Health centers in Rio Grande do Sul, Brazil: from implementation to consolidation, 1929-1943

Centros de saúde no Rio Grande do Sul, Brasil: da implementação à consolidação, 1929-1943

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Abstract

The article analyzes the introduction, in the late 1920s, and consolidation, in the 1930s, of a public health model in Rio Grande do Sul state based on the health center model conceived in the United States. The genesis of health centers in the United States is discussed, as are two health reforms in Brazil, in 1929 and 1938, proposed by Fernando de Freitas e Castro and José Bonifácio Paranhos da Costa. The investigation draws not only on the literature in the area, but also on primary sources such as legislation, state health reports, and documents produced by the Rockefeller Foundation.

Keywords: Rio Grande do Sul state; public health; health reforms; health centers.

Resumo

O artigo analisa a introdução e a consolidação, no Rio Grande do Sul, do modelo de saúde pública conhecido como centro de saúde. O modelo norte-americano de centros de saúde foi introduzido no estado no final da década de 1920 e consolidado nos anos 1930. Nesse sentido, são discutidas a gênese dos centros de saúde nos EUA e duas reformas sanitárias, ocorridas em 1929 e 1938, propostas por Fernando de Freitas e Castro e José Bonifácio Paranhos da Costa, respectivamente. Para o desenvolvimento da investigação foram utilizadas, além da bibliografia pertinente, fontes diversas como legislação, relatórios estaduais de saúde e documentação produzida pela Fundação Rockefeller.

Palavras-chave: Rio Grande do Sul; saúde pública; reformas sanitárias; centros de saúde.

The purpose of this article is to analyze the introduction and consolidation of a new public health model in Rio Grande do Sul. Two health reforms are discussed, in 1929 and 1938, whose proponents were sanitarians who supported the district-based organizational model enabled by the creation of health centers.[1] It is important to clarify that the health center was the organizational building block of a larger system: it centralized and organized services, employees, and bureaucratic procedures. In other words, the health center was the basic element of the health district model.

In the first part of this article, we discuss the genesis of the health center model in the United States, its evolution and dissemination. Next, we discuss the conditions for the introduction of health centers in Rio Grande do Sul as part of the 1929 health reform, conducted by Fernando de Freitas e Castro. Finally, in the last part, we discuss the consolidation of the health center model, based on the work of José Bonifácio Paranhos da Costa in the 1938 reform.

The genesis of health centers

According to Lina Faria (2007, p.113), the term health center was initially used in the United States to refer to child care stations, which aimed to monitor children's health development from the prenatal stage until adulthood. Later, the term took on a new meaning, indicating the grouping of medical, nursing, and health care services.

Health centers, organized around the integration of public and private health care and education efforts, emerged at the beginning of the twentieth century in a context of concern for the living and hygiene conditions of immigrant and poor populations in cities like New York, Boston, Milwaukee, and Chicago. Added to this concern was the "health ideal" that had existed in the United States since the Civil War, and a concern with maternal and child care (Santos, Faria, 2002, p.144-145).

The first American city to organize this type of medical and health care was Milwaukee, in 1911, after the initiative of Wilbur C. Phillips and his wife, Elise Cole Phillips. Wilbur Phillips had been secretary of the New York Milk Committee from 1907 to 1910 and had organized a community health plan focused on the distribution of good quality milk and maternal and child educational assistance (Faria, 2007, p.113-114; Santos, Faria, 2002, p.139-140). However, Phillips "became one of the first to recognize that milk distribution centers could become maternal and child care centers, in addition to promoting health education programs and social services for the local community" (Faria, 2007, p.117).[2] Thus emerged the embryo of the country's health centers – a pattern that was replicated around the world in the first decades of the twentieth century (Faria, 2007, p.114; Santos, Faria, 2002, p.140).

According to Lina Faria (2007, p.116-117), the health centers acted "as a type of local health unit and offered unified assistance, making outpatient services available to the poor and needy population, in addition to a trained professional team". Two elements were central to the health centers' programs in the United States: health education for the promotion of health awareness ("educate to prevent"), and the district health administration, which provided the services for its specific area and population (Santos, Faria, 2002, p.142-143).

For the health centers to work, in addition to the building itself, they also had to have a team of staff. Massako Iyda (1994, p.66) points out that at the smaller centers, this staff consisted of a physician, a health visitor, a clerk-microscopist, a health inspector or guard, and a janitor. The presence of guards or inspectors indicates that in addition to prevention activities, there was also a concern with medical policing. The core teams at these new institutions were designed not only to prevent and cure, but also, to some extent, to register, monitor, and penalize practices that were harmful to public health.

Health centers emerged in the United States between 1910 and 1920 and became institutionalized in that country in the 1930s, declining shortly thereafter. The health center movement reached several cities in the country, especially the ones with a significant European immigrant population. By 1917, there were 12 health centers located in major cities in the United States; just a few decades later, in the late 1930s and early 1940s, there were approximately 1,500 health centers across the country. Writing about the decline of health centers in the United States, Luiz Antonio de Castro Santos and Lina Faria draw on authors like George Rosen and Paul Starr to claim that this was related to the interruption of European migration to the country, immigrants' adaptation to the American lifestyle, and a trend towards private medical care and the emergence of large metropolitan hospitals. The health centers faced strong opposition from American doctors, who understood that in supporting this type of health intervention, the government would be competing with private health care providers (Santos, Faria, 2002, p.140-141; Faria, 2007, p.114-117).[3]

The US health center model reached Brazil through the Rockefeller Foundation, an American philanthropic institution that had been created in 1913 with the aim of incorporating, in a single organization, the different institutions belonging to the Rockefeller family, such as the General Education Board and the Sanitary Commission for the Eradication of Hookworm Disease. As Maria Gabriela Marinho (2001, p.14) points out, the Foundation was "at the heart of the process that generated and constituted the field of action for what was later characterized as scientific philanthropy".

