ORGANIZATION OF THE HEALTH CARE NETWORK IN THE STATE OF AMAZONAS
- BRAZIL: A DOCUMENTARY RESEARCH

Giane Zupellari dos Santos-Melo*
Selma Regina de Andrade*
Cássia Rozária da Silva Souza***
Alacoque Lorenzini Erdmann****
Betina Hörner Schlindwein Meirelles*****

ABSTRACT
To understand how the Health Care Network was structured in the state of Amazonas, Brazil. Documentary research using normative and management acts, available in electronic sources, on the official website of the Health Department of Amazonas State. Data collection took place in July 2015. The data analysis involved a preliminary analysis of the documents and the enchainment of the links between the problems and the various observations extracted from the documents in order to construct plausible explanations for the phenomenon studied. A total of 139 documents were analyzed in the form of minutes of board meetings, resolutions, reports, plans and annual schedules. In the state of Amazonas, the Urgency and Emergency Network and the Stork Network were implemented in two health regions, and the Psychosocial Care Network was implemented in one health region. The strategy of configuring the Health Care Network in the state of Amazonas took into consideration the population's access to certain health region and peculiarities of each micro-region of health. However, despite the efforts, much has yet to be developed to reach the goal of guaranteed accessibility to services to the entire population.

Keywords: Public Health Policies. Health Care. Comprehensive Health Care.

INTRODUCTION
Comprehensiveness is one of the premises that ground the Unified Health System (SUS) since its creation. The SUS is consecrated by encompassing an "articulated and continuous set of preventive and curative, individual and collective actions and services, required for each case at all levels of complexity of the system"(1), through specific policies designed as responses to problems in certain population groups(2).

Despite the achievements of the SUS over the last few years, comprehensiveness and integration between the levels of attention are still goals to be achieved, despite the proposals that have been implemented to reduce the fragmentation of health services(3).

To meet this demand, the Ministry of Health (MOH) established guidelines for the organization of the Health Care Network (HCN) establishing for the reformulation of the health services, organizing health actions through the integration of technical, logistic and management systems(4).

In this sense, the HCN should be considered as a set of preventive and curative interventions carried out in an articulated and harmonious way among health services at different levels with the common goal of ensuring comprehensive care for users according to their needs(5,6).

Considering the principles of comprehensiveness, the idea of forming thematic networks emerged. The following networks were prioritized: the Stork Network; the Urgency and Emergency Network (RUE); the Psychosocial Care Network (Raps); the Care Network for Disabled People; and the Care Network for the Health of People with Chronic Diseases. All these networks would be prioritized for implementation. It was also established that actions to prevent and control cervical and breast cancer should be intensified in the country(7).

The strength of the idea of thematic networks is the inductive capacity of certain themes for the organization of the HCN (Health Care Network). Examples of such themes include the issue of urgency and emergency, chronic diseases in general or certain clusters of pathologies, obstetric and neonatal care and mental health care network.

In the state of Amazonas, the implantation of the HCN followed the course of the other States of the

* Nurse. PhD student in Nursing at the Federal University of Santa Catarina (UFSC), Professor of the Nursing Department of the State University of Amazonas (UEA), Manaus, Amazonas, Brazil. E-mail: gzsantos3@hotmail.com
**Nurse. PhD in Nursing. Professor of the Nursing Department of UFSC, Florianópolis, Santa Catarina, Brazil. E-mail: selma.regina@ufsc.br
***Nurse. PhD student in Nursing at UFSC, Professor of the Nursing Department of the UEA: Manaus, Amazonas - Brazil. E-mail: cossouza@ufms.edu.br
****Nurse. PhD in Nursing. Professor of the Nursing Department of UFSC, Florianópolis, Santa Catarina, Brazil. E-mail: alacoque.erdmann@ufsc.br
*****Nurse. PhD in Nursing. Professor of the Nursing Department of UFSC, Florianópolis, Santa Catarina, Brazil. E-mail: betina.hm@ufsc.br.

