensure the care of their citizens. Inter-regional references that are outside the State require effective inter-state interaction to define inter-state references. These aspects are important to provide organized and systemic references.
COAP - Public Healthcare Organizational Contracts

These contracts are used for self-regulation of the federative units within the healthcare region, defining how executive, budget-financial, control and assessment responsibilities will be shared.

The contractual model fits the SUS like a glove, as the SUS is a unified system that is decentralized, regional and hierarchical, with very unequal federative units, all with the same commitment of caring for people's health. This is a puzzle of unequal parts, all equally important to create the final picture of a single and equal system that provides services from vaccinations to transplants. This puzzle will only come together as a cohesive picture if the system is systemically organized and cooperative. There is nothing more cooperative than the national, state and regional SUS.

It is important to point out that Public Healthcare Organizational Contracts used to organize and order shared government activities are quite an innovation. These contracts will define the different regional healthcare responsibilities. The federative units must jointly agree on the regulations of shared management. They will decide on their own, by consensus and formalized in contracts, how these responsibilities are organized.

Should all healthcare responsibilities be regulated up-front? If that were the case, it would be easy to design a healthcare network, knowing ahead of time the responsibilities of each element as defined by law. However, SUS knows that is impossible to define up-front what each element will do, given the infinite array of variables emerging from demographic, social, geographic, economic and cultural inequalities in this country, as explained in this document. A contract is the best model to govern the interdependent relationships between the elements of the healthcare network within a given region. A contract can be used to assign responsibility for organizing a healthcare network’s activities and services based on the individual characteristics and economic reality of each region.

A contract between federative units can define, based on their individual realities and within the scope of their shared responsibilities, the role of each healthcare entity, imposing rules resulting from joint and responsible negotiation of the shared responsibility of caring for the health of the population. This negotiation is adjusted in contractual terms and clauses, which play the role previously reserved for the law - the detailed definition of the responsibilities of the different healthcare agencies, the requirement that they exist, and sanctions for any breaches.

We have before us a model of federative inter-relationships that must be permanently built over time, based on the goals defined by law, and that must be achieved in the name of the constitutional duty of ensuring the right to healthcare.

In this case, the goal of the contract is to provide a detailed list of the constitutional and legal responsibilities in healthcare. This requires defining territories to build a healthcare network, regionalizing what decentralization individualized. As the contract is the only way the federative units of a given healthcare region can assign individual, shared and joint responsibilities in the area of healthcare, signing such a contract is a requirement.

If the interdependence of federative units in ensuring the right to healthcare is intrinsic to SUS, meaning it is in its constitutional nature to be a single system resulting from the integration of services provided by independent entities, the contract becomes a required link in the chain of inter-relationships. The contract is the systemic link of SUS. Without the contract, there is no guarantee of the obligation to perform among the federative units that make up a given region.

A contract commands respect for geographic, demographic and socioeconomic differences, and helps eradicate regional and local inequalities, making integrated healthcare a reality, resulting in health equality at the federal level.

Healthcare demands the performance of shared, identical activities that cannot be performed in isolation, but must be provided jointly by a multiplicity of entities. This requires harmonious and joint action, as the isolated performance of the respective competences by the various administrative entities will not satisfy the public interest. Integration and cooperation are essential for the suitable fulfillment of common competences and requires permanent articulation. Concerted action is required within SUS.

Organizational contracts are a way for the State to relate to itself within public administration, making it more efficient and, in the case of SUS, possible. Based on cooperation and collaboration, the State changes its relationships, replacing subordination and hierarchy with combined action on interests that often can only be satisfied by through concerted effort. In this new type of relationship, negotiation and definition of responsibilities in a contract are essential to serve the public interest.
In the case of territorial decentralization, which includes the risk of service fragmentation, required when SUS first started, to suitably re-allocate services, interaction between service providers is important to enable their reconfiguration with no loss of independent management. In healthcare, decentralization of activities across 5,570 municipalities requires remedies that would enable integrating these actions. The teachings of Oliveira\(^a\) state that administrative conduct must be executed daily within the organization of Public Administration, in order to enable better exercise of the administrative function.

The organizational contract pursues a single goal, and the parties have no intention to benefit from it. The gains are a sum of the efforts of all those involved to improve public performance, organize common services and better define obligations, responsibilities and funding. It is a way that entities can self-regulate responsibilities regarding certain shared services, such as public healthcare.

An organizational contract allows its participants to define rules to bind them, given that it is legally binding. These contracts have a different legal regime from bilateral and commutative agreements. They are multilateral and differ from the classical legal regime, resulting in new paradigms for design and execution.

In healthcare, an organizational contract is essential to organize regional systems, as these contracts bind the federative units, while at the same time they define their obligations and responsibilities within a network of services responsible for providing the community with healthcare.

It is the contract that will ensure decentralized services are not fractionated due to their city or state character, agreeing on financial compensation for reference entities and ensuring solidarity and equality, while at the same time respecting federative autonomies and agreeing on sanctions for breach of contract, ensuring regional governance of the healthcare network. Without a contract, network governance may fail due to the absence of legal security of the health agreements made.