Since 1917, the Rockefeller Foundation has maintained a fellowship program aimed at training specialists from different countries and areas of knowledge, including public health, medicine, and agriculture. Enabling training abroad by means of fellowships was an important aspect of the foundation's scientific branch. On a global level, it had a pioneering role in granting scholarships for medical science and public health (Faria, Costa, 2006, p.163-164; Faria, 2007, p.79).

The objectives of the Rockefeller Foundation's fellowship program are expressed in the *History of the Fellowship Program at the Rockefeller Foundation*: "Thus the functions of the Rockefeller Foundation fellowship program have been to select individuals of outstanding promise in the fields of interest defined by the general program of the Foundation, and to help to prepare individuals to make significant contributions to research and teaching or public health in the future" (RF, s.d.).

Through this program, the Rockefeller Foundation helped train personnel for strategic roles in official agencies or to hold directorships or teaching or research positions in educational institutions. As former fellows went on to hold leadership positions in

government institutions and departments in their home countries, they helped shape institutional guidelines and priorities, which would reflect some of the ideas and practices with which they had become familiar during their period of study. In this sense, as Anne-Emanuelle Birn (2006, p.201) points out, the fellows were transnational professionals, moving ideas and practices across borders. Their direct or indirect influence could be felt for many decades, as not only did they work in institutions and/or departments, but were also often employed as teachers, thus influencing younger generations. Through this program, the Foundation could have a lasting effect on public health theory and practice, among other areas, in the different countries and regions in which it operated.

To sum up the discussion on the introduction of the US health center model in Brazil, Luiz Antonio de Castro Santos and Lina Faria (2002, p.155-156) suggest that

> the Americans' working methods and standards began to influence the new generations of Brazilian researchers and sanitarians. This group [of former fellows] eventually brought to Brazil – not just São Paulo – a concept of public health that, to a certain extent, reinforced the "Manguinhos standard", based on the prophylaxis of infectious diseases and the experimental methods of microbiology. It was particularly in health education and the training of public health professionals that the Rockefeller program brought new contributions. It was a bold health intervention proposal, which rested on health centers and hygiene stations.[4]

In Brazil, the first health center experiment took place in São Paulo when Geraldo Horácio de Paula Souza[5] (a former fellow of the Rockefeller Foundation's International Health Division)[6] was in charge of the State Health Service (Serviço Sanitário do Estado) (1922-1925), and it was gradually applied across the country until it was consolidated under the Estado Novo (1930-1945).

In 1925, Souza began a profound reformulation of all public health services in São Paulo, making health centers the building blocks of the institutional structure for the public health activities across the state. Initially, three health centers were set up: the Reference Health Center (attached to the Instituto de Higiene), the Brás Health Center, and the Bom Retiro Health Center (Santos, Faria, 2002, p.156; Faria, 2007, p.127-128).[7]

Mirroring the US model propagated by the Rockefeller Foundation, São Paulo's health centers devoted their attention to "maternal and child educational assistance, care for people with tuberculosis and venereal diseases, prophylactic measures to control infectious diseases, laboratory analysis and training of professionals in the field of hygiene and public health" (Santos, Faria, 2002, p.140).

As in the US, health education and district-level health administration were also a key part of the São Paulo health center program. A new role in the realm of health education was that of the "public health agent": health educators whose duties included designing publicity posters, giving lectures, visiting families, transmitting notions of childcare to mothers, and referring those who needed medical care to the health centers (Santos, Faria, 2002, p.158; Faria, 2007, p.130).

But as Castro Santos and Faria (2002) point out, the US health centers were not reproduced directly in São Paulo, but adapted in such a way as to take into account the different political contexts, historical backgrounds, and medical and cultural traditions. In

São Paulo, for example, health centers had a broader preventive and treatment role, unlike their US counterparts, which acted only in prevention.

By 1927, nearly fifty health centers and hygiene stations were operating in São Paulo, 16 of which were maintained in cooperation with the Rockefeller Foundation (Santos, Faria, 2002, p.159; Faria, 2007, p.132). In the same year, the first health center – Inhaúma Health Center – was opened in the Federal District, based on the proposals of João de Barros Barreto and José Paranhos Fontenelle, two other former Rockefeller fellows (Santos, Faria, 2002, p.163-164; Campos, 2007, p.891).

As we will see below, another former Rockefeller fellow, Fernando de Freitas e Castro, made his own proposal for a health organization in the late 1920s for the southernmost state of Rio Grande do Sul, basing it on health centers, hygiene stations, and district health organization.

The 1929 health reform and the introduction of health centers in Rio Grande do Sul

At this point, we will discuss the introduction of a new public health proposal – health centers – in the state of Rio Grande do Sul, and how this was influenced by the United States. In order to understand these issues, it is necessary to present the physician and sanitarian Fernando de Freitas e Castro, a central character in this context.

Fernando de Freitas e Castro was a physician linked to the Rio Grande do Sul Hygiene Administration (Diretoria de Higiene do Rio Grande do Sul). He was a recipient of a scholarship from the International Health Board and conducted public health studies at Johns Hopkins in 1922 and 1923. In 1929, he took over the Hygiene Administration, proposing the reformulation of the state's health services. Thus, he was single-handedly responsible for introducing the district model of care through hygiene stations and health centers (Alves, 2011, p.68, 74).

Fernando de Freitas e Castro was born in Porto Alegre, Rio Grande do Sul, in 1887. He graduated from the Faculty of Medicine in the state capital, Porto Alegre, in 1910 and went on to practice medicine in São Francisco de Assis. He returned to the state capital in 1913, when he took up the job of lab technician for the chair of Forensic Medicine at the Faculty of Medicine. Two years later, in 1915, after passing a public competition, he was appointed substitute professor of the 6th section, which consisted of the chairs of Hygiene and Legal Medicine. His work at the faculty was intense, since he also took over the chairs of Social Medicine and Pharmaceutical Legislation. In 1921, he successfully competed for the position of assistant physician of the State Hygiene Administration. In October 1928, he was appointed acting head of the Hygiene Administration, going on to be confirmed in the role in January 1929, under the Getúlio Vargas administration. In the same year, as we have seen, he proposed a major reform of the state's health services.[8]

As mentioned above, in 1922 he took paid leave from the State Hygiene Administration to take a one-year course at the Johns Hopkins School of Hygiene and Public Health (from October 1922 to September 1923), with funding from the Rockefeller Foundation. This fellowship was pivotal as not only was Castro linked to the Faculty of Medicine, but he was also in the employ of the state government.

There was a certain expectation, on the part of the Foundation, that upon returning from their studies, a fellow would hold a key post in the Hygiene Administration, and would there apply the knowledge they had acquired during their fellowship. This expectation is reflected in the following note from Fernando de Freitas e Castro's Fellowship Card: "Dr. Gregg [Alan Gregg] states C has been second in charge and will probably be head when he returns. Important that he make satisfactory contacts" (Castro, s.d.). Nevertheless, this expectation was not fulfilled until 1928. Nonetheless, when he did finally take over the Hygiene Administration of Rio Grande do Sul, he brought with him the ideas about public health he had learned at Johns Hopkins School of Hygiene and Public Health, which themselves mirrored the Rockefeller Foundation's values, all of which had significant repercussions in the state.

Five years after returning to Brazil in 1928, Fernando de Freitas e Castro was appointed acting director of the Hygiene Administration of Rio Grande do Sul, being officially installed as director in January 1929, the year in which he proposed the health reform for the state. At this juncture, he was a staunch advocate of the need for the state's public health and hygiene services to be reformed and new health legislation to be drafted.

Castro – the first doctor with specific training in public health to run the Rio Grande do Sul Hygiene Administration – was critical of its administrative structure, the activities it provided, and the funds allocated to the sector. He also felt there were not enough personnel working in the area, especially with specialized training. As he saw it, the Administration's difficulties prevented it from acting in important areas of public health, such as child health, medical school inspection, industrial hygiene, and health propaganda services (Alves, 2011, p.68-69).

According to Gabrielle Werenicz Alves (2011, p.74), "the Health Service Reform in Rio Grande do Sul, carried out in 1929, consisted of the elaboration of a complex administrative structure, involving Health Centers and Offices, Hygiene Stations, Sanitary Inspectorates and a Central Office".

Before this attempt to apply the district model, Rio Grande do Sul had already had some specific stations for the prophylaxis and treatment of certain diseases, such as the temporary stations installed by the Rockefeller Foundation in the early 1920s to tackle hookworm disease.[9] However, Castro was the first to adopt the stations as the building blocks of a state health system.

The proposal for the transformation of the state's health services was made public at the first Congress of Municipalities (Congresso das Municipalidades), an event held in Porto Alegre in 1929 which brought together intendants from practically every municipality in Rio Grande do Sul to discuss issues of general interest for the development of the state (Alves, 2011, p.73; Weber, 2003, p.99).

According to Gabrielle Werenicz Alves, the health service reform prompted considerable debate in Congress, which resulted in the following decisions: health services would be centralized under the direction of the state government and no longer divided between the state (public health) and municipalities (hygiene); health services would be expanded to all municipalities in Rio Grande do Sul; and rural sanitation services, prophylaxis of syphilis and venereal diseases, the fight against tuberculosis, and medical-school inspections

of municipal and state schools would all be put under the responsibility of the state government. In return, municipalities would contribute 3% of their gross revenue. To ensure there was no breach of a key constitutional principle of the time, by which municipalities were assured autonomy, it was agreed that hygiene services would be passed to the state government through agreements (Alves, 2011, p.73-74). The first agreement was signed with the municipal government of the state capital, Porto Alegre.

According to authors such as Gabrielle Alves (2011) and Lizete Kummer (2002), the health organization developed by Castro in the late 1920s, which had a profound impact on public health services throughout Rio Grande do Sul in the following decades, was influenced by the US model and the guidance he had received at the Johns Hopkins School of Hygiene and Public Health.[10] The model to which the authors refer is that based on health centers.

In Rio Grande do Sul, according to Castro's proposal, each municipality's health services should be provided by health offices, which actually already existed as part of the state's public health organization, but did not function optimally. There would be approximately eighty such health offices in the state, one in each municipality, and they would enjoy a certain autonomy in the organization and execution of the services, but would be guided and supervised by a central office, which would be called the Hygiene and Public Health Administration (Diretoria de Higiene e Saúde Pública), and no longer just the Hygiene Administration (Castro, 1933, p.156-184). The health reform not only expanded the network of stations, but also provided state technicians with courses in hygiene, reinforced the importance of health education, and invested resources in institutions for disease prevention.

With regard to the organization of the health offices, there would be four different types (or classes) depending on the individual municipality's health needs and financial conditions. The difference between the four classes of health offices, installed in the municipal seats, would be in their greater or lesser organization. The first class offices would have dozens of employees, including twenty health educators. Meanwhile, fourth class offices would have just a handful of employees and no health educator. There was an extensive 17-point action plan for the offices, which were supposed to address the municipal hygiene and public health problems. This included carrying out all the epidemiology services, undertaking defensive or aggressive prophylaxis of infectious or communicable diseases; tackling endemic diseases to eliminate or reduce them as far as possible, especially syphilis, tuberculosis, and worm infections; providing data for the organization of demographic-health statistics; and providing publicity material to help educate the population as part of the "health awareness" initiatives, to mention a few (Castro, 1933, p.167-168). The health offices would represent the Hygiene and Public Health Administration locally, and their services would be inspected by health inspectorates. The eighty health offices would be distributed in six health districts. The organization of these districts took into account ease of communication. In other words, the proposal was that the state would have a district health organization, as seen in the United States and São Paulo. Each district would have a health inspector, providing a link between the central office (Hygiene and Public Health Administration) and the local health offices.

The state capital, Porto Alegre, would be divided into five health districts, each of which would have its own health center. Each health center was essentially a small local health department that was subordinated to the chief physician of hygiene. Each one had a number of sections (office, health inspection, epidemiology and prophylaxis, health education and propaganda) and dispensaries (child hygiene, treatment of syphilis and venereal diseases, and prophylaxis of tuberculosis), in addition to a dental office. For Castro (1933, p.171), the awareness-raising among the general public achieved by the health propaganda and education service was of "incontestable value," and the child hygiene dispensary was considered the most important, "because infant mortality is one of the most serious health problems in the State and weighs heavily on the overall mortality rate". Medical care, Castro (1933, p.171) pointed out, was beyond the scope of the health center's infant hygiene dispensary, but it was available to children up to one year old, as medical care for sick infants in Porto Alegre was precarious. As in São Paulo, the health center in Rio Grande do Sul was involved in treating diseases, not just preventing them.

In other municipalities in the state, with a smaller population and geographical size, the services were not divided into health districts. Instead, the health office would function as if it were a health center (Castro, 1933, p.178).

In addition to health offices and health centers, the state health organization would also have hygiene stations for the treatment or prophylaxis of certain diseases, such as parasitic infections or trachoma (Castro, 1933, p.160-161).

The district reform initiated by Castro, however, was never fully implemented. According to Alves (2011. p.101), "as far as the leadership of the Hygiene and Public Health Administration is concerned, it remained in the hands of the sanitary doctor Fernando de Freitas e Castro, until June 1933". With Castro's departure, the position was offered to Mário Totta, but was actually taken over by Fábio de Nascimento Barros (Alves, 2011. p.101).

During Fábio de Barros's time as director of the Hygiene and Public Health Administration, state legislation was passed (Decree n.5.969, of June 26, 1935) that created the Department of Education and Public Health (Secretaria de Educação e Saúde Pública, Sesp), under which the former Public Instruction Administration was combined with the Hygiene Administration (Rio Grande do Sul, 26 jun. 1935). The creation of Sesp went some way towards aligning Rio Grande do Sul's administrative structure with that of the federal administration, represented by the Ministry of Education and Public Health (Ministério da Educação e Saúde Pública).

Soon after the establishment of the Estado Novo, Júlio Vieira Diogo was appointed to lead the Hygiene Administration. However, shortly afterwards, he left for personal reasons (Rio Grande do Sul, 1940). Despite having defended health in Rio Grande do Sul on several occasions, Diogo was not the type of professional the station needed in that context: the centralizing nature of the new federal regime instated by Getúlio Vargas required this leadership position to be held by a federal technocrat.

Even so, as we have already pointed out, the Rio de Grande do Sul health reform proposed by Fernando de Freitas e Castro in 1929 was only partially implemented[11] due to political and economic issues faced by the state at that time, arising from the 1930 coup and its developments. Castro is remembered, in the words of Gabrielle Werenicz Alves (2011,

p.128), as "an important theorist and policy maker for public health", and his proposal for health organization influenced public health in the state in the following decades:

> If, during the Old Republic, the services offered by the state government centered on the capital Porto Alegre, and little or nothing was offered to other parts of the state, between 1928 and 1945 this situation changed. The implantation of the District Health System and the installation of Health Centers and Hygiene Stations in the most diverse regions of Rio Grande do Sul helped decentralize the public health services offered by the state government, while expanding the offer of these services to virtually all the municipalities in the state (Alves, 2011, p.188).

Alves points out that the work started by Castro was continued, expanding the number of stations and taking the services to other parts of the state. However, the 1929 reform, partially implemented, was resumed in 1938 when José Bonifácio Paranhos da Costa took over as the head of the state health organization.

The 1938 health reform and the consolidation of a model

The Estado Novo regime introduced a centralizing model of administration. As part of this movement, José Bonifácio Paranhos da Costa, a federal technician and sanitary doctor from the National Health Department (Departamento Nacional de Saúde, DNS), in Rio de Janeiro, was appointed to take over the Rio Grande do Sul health services. He arrived in a context in which policies were being centralized and the health center model introduced in Rio Grande do Sul was being consolidated by Castro.

Born in Pelotas, Rio Grande do Sul, Costa, graduated in pharmacy and medicine from the Faculty of Medicine of Rio de Janeiro (Faculdade de Medicina do Rio de Janeiro) in 1913 and 1915, respectively, and was one of the oldest employees of the federal public health administration, with extensive administrative experience. He entered the field of public health in 1916 as assistant to the sanitary doctor of the General Administration of Public Health, initially holding the position in an interim capacity then officially, as of 1917, after passing a public competition. With the creation in 1920 of the National Department of Public Health (Departamento Nacional de Saúde Pública, DNSP), he worked as an employee of the Inspectorates of Medical Practice and Foodstuffs (Inspetorias de Fiscalização do Exercício da Medicina e de Fiscalização de Gêneros Alimentícios) (Brum, 2013). He also headed several medical missions and commissions throughout his career. According to the account Celso Arcoverde gave to Cristina Fonseca (2007, p.198), he was an important figure in the "structuring of the new public health" in the country.

After the establishment of the Estado Novo, public health was increasingly centralized and DNS technicians were sent out to the states. Under the 1937 Capanema reform, implemented by João de Barros Barreto, health initiatives were verticalized and their management was reorganized across the country. According to Gilberto Hochman (2005, p.132), "the Federal Government intended to expand its presence in the different regions of the country, implementing and supervising public health actions". Like José Bonifácio Paranhos da Costa, other sanitarians were sent to different parts of the country to reorganize the state health services according to federal government guidelines.

This resulted in the emergence of a federal government model for the states.[12] According to Simon Schwartzman (1983, p.383), "through the intervention of the Director-General of DNS and his direct assistants, the federal health delegates went about standardizing and improving the state health departments, whose articulation with the federal agencies became quite intense".

From 1934, the district system of health centers and hygiene stations was instituted in the health services of several Brazilian states, taking responsibility for activities that had previously been carried out by specialized inspectorates. During the following decade, these health units were established across the country (Schwartzman, 1983, p.164).

It is important to highlight that João de Barros Barreto was in charge of DNS for two periods: between 1935 and 1939 and again between 1941 and 1945. Barreto had been a Rockefeller fellow in 1924 and 1925 (Santos, Faria, 2006, note 5) and, as we noted earlier, proposed the opening of a health center in the Federal District in 1927. As Director of DNS, he may have played a decisive role in spreading the Foundation's conceptions about health to the new state heads of health in Brazil. This would explain, at least in part, the adherence of state health services to the hygiene station model studied here. Soon, like Costa, several other administrators, or "Health Interventors," were sent to take over the state health services. The movement seems to have started in the Northeast region, through the circulation of federal technicians who took on positions at different levels and worked in the services in those states:

> In Paraíba, the running of the Department was handed over to federal technicians, from 1935 to 1938, with the same happening in Pernambuco from 1931 to 1937 ... In 1931, Alagoas also had its health department reinstated by a federal technician, who also counted on the collaboration of a sanitarian from DNS who worked there, from 1938 to 1941, as assistant to the Director-General. Sergipe, which restructured its services in 1936, maintaining in its direction a man who had a health career until the end of 1941; another technician was now appointed for this position. Like Pernambuco, the state department of Bahia was reorganized in 1932 by a doctor graduated from the federal public health course (Schwartzman, 1983, p.383).

Similarly, there were technical interventions and reforms in the states of Rio de Janeiro (1937), São Paulo (1938), Goiás (1938), Mato Grosso, and Minas Gerais, with different levels of success with regard to the application of the model (Schwartzman, 1983, p.383).

The situation in the southern states of the country, including Rio Grande do Sul, is also described by Simon Schwartzman (1983, p.384), revealing that

> the same happened in Paraná, where the DNS sanitarian assistant became director-general of health services in 1938. Santa Catarina was a pioneer in the new health era in the south of the country, reorganizing in 1936 its health department, whose leadership was held for a long time by a federal technician, as was now happening. The Department of Rio Grande do Sul, delivered to a doctor who had been on the DNS staff since 1938, immediately took over the leadership of the country's health movement.

On the eve of José Bonifácio Paranhos da Costa's arrival, the public health official Cristiano Frederico Buys reported that if the buildings had been properly maintained

over the years, and if the network had been progressively expanded, the situation would have been different in 1938. However, he added: "since 1931 we have been in collapse" (A localização..., 1 jul. 1938, p.7).

One of Costa's first official actions as Director of Hygiene was to enact Decree n.7.481, of September 14, 1938, reorganizing the public health services of Rio Grande do Sul (Rio Grande do Sul, 17 set. 1938). This decree created the State Health Department (Departamento Estadual de Saúde, DES), replacing the old Hygiene Administration. Together with the decree, State Department of Health Regulations were published, which, in addition to regulating services and the internal functioning of the Department, determined some types of conduct that should be observed to protect the health of the population of Rio Grande do Sul. This marked the beginning of the 1938 health reform. This reform restructured the prophylaxis, hygiene, medical care, food inspection, bio-statistics, education, and health propaganda services. However, Costa's main objective as health director was to install a health district in each municipality of the state, through the organization of health units in those areas.

Decree n.7.481, which was the basis of the 1938 reform, explains the differences between health centers and hygiene stations:

> The district hygiene agencies will be the Health Centers and Hygiene Stations, which will vary in their composition according to the financial means, and the denomination 'Health Center' will be limited to a health unit that has, in addition to the Office and small Laboratory, at least the following services run by specialists: communicable diseases, child hygiene, prenatal, sanitation and health policing, and food and workplace hygiene (Rio Grande do Sul, 17 set. 1938).

According to Gabrielle Werenicz Alves (2011, p.177),

> In parallel to the Health Centers, Hygiene Stations were designed, institutions that were less complex than the Health Centers and installed in smaller towns with fewer inhabitants. Initially, their functions were limited to the treatment and prophylaxis of specific diseases, mainly worm infections. Over time, they started offering a more varied range of services.

While the health centers had several specialized employees, the hygiene stations often only had a chief physician, who not only coordinated the station, but would have several other functions and provide multiple services.

Massako Iyda (1994, p.66) also points out the differences between the types of stations:

> The units that performed the same activities on a smaller scale, but with a number of personnel, were classified as first-class and second-class hygiene stations, which corresponded to ... a 'country health unit' (doctor, health visitor, clerk-microscopist, health guard or inspector, janitor). In the absence of a health visitor, the station was relegated to the category of sub-station. The specialized stations were intended for a specific activity (yaws, trachoma), and the traveling stations were mobile and independent from the units.

Table 1 shows the construction of health units between 1939 and 1944, as well as the number of health districts existing in Rio Grande do Sul.

Table 1: Health units in Rio Grande do Sul (1939-1944)

Date	Health centers	Hygiene stations	Municipalities with health units	Municipalities without health units	Health districts	Municipalities in the state
1939	5	35	38	50	38	88
1940	5	43	46	42	46	88
1941	5	55	58	30	58	88
1942	5	70	73	15	73	88
1943	5	70	73	15	73	88
1944	7	73	78	14	78	92

Source: compiled from reports from the State Department of Health (Rio Grande do Sul, 1942; 1943a; 1943b; Cardoso, 1945), the Medical pantheon of Rio Grande do Sul (Franco, Ramos, 1943), and censuses from the Economics and Statistics Foundation (FEE, 1981).

By 1938, almost a decade after the 1929 reform, the health centers were not thriving. Indeed, few of the five health centers that existed in Porto Alegre around 1930 were functioning effectively. According to Cristiano F. Buys, acting Director of Hygiene, health centers were installed in "rental buildings, simple and modest family homes, which were old and uncomfortable, with insufficient and inadequate furniture. ... The Health Centers work in precarious material conditions. They are a miracle of will. There is almost no significant productivity" (A localização..., 1 jul. 1938, p. 7).

The fact that there were already stations in the municipalities probably facilitated the installation of the first health units, such that by 1939 the state already had 38 health units. In these cases, it is possible that the buildings were retrofitted and handed over to the state authorities and the new chief physicians, appointed through public competition. In some cities, new buildings were constructed to install hygiene stations and health centers in line with the new state health code.

In 1938 and 1939, hygiene stations were opened for towns with a medium to large population, such as Bento Gonçalves, Caxias, Cruz Alta, Livramento, Novo Hamburgo, and Vacaria, among many others. In 1940, São Francisco de Paula and seven other cities received hygiene stations, bringing the total number of municipalities with health units to 46, versus 42 without any.

In 1941, the creation of 12 more hygiene stations in the state significantly expanded the district network. The 58 municipalities with health units (making them the seats of the respective health districts) were: Alegrete, Arroio do Meio, Bagé, Bento Gonçalves, Cachoeira, Caí, Camaquã, Cangussú, Carazinho, Caxias, Cruz Alta, Dom Pedrito, Encruzilhada, Estrela, Garibaldi, Gravataí, Guaíba, Herval, Ijuí, Iraí, Itaqui, Jaguarão, José Bonifácio, Lagoa Vermelha, Lavras, Livramento, Montenegro, Novo Hamburgo, Osório, Passo Fundo, Pelotas, Porto Alegre, Quaraí, Rio Grande, Rio Pardo, Santa Cruz, Santa Maria, Santa Rosa, Santa Vitória, Santiago, Santo Ângelo, Santo Antônio, São Borja, São Francisco de Assis, São Francisco de Paula, São Gabriel, São Jerônimo, São Leopoldo, São Lourenço, São Luiz Gonzaga, São Sepé, Soledade, Taquara, Torres, Tupanciretã, Uruguaiana, Vacaria, and Viamão (Rio Grande do Sul, 1942).

During 1942, 15 other municipalities received hygiene stations, according to a report submitted by Costa to Cordeiro de Farias (Rio Grande do Sul, 1943b): Arroio Grande, Bom Jesus, Caçapava, Canoas, Getúlio Vargas, Guaporé, Júlio de Castilhos, Palmeira, Pinheiro Machado, Piratini, Prata, Rosário, São Vicente, Tapes, and Venâncio Aires. With the installation of these stations, Campanha, Serra do Sudeste, Planalto Médio, and Planalto Nordeste had complete health coverage, with health units in each of their municipalities. These areas were in the border regions of the state and were important for agriculture and livestock.

The regions not fully served by health units were Encosta da Serra, Depressão Central, and the coastal region. The first two were more highly populated and industry-intensive and had a higher concentration of municipalities. The coastal region, in turn, had only five municipalities at the time, all, however, covering a large geographical area. All of these factors may have made it difficult to install stations in these regions. It did not seem to be part of the DES plans to leave these areas last, such that considerable attention was paid to industrial hygiene and sanitation in coastal towns at this time.

In 1942, the region of Missões had just one municipality without a hygiene station, Jaguari, a town a little further from the border and closer to the center of the state. Thus, the border seems to have priority in this distribution.

In August 1943, before announcing his departure from DES, Costa intended to leave a legacy. Through an executive order (Rio Grande do Sul, 24 ago. 1943), he decreed the creation of stations in every municipality in order to complete the health reform. In practice, no new stations were created in 1943, before or after the decree was issued, so the numbers remained the same as in 1942.

For municipalities without health units up to that time, an uncomfortable sense of abandonment by the health authorities set in. Two alternatives emerged for these units: the municipalities would either continue to receive aid in neighboring cities, or else the municipal governments could build a local station. If they were unable to do so, as was the case of Jaguari, "it is the municipal administration's intention, until the Hygiene Station has been installed by the Department of Public Health, to organize an identical service, funded by the City Hall, in order to address several cases of interest to the community and the development of the city as well and adequately as possible"(Jaguarí, 1940).

In 1944, the situation made some progress and suffered some setbacks. The old hygiene stations in Livramento and Santa Maria were raised to the category of health centers and their capacity and services were expanded. Stations were opened in five towns (Lajeado, Bom Jesus do Triunfo, Taquarí, Sobradinho, Jaguarí), and four new municipalities were created (Cacequi, Canela, Marcelino Ramos, and Três Passos), bringing the number of municipalities in Rio Grande do Sul to 92 (FEE, 1981). The inhabitants of these new municipalities would continue to be served by stations in neighboring municipalities. However, there was a need to build new buildings in the newly created health districts.

Over these five years, DES carried out initiatives in the hygiene stations, providing them with new acquisitions, such as specialized kitchens, small laboratories, and dental offices.

In addition to the health centers installed in Pelotas and Porto Alegre, new centers were planned for the capital. The former Health Center 2 received a modern design and

was converted to a Reference Health Center (Centro de Saúde Modelo), becoming one of the largest health centers in Latin America (Rio Grande do Sul, 1943a). As a reference institution, it could introduce innovations using new techniques, always serving as the archetype of an ideal health unit. The most comprehensive health unit in the state, it had waiting rooms separated by sex and level of contamination, various radiology services, rooms for otolaryngology, anthropometry, dressings and injections, in addition to laboratories, a pharmacy, a specialized kitchen, consulting rooms, an epidemiology sector, among other spaces.

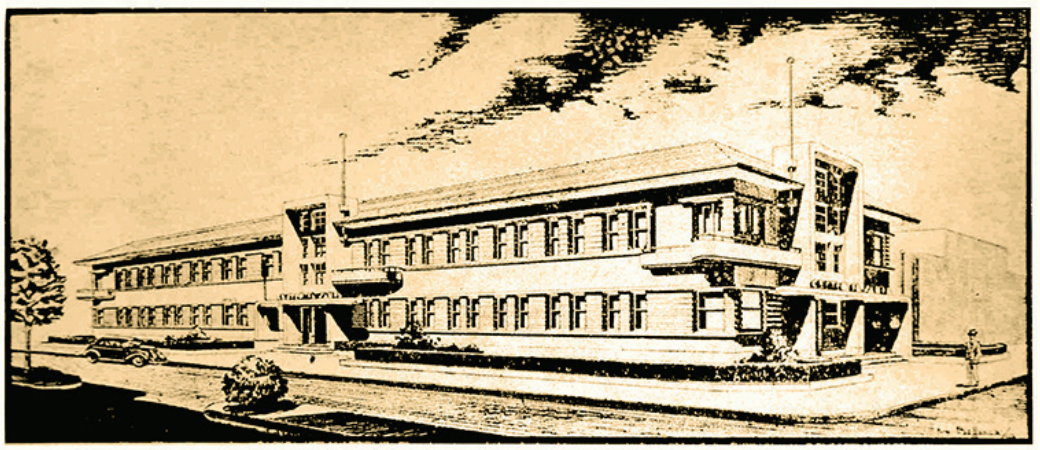

Figure 1: Design of the Reference Health Center (Franco, 1940)

After the beginning of the 1938 Reform, Rio Grande do Sul was in an outstanding position. This is borne out by the numbers, which we can see in Table 2, which shows details of the health units existing in Brazil in 1941.

Table 2: Health units in Brazil (1941)

States, territories, and Federal District	N. of Health districts	Health centers	Hygiene stations (1st class)	Hygiene stations (2nd class)	Sub-station	Specialized station	Mobile stations
Acre	7	-	-	-	7	-	-
Amazonas	6	1	-	-	2	-	-
Pará	7	2	-	-	7	-	-
Maranhão	6	1	-	2	4	-	6
Piauí	3	1	-	2	16	-	-
Ceará	4	1	4	6	-	3	2
Rio Grande do Norte	11	1	-	1	3	-	-

Table 2: Health units in Brazil (1941) (cont.)

States, territories, and Federal District	N. of Health districts	Health centers	Hygiene stations (1st class)	Hygiene stations (2nd class)	Sub-station	Specialized station	Mobile stations
Paraíba	-	1	1	6	10	-	-
Pernambuco	10	4	2	13	32	-	4
Alagoas	10	1	-	4	-	-	-
Sergipe	7	1	-	-	6	-	-
Bahia	10	3	-	11	44	4	-
Espírito Santo	7	1	1	5	1	2	1
Rio de Janeiro	11	2	3	-	57	-	-
Distrito Federal	15	15	-	-	-	-	-
São Paulo	93	7	2	8	77	-	-
Paraná	6	1	1	17	30	-	-
Santa Catarina	7	1	4	2	-	-	-
Rio Grande do Sul	88	5	35	32	-	-	-
Minas Gerais	26	1	-	25	-	4	-
Mato Grosso	9	1	-	-	8	-	-
Goiás	7	-	1	6	-	-	-
Total	350	51	54	140	304	13	13

Source: Iyda (1994, p.67).

Table 2 shows Rio Grande do Sul as the state with the second largest number of health districts (88), behind only São Paulo (93). The Federal District (Rio de Janeiro) had 15 health districts and 15 health centers. As in 1929, the number of health districts corresponded to the number of municipalities in the state. The state had five health centers, 35 first-class hygiene stations and 32 second-class hygiene stations, totaling 67 hygiene stations, occupying second place in the country in number of health centers, and first place in hygiene stations. However, it is clear that not all the districts had stations.

The table also shows a different profile in Rio Grande do Sul, indicating a preference for hygiene stations and health centers rather than sub-stations and specialized units.

Despite the success of the 1938 reform, which enabled the care model via health units to be made accessible throughout the state, there were some difficulties and limitations in its rollout. As Gabrielle Werenicz Alves (2011, p.187) points out, Health Center n.1, which would receive a new headquarters in Porto Alegre, was only opened in 1948, due to delays in the construction work. We also stress that the rapid installation of stations in many municipalities does not necessarily mean they were all organized homogeneously. Due to the accelerated growth of the network, it is possible that some of them were somewhat makeshift.

In Novo Hamburgo, for example, a new hygiene station was opened in 1948 in a building purpose-built by DES. This reveals the commitment of the state government to carry out maintenance and adjustments to the service that had expanded rapidly in previous years.

Final considerations

On the occasion of his removal from the position of Director of the Rio Grande do Sul State Department of Health, José Bonifácio Paranhos da Costa received a tribute from the medical class of Rio Grande do Sul. On August 31, 1943, the sanitarian Jandyr Maya Faillace spoke at a small, informal ceremony held by state doctors and technicians.

Maya Faillace points out that Costa's achievements in the state put him alongside the "greatest public servant of Rio Grande do Sul," commenting on a portrait of him would be hung in a prominent place: "Next to the image of Osvaldo Cruz, patron of Brazilian sanitarians, next to the portrait of the late professor Fernando de Freitas e Castro, whose dreams you have fulfilled and updated, your august figure will be a permanent evocation of high civic and private virtues, as spiritual guide for our technical and administrative activity" (Homenagens..., 1943, p.243).

More than a decade later, Maya Faillace (1960, p.25) repeated his praise for Costa in a speech at a major event of the Hygiene Society, reaffirming that the doctor had implemented the plans initiated by Castro:

> The dream of the late Prof. Freitas e Castro, the creator of our first, albeit rudimentary, technical organization of Public Health, had come true. An arduous evolutionary cycle was overcome. Empiricism and improvisation belonged to the past, which had both long prevailed in the State health apparatus, previously reduced almost exclusively to practices of aggressive prophylaxis against existing epidemics.

As we saw earlier, prior to the introduction of the stations as a basis for a district model initiatives that used the stations in order to combat specific diseases had already been carried out. The introduction of the district health center model began with the 1929 reform, led by a doctor who had been a Rockefeller fellow.

During the 1930s, more specifically after 1931, the new model entered a crisis, which continued until the establishment of the Estado Novo. Economic difficulties and the turnover of professionals to conduct health services prevented the establishment of the network of health units.

From 1938, the arrival of a federal technician in a context of verticalized health policies was propitious for the consolidation of the model. With the creation of DES, the district network was quickly expanded and consolidated. Health units were created on paper in all of the state's 88 municipalities. With the departure of Costa from the Rio Grande do Sul State Department of Health (Secretaria Estadual de Saúde do Rio Grande do Sul) in 1943, the district model, via hygiene stations and health centers, continued to be maintained and expanded, despite the difficulties faced. In the following years, at least until 1955, when the State Department of Health was created, the other state health directors continued to reinforce this model.

If we look at Rio Grande do Sul in a broader context, we can see that in the 1930s and 1940s, there was a significant increase in this type of service across the country, which ended up influencing public health for many years. The experience of health centers in Brazil, unlike what had occurred in the United States, did not decline when there was the rise of hospital medicine; on the contrary, the centers became a form of health care that was consolidated over time in the country (Santos, Faria, 2002, p. 138).

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NOTES

[1] We use the term "health center" here to refer generically to this new type of organization, even though we know that health units were divided between "health centers" and "hygiene stations," the former of which were larger and established in cities with a larger population.

[2] In this and other citations of texts from non-English languages, a free translation has been provided.

[3] For more detailed information on the development of health centers in the United States, see Faria (2007); Santos, Faria (2002); Rosen (1994).

[4] The introduction of the health centers to Brazil by former Rockefeller Foundation fellows was already mentioned by Nilson do Rosário Costa (1985, p.115), who writes that "Brazilian sanitarians became aware of these Health Center propositions when they participated, in the 1920s, in the first public health specialization course created by John [*sic*] Hopkins University for doctors". Similarly, Carlos Eduardo Aguilera Campos (2007, p.903) writes that "the Health Centers and the District Health Administration System were, in their genesis, a proposal for a new generation of sanitarians formed according to the 'Rockefeller model'". In 1916, the Rockefeller Foundation started to support Johns Hopkins University, in Baltimore, as the site for the founding of the first public health school in the United States: the Johns Hopkins School of Hygiene and Public Health. This school was a model for other institutions, influencing public health and its professionalization in the twentieth century (Fee, 1987; Birn, 2006).

[5] Geraldo Horácio de Paula Souza (1889-1951) was born in Itu, São Paulo. He graduated from the Pharmacy School of São Paulo in 1908 and, in 1913, from the Faculty of Medicine of Rio de Janeiro. He received a scholarship from the Rockefeller Foundation's International Health Division between 1918 and 1920, earning his PhD in Hygiene and Public Health from Johns Hopkins University. In addition to being director of the São Paulo Institute of Hygiene (1922-1951) and the São Paulo Health Service (1922-1927), Souza was a technician in the Hygiene Section of the League of Nations (1927-1929) and one of the founders of the World Health Organization (Faria, 2007, p. 29-30).

[6] The Rockefeller Foundation's International Health Division was created in 1913, the year the Foundation itself was created. Its objective was to take the work to combat hookworm disease carried out by the Rockefellers in the United States since 1909 to other countries. When it ceased its activities, in 1951, it had been present in more than eighty countries, including every country in South America. Between 1913 and 1951, the International Health Division acted in the fight against hookworm disease, yellow fever, and malaria, and in other public health campaigns in the southern United States and in almost a hundred other countries around the world. During the same period, the International Health Division founded a number of public health schools in North America, Europe, Asia, and Brazil, and distributed thousands of fellowships to health professionals (Farley, 2004, p.2).

[7] Lina Faria (2007) discusses the "conflict" in São Paulo between the models for the organization of public health proposed by Paula Souza (health centers, horizontal model) and Francisco Salles Gomes Jr. (specialized inspectorates, vertical model) drawing, among other references, on Pierre Bourdieu's discussion of the scientific field as a space of conflict.

[8] In 1933, Fernando de Freitas e Castro resigned from his role at the state's health service. He served as director of the Faculty of Medicine from 1939 to 1941. In August of that year, he was killed in a plane crash in Santos, São Paulo state, on his way to Rio de Janeiro in the service of the Faculty of Medicine. Biographical information about Castro was found in Souza (2001, p.97), Pianta (1962, p.87), Faillace (1941, p.131-132) and in the Fernando de Freitas e Castro archive available at the Rockefeller Archive Center (Castro, s.d.).

[9] Between 1920 and 1923, the government of Rio Grande do Sul and the Rockefeller Foundation entered into a cooperation agreement to combat hookworm disease in the state. For information on this cooperation, see Korndörfer (2013).

[10] In the words of Gabrielle Werenicz Alves, "this doctor [Fernando de Freitas e Castro], when he became Director of Hygiene in the state of Rio Grande do Sul, designed the implementation of a health system based on the American model – a project that became known as the 1929 Health Service Reform" (Alves, 2011, p.176). According to Lizete Oliveira Kummer (2002, p.56), "the 'modern' guidance offered by the Johns Hopkins School of Hygiene and Public Health entered the Hygiene Administration of Rio Grande do Sul through the assistant physician Dr. Fernando de Freitas e Castro".

[11] Regarding the incomplete implementation of the 1929 Reform due to financial difficulties and political upheavals, Gabrielle Werenicz Alves (2011, p.80-81) states that there was initially a significant increase in the budget for health services, but a subsequent decline. In addition, there is no indication that a new Health Code was put in place.

[12] For a more in-depth discussion of health in the Vargas era, see Fonseca (2007).

REFERENCES

ALVES, Gabrielle Werenicz. *Políticas de saúde pública no Rio Grande do Sul: continuidades e transformações na Era Vargas, 1928-1945*. Dissertação (Mestrado em História) – Pontifícia Universidade Católica do Rio Grande do Sul, Porto Alegre, 2011.

A LOCALIZAÇÃO dos centros de saúde. *Correio do Povo*, p.7, 1 jul. 1938.

BIRN, Anne-Emanuelle. *Marriage of convenience: Rockefeller International Health and Revolutionary Mexico*. Rochester: University of Rochester Press, 2006.

BRUM, Cristiano Enrique de. *O "interventor da saúde": trajetória e pensamento médico de Bonifácio Costa e sua atuação no Departamento Estadual de Saúde do Rio Grande do Sul, 1938-1943*. Dissertação (Mestrado em História) – Universidade do Vale do Rio dos Sinos, São Leopoldo, 2013.

CAMPOS, Carlos Eduardo Aguilera. As origens da rede de serviços de atenção básica no Brasil: o Sistema Distrital de Administração Sanitária. *História, Ciências, Saúde – Manguinhos*, v.14, n.3, p.877-906, 2007.

CARDOSO, Eleyson. Atividades do DES em 1944. *Arquivos do Departamento Estadual de Saúde do Rio Grande do Sul,* v.6, p.335-336, 1945.

CASTRO