Cienc Cuid Saude 2018 Jul-Sep 17(3)
Federation. However, the territorial extension and natural aspects, such as the high coverage of forest reserves and rivers and lakes in the State determined peculiarities of the local HCN.

In the Amazon, the transportation of passengers by waterways has a social nature of great importance, considering that, in the region, numerous communities and localities have no other option for transportation. Thus, riverboats play a relevant role in the access to numerous riverside communities and cities in the region, as this is sometimes the only means of receiving supplies and communicating.

Ensuring accessibility to health services and actions is one of the basic guiding principles of SUS. Thus, the implantation of the HCN in the state of Amazonas had one further challenge: the mobility of the population that needs HCN services, due to the larger territory, even larger than some entire regions of the country.

The peculiar conditions existing in the Brazilian Amazon can be a complicating factor for the implantation of HCNs in this region. Management strategies that go beyond the common understanding and different from those employed in other regions of the country are necessary to overcome such challenges. However, the scarce number of studies on this theme in the region do not address these peculiarities and point to the need for research to identify HCN implantation projects in Amazonian regions.

The study of how the process of implantation of HCNs in the state of Amazonas took place may contribute to identify the constraints that resulted in its current design. This study was guided by the following research question: how were the HCN and health regions organized in the state of Amazonas? The study aimed to understand how the Health Care Network in the state of Amazonas was structured.

**METHODOLOGY**

This is a qualitative, descriptive, documentary research study. In terms of documentary research, the "document" consists of any written, handwritten, or printed text, recorded on paper that can be exploited, not created, in the context of a research procedure.

The following public documents, available in electronic sources, were considered in this study: minutes of ordinary and extraordinary meetings of the Bipartite Inter-management Board of the Amazon (CIB-AM), of the Health Department of Amazonas State (SUSAM), and of the SUSAM Regional Inter-agency Boards (CIR-AM); State Resolutions and Decrees; Health Plans of Amazonas State (PES-AM); Annual Health Program of Amazonas State (PAS-AM) and SUSAM Annual Management Reports. The period encompassed by the collected documents was from January 2011 to December 2014. This time interval was chosen due to the implementation of the HCN in the state of Amazonas that occurred from the year 2011 onwards, and because data collection took place in 2015.

Data collection was performed in July 2015, through a search on the official website of the Health Department of the state of Amazonas. All the documents available in full length that dealt with the theme HCN in the state of Amazonas were included in the study. The study included 139 documents of which 61 were CIR meeting minutes and 69 were Resolutions produced by CIB and CIRs. Nine documents concerning PES-AM (biennium 2010-2011 and quadrennium 2012-2015), PAS-AM (2011, 2012, 2013 and 2014) and annual management reports (2011, 2012 and 2013) were also analyzed. The distribution of documents per year can be seen in Table 1.

<table>
<thead>
<tr>
<th>Year/Document</th>
<th>2011</th>
<th>2012</th>
<th>2013</th>
<th>2014</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>CIB/AM and CIR/AM Resolutions</td>
<td>5</td>
<td>49</td>
<td>10</td>
<td>5</td>
<td>69</td>
</tr>
<tr>
<td>CIB/AM and CIR/AM meeting minutes</td>
<td>15</td>
<td>17</td>
<td>14</td>
<td>15</td>
<td>61</td>
</tr>
<tr>
<td>State Health Plan/SUSAM</td>
<td></td>
<td>1</td>
<td></td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>Annual Health Program/SUSAM</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>4</td>
</tr>
<tr>
<td>Annual Management Reports/SUSAM</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>4</td>
</tr>
<tr>
<td>Total</td>
<td>22</td>
<td>69</td>
<td>26</td>
<td>22</td>
<td>139</td>
</tr>
</tbody>
</table>

The preliminary analysis of the documents was carried out considering five dimensions: 1. the context, i.e., the overall social aspects of documents; 2. the author - identity of the document and interests in its issuing; 3. the authenticity and reliability of the text - the quality of the information transmitted by the

---

Cienc Cuid Saude 2018 Jul-Sep 17(3)
document and the origin of the document; 4. the nature of the text - structure of the text, considering the context for which it was produced; and 5. the key concepts and the internal logic of the text, the importance and meaning of the key concepts according to the logic employed.

The phase of preliminary analysis was followed by the enchainment of problems enclosed in the theme and the various observations extracted from the documents in order to construct plausible explanations for the phenomenon studied. To that end, data pertinent to the topic were extracted and compared to elements contained in the corpus of the documents, thus allowing an awareness of the similarities, relationships and differences between the aspects analyzed\(^{(10)}\). The preliminary analyses and the analysis of the documents resulted in the creation of three categories in the studied phenomenon: 1. Movement of pre-implantation of the HCN in the state of Amazonas; 2. Implantation of the HCN in the state of Amazonas; and 3. Configuration of Health Regions in the state of Amazonas and their components.

**RESULTS AND DISCUSSION**

**Movement of pre-implantation of the HCN in the State of Amazonas**

Thirty-three of the documents analyzed dealt with resolutions that established "terms of commitment of adherence of HCNs" among regional stances and municipalities of the state of Amazonas. All the resolutions dealing with this theme were produced in 2012. In this same year and in 2011, six resolutions dealt with the creation of guiding groups of the Networks. These guiding groups promoted training of managers and servers in several municipalities in the countryside of the state through workshops that worked to raise awareness of the importance of adherence to the HCNs and raised possible local demands and specificities for the planning of actions to implement the local HCN.

Since 2011, the implementation of the HCN in Brazilian municipalities has been a reality that, induced by federal funding, establishes priorities according to the clinical or organizational guidelines of each region. In Amazonas, the implantation of the HCN occurred in the same period as in other regions in the country, prioritizing components judged to be of greatest relevance to improve the local health conditions. Studies carried out in other regions of the country demonstrated the beginning of the implementation of HCN from the year 2011 onwards, following the criterion of choosing components according to regional needs and reaffirming this practice as a strategy used in the implantation of HCNs throughout the regions of Brazil\(^{(11-12)}\).

The analysis of the documents dealing with the implementation of the HCN in the state, it was observed that the health management in the state of Amazonas presented among its main objectives the implementation of a public management geared at results and guided by the SUS National Guidelines.

It is clear in the documents analyzed that promoting the decentralization and regional development and stimulating the articulation between the process of planning and consolidating the regionalization was a primary goal of management, and this movement generated knowledge for municipal managers about the need to adhere to the HCN and to local discussions focused on the reality of each municipality.

The planning of actions to implement the HCN in the state of Amazonas, through workshops, was an effective alternative to recognize in advance the challenges and peculiarities of the daily health of some localities. In this context, it should be emphasized that intersectoral actions carried out by the State along with professionals and users of health services of each locality are necessary for a viable and effective planning, in order to allow greater troubleshooting of problems that affect the life of the people\(^{(13)}\).

**The implantation of the HCN in the State of Amazonas**

Regarding the beginning and implementation of the HCN in the state of Amazonas, it was verified in the annual management report of 2011 the existence of recommendations for the year 2012 to adopt and implement the new health care model, i.e. to implement the HCN. This report specifies that in the state of Amazonas, four priority thematic networks would be implemented, namely: the Stork Network, the Urgency and Emergency Network, the Psychosocial Care Network and the Care Network for Disabled People. Regarding the Care Network for the Health of People with Chronic Diseases, no evidence was found to show that this thematic network was prioritized for implantation at that first moment.

Care to acute conditions and chronic health conditions is understood as a regulatory framework for the functioning of the HCN, as it articulates in a unique...
way the relations between the population and the social
determinants of health, thus enabling the direction of
interventions of the health services for different needs\textsuperscript{(14)}. However, despite its importance, this component was not prioritized in the implementation of HCN in the state of Amazonas.

In the annual management reports of the years 2012 and 2013, the discussion on the HCN is more present. It is noticeable that the implantation of the Urgency and Emergency Network (RUE), Stork Network (RC), and the Psychosocial Care Network presented advances in one health region, but were not successful in other regions.

It was evidenced by these documents that the process of implantation of the HCN in the state of Amazonas began with the realization of workshops with the participation of municipal health managers and guiding groups of the networks. These workshops were held in municipalities that would integrate health regions and discussed the priority themes to be implemented in each region. At the time, the contexts of the health conditions of the three frontier regions of Brazil, Colombia and Peru and the health determinants of the metropolitan region of Manaus were analyzed as a priority to initiate the HCN in these two regions.

Although the implementation of the components to be deployed in the health regions started from discussions between local managers and guiding groups, some were found to be unsuccessful in some regions. Failures in the implementation processes of the HCN are usually linked to the scarce staffing and articulation between the levels of service management, where priority was given to primary care as the only level responsible for care. Thus, lack of awareness of the model as a whole can affect the success of implantation of HCNs\textsuperscript{(9)}.

Configuration of Health Regions in the state of Amazonas and their components

Regarding the configuration of the health regions of the state of Amazonas, it was verified that the current design of the health regions began to be established since May 2010, and was re-defined in June 2011, whose result was maintained until now (Figure 1). In this configuration, the State is divided into: 1 macro-region (Manaus), 9 regions (Alto Solimões, Lower Amazonas, Surroundings of Manaus, Juruá, Middle Amazon, Purus, Madeira River, Negro River, Solimões River, and Trângulo) and 18 microregions (Tabatinga, Santo Antônio do Içá, Fonte Boa, Borba, Humaitá, Tefé, Manacapuru, Coari, Manaus, São Gabriel da Cachoeira, Boca do Acre, Lábrea, Itacoatiara, Maués, Parintins, Eirunepé, Carauari and Guajará).

Regarding the HCNs implemented in the state, it was observed that Amazonas has two health regions that are denominated "Greater Metropolitan Region" and "Region of Alto Solimões"; in both regions the Urgency and Emergency HCN and the Stork Network are implanted, and in the Greater Metropolitan Region, the Psychosocial Care Network is also established.

It was observed that the current design of the health regions of the state was defined based on the geographical characteristics of the region; the design prioritized the access of users to health services. Thus, this design is not based on the proximity between municipalities, but rather by the dynamics established from the waterways and river gutters in the region, which are the main route of locomotion in Amazonas. Figure 1 depicts the current design of health regions in the state.

Although there are terrestrial accesses in the state, these do not reach great distances, because the territory is covered by forests. For this reason, waterways are the main means of locomotion of people and products in the region\textsuperscript{(8)}.

The organization of health networks is based on cultural, economic and social identities, and communication networks and shared transport infrastructure, in order to ensure the cohesion of the regional territory. This is one of the strategies for its good performance\textsuperscript{(7,15)}. Considering this premise, access to health services was a decisive factor for the arrangement of the health regions in the state of Amazonas. This is because the distances between municipalities can require several days to travel, when waterways are used.

In Brazil, accessibility issues can be both of socio-organizational and geographical nature. In the first case, the structural aspects, or functioning of the services interfere with the relation with users. In the second case, the distance and time of locomotion and cost of the trip among other factors that can influence the displacement of the users from their localities to health services are measured\textsuperscript{(16)}. These issues have a major relevance in the Amazon region, particularly in the state of Amazonas, because of the low population density and a road network limited by the forest which causes the population to depend on rivers and lakes (in land waterways) for displacement across municipalities and villages\textsuperscript{(17)}. Access to public health
services appears at various points on the Millennium Development Goals agenda, showing that this is an important strategy to be pursued in the search for comprehensive health care\(^{(18)}\).

**Figure 1.** Design of the Health Region of the state of Amazonas. Source: Annual Management Report/2013 of the Health Department of the state of Amazonas, Brazil.

Particularly in relation to the organization of the HCN in Amazonas, the issue of access to health services is present in several of the documents analyzed. This topic is recurrent in several sections of documents that express the concern of the authors with the organization of the HCN in the most distant regions of the state, because some municipalities are located in up to 1,100 km far from the capital, and sometimes people depend on waterways for transportation. These issues may require logistical problems that make the implementation of all the actions required by the HCN almost impossible. In this context, the current design of the health regions follows a dynamic that allows users to be able to move between health services in a coherent way and in the shortest time possible.

As for the components implanted in the HCN of the state, it was observed that the Urgency and Emergency Network, the Stork Network and the Psychosocial Care Network in the Expanded Metropolitan Region had been implanted, and the same HCNs have been implanted in the Alto Solimões region.

It was observed that the prioritization of these networks occurred since 2011 when the Ministry of Health (MOH) encouraged the implementation of HCNs in the states that would host the 2014 World Cup and that, to reach this goal, there would be a valuation of the Emergency Care Units (ECUs) and of the coverage of the Mobile Emergency Care Service (SAMU). Based on the analyzed documents, the federal government had an interest in implementing the HCN in the state of Amazonas, since there had already been a successful experience in the implementation of a health network in the Alto Solimões region.

Although these conditions appear in documents collected since 2011, only in the year of 2013 the MOH established the national guidelines for the planning, execution and evaluation of actions of health surveillance and assistance in major events, where the Administrative Rule 1600/GM/MS comes to the scene, arule that reformulates the National Policy on Emergency Care as one of the bases for proposed health actions for the 2014 World Cup\(^{(19)}\).
The capital of the state of Amazonas, Manaus, hosted the World Cup in 2014. The existence of the Amazonas Regional Development project for the Zone Franca Verde (PRODERAM) coordinated by the Amazonas Development Company (CIAMA) in partnership with the World Bank already established in the region of Alto Solimões was a decisive factor for the Federal Government to receive the necessary incentives for the implementation of HCNs in the state.

In this context, the contemplated health regions should serve the purposes established for the time, namely, the creation of a HCN in the venues of the 2014 World Cup and where a successful experience already existed. Thus, proposals were made of components for the Metropolitan Region of Manaus, presented as an Expanded Metropolitan Region including 26 municipalities. Proposals of components for the Alto Solimões Region were also presented, as there was already a local health system based on a care network, created through financial incentives and under management of the PRODERAM project.

For the organization of the HCN, it is necessary to define a health region with its geographical limits and territorial population. In this context, the organizational design of the HCN in the Expanded Metropolitan Region fled from the usual configuration proposed by other federative states. This HCN rather than interconnecting municipalities near the state capital, as its name suggests, had expanded its geographical boundaries and reached municipalities that are not part of the metropolitan region.

This design was proposed in order to benefit the populations of three municipalities that are not part of the metropolitan region of Manaus. Due to geographic peculiarities of the region, these municipalities face a difficult access to health services, mainly of medium and high complexity. Thus, although distant, the state capital is still the best option of access to health for these populations. This proposal was approved by the MOH mainly when considering regional peculiarities, particularly those related to access.

The documents analyzed showed that by the end of 2014 the deployment of these networks took place at different levels. Some components implanted in the two regions, such as the Stork and Urgency Network, present the structuring of Emergency Care Units, the implementation of Mobile Emergency Care Services, regulatory complexes and the expansion and construction of maternity hospitals. However, the Psychosocial Care Network was only developed in the Greater Metropolitan Region, with the expansion of the provision of mental health services, the creation of psychosocial care centers and the deactivation of part of the state's largest psychiatric center, where offered a medium and long stay service.

The documents analyzed showed that the implantation of the HCN in the state of Amazonas is an incipient process and requires a lot of effort from the local health management to reach the national goals related to this policy. For the implementation of HCN throughout the state, it is necessary to face geographical peculiarities of the region, which is one of the main complications for the implementation of the HCN because they make it difficult to reach health services and complicate the logistics necessary to implement actions that favor comprehensive health care. However, the state has been persistently organized in an attempt to comply with the goals established by the national HCN.

**FINAL CONSIDERATIONS**

This study was limited to a documentary evaluation, a factor that may compromise the understanding of the process of implantation of the HCN in the state of Amazonas. However, the method was valuable to highlight aspects of the dynamics of this process in all its phases.

In order to meet the geographical dimension and minimize the difficulties of access to municipalities of the state of Amazonas, planning requires the involvement of different agents, be it health, administration, financing or other areas that can contribute to meeting the demands and reality of the Amazonas. It is within the scope of this planning process the search for meeting and implementing strategies and actions that confront the determinants that aggravate the health situation of the local population. The implantation of the HCN in the state of Amazonas, as in the rest of Brazil, has the function of minimizing factors that tend to weaken the quality of the services provided to the population.

In this context, it can be seen from the documents analyzed that the network organized for the state considered the population's access to certain regional and peculiarities of each micro-region as a priority, for this is a factor that strengthens the local HCN.

It is clear that much progress has yet to be made in order to achieve better access of the local population to
health services, but it is noticeable that efforts are being made to turn this ideal into reality.

ORGANIZAÇÃO DA REDE DE ATENÇÃO À SAÚDE NO ESTADO DO AMAZONAS - BRASIL: UMA PESQUISA DOCUMENTAL

RESUMO

Compreender como foi estruturada a Red de Atenção à Saúde no Estado do Amazonas, Brasil. Pesquisa documental, que utilizou atos normativos e de gestão, disponíveis em meio eletrônico, em website oficial da Secretaria de Estado de Saúde do Amazonas. A coleta de dados ocorreu no mês de julho de 2015. A análise dos dados envolveu análise preliminar dos documentos e encadernamento das ligações entre a problemática do tema e as diversas observações extraídas dos documentos no intuito de construir explicações plausíveis para o fenômeno estudado. Foram analisados 139 documentos nas formas de atas de reuniões de conselhos, resoluções, relatórios, planos e programações anuais. No Estado do Amazonas foram implantadas Redes de Urgência e Emergência e Rede Cegonha em duas regiões de saúde e a Rede da Atenção Psicossocial em uma região de saúde. A estratégia de configuração da Red de Atenção à Saúde, no Estado do Amazonas, considerou o acesso da população à determinadas regionais e as peculiaridades de cada microrregião de saúde, porém, muito há de se evoluir para que toda a população tenha acessibilidade garantida aos serviços de saúde, apesar dos esforços empregados para que essa seja uma realidade.


ORGANIZACIÓN DE LA RED DE ATENCIÓN EN SALUD EN EL ESTADO DE AMAZONAS - BRASIL: UNA INVESTIGACIÓN DOCUMENTAL

RESUMEN

Comprender cómo fue estructurada la Red de Atención en Salud en el Estado de Amazonas, Brasil. Investigación documental que utilizó actos normativos y de gestión, disponibles en medio electrónico, en website oficial de la Secretaría de Salud del Estado de Amazonas. La recolección de datos ocurrió en el mes de julio de 2015. El análisis de los datos involucró análisis preliminar de los documentos e encadernamiento de las conexiones entre la problemática del tema y las diversas observaciones extraídas de los documentos a fin de construir explicaciones plausibles para el fenómeno estudiado. Fueron analizados 139 documentos en las formas de actas de reuniones de consejos, resoluciones, informes, proyectos y programaciones anuales. En el Estado de Amazonas fueron implantadas Redes de Urgencia y Emergencia y Red Cegonha en dos regiones de salud y la Red de la Atención Psicossocial en una región de salud. La estrategia de configuración de la Red de Atención en Salud, en el Estado de Amazonas, consideró el acceso de la población a determinadas regionales y las peculiaridades de cada microrregión de salud, pero, hay que evolucionar mucho para que toda la población tenga accesibilidad garantizada a los servicios de salud, pese los esfuerzos empleados para que esta sea una realidad.


REFERENCES