A public action contract in healthcare has goals and characteristics, such as:\(^1\):

a) Ensure comprehensive healthcare, something that is not provided in isolation but by agreement and collaboration between the federative units involved in providing healthcare within a given region;

b) Legal security for the services and activities provided by regional public healthcare organization;

c) Horizontal negotiations;

d) Recognition that contracting entities are interdependent in terms of managing healthcare services and actions, under a single direction within each sphere of government;

e) Balanced healthcare networks in terms of the socioeconomic differences of the contracting entities (systemic solidarity and equality);

f) Ensure citizens are referred within the network, and financial compensation for the federative units responsible, which may be the State or Federal Government;

g) Organizational, not patrimonial;

h) Multilateral contracting parties;

i) The possibility of ensuring regional governance;

j) Legal equality of the parties.

Contractual guidelines should be agreed in a collegiate manner by the CIR, CIB and CIT (Regional Inter-Management Committee, Bipartite Inter-Management Committee and Tripartite Inter-Management Committee.), all of which have representatives of all of the federative units involved in public healthcare action contracts. These conventions, which we call inter-federative consensuses\(^1\), will be the reference for signing these contracts to govern management aspects by agreement.

The healthcare organizational contract is more than a program, it is the very network of healthcare, the very regional healthcare system that should be organized as a network. In fact, it creates a regional healthcare system, which is the means used to govern the interdependent relationships of the federative units within SUS, so as to maintain federative autonomy.

For this reason we defend that the contract defined in Decree 7,508 of 2011 be declared obligatory for all federative units. It is obligatory by reason of being the mechanism selected by the decree to articulate the interdependences within the healthcare organization, assigning responsibility and smoothing the (socioeconomic) differences between federative units. The federative units must be willing to negotiate and, once a consensus has been reached, sign the contract as a guarantee of its responsibilities in providing healthcare for the Brazilian population.

Furthermore, Complementary Law 141, Article 17, paragraph 3, determines that the Executive inform the boards of health and auditing courts of the funds set aside by the Federal Government under the National Healthcare Plan for inter-government transfers, as part of the management commitment signed by the federative
units. The first management term of commitment emerged in 2006, within the context of the Healthcare Pact. However, this was a unilateral term of commitment, portrayed by a document sent by the state or city to the Ministry of Health, stating its commitment to perform certain activities (a statement of intent). It was not a multilateral term as mentioned in the legal text (CL 141). A multilateral term is a public action organizational contract as stipulated in Decree 7,508. This contract is an agreement between federative units, whose responsibilities include inter-federative transfers. This legal device confirms the need to formalize the commitments made by the federative units within the scope of SUS.

This contract defines the responsibility for a) healthcare services and activities within the healthcare region; b) providing or ensuring the services; c) funding (its own funds or those from federative allocation), and for responsibility for controlling spending, quality, efficiency, performance, etc.

In SUS, collaboration is required. It may seem like a contradiction in terms, but it is not. SUS is a system that results from the collaboration between federative units, a collaboration that is not optional. To ensure compliance with Article 30 VII of the FC, which determines that the city care for health, with the technical and financial support of the state and Federal Government, laws were issued requiring that the Federal and State governments transfer funds. Thus, the collaboration defined in Article 30 VII of the FC is not an option, it is an obligation. Inter-federative fund transfers for health are required and not voluntary, legally and under the constitution. This is also the understanding of Silveira, stating that within SUS, cooperation is not a suggestion but a constitutional requirement.

The contract, being an almost natural requirement of how the SUS is organized, included in the Decree that regulates Law 8,080 of 1990, and in a more generic fashion in Article 17, Paragraph 3 of Complementary Law 141 of 2012, is also a requirement.

Integration of the services provided by federative units and the consequent resource allocation and allocation of responsibilities must be described in a contract, under penalty of there being no way to bind the federative units of a given healthcare region to these commitments. The SUS organization, based on interrelationships and interdependence, finds in the contract the necessary legal backing, binding the signatory federative units.

Conclusions

Healthcare regions are essential for the national SUS. They are specific geographies that combine a set of cities and towns to create scale and technology intensity sufficient to ensure comprehensive care for at least 90% of the needs of the population. A region is a geography with certain characteristics and services. It is by nature territorial and designed to fulfill the common needs of the municipal units.

A network on the other hand, must include the services listed in Decree # 7,508 of 2011, organized by level of technological complexity, which in turn is arranged by the genetic identity of the services and activities it provides to satisfy healthcare needs, creating a rational and identifying itinerary, without bureaucratic hurdles, thus enabling savings in time and processes, rationalizing spending and diagnostic support tests, among other elements. A network means services of equal identity, organized to enable and rationalized the therapeutic itinerary required for healthcare.

The following are some of the essential elements in any region: executive (operational) and political governance, integrated regional planning, inter-federative consensuses achieved within regional and bipartite Inter-Management committees, healthcare maps, computerized systems of health, therapy, and diagnostic data.

An organizational contract for public healthcare is a key legal-health agreement that ensures the consensuses reached by the regional Inter-Management committee, and assigns responsibility to the federative units within the region in terms of the organization and delivery of services, funding, and control and assessment of results achieved.

Regional governance may have an executive management tool, such as a regional healthcare association, a territorial autarchy, public consortia, or an inter-federative state foundation. The federative units must agree on the best mechanism of cooperative management of healthcare services and activities in the region.
References


Article submitted 05/05/2016
Approved 04/08/2016
Final version submitted 23/09/2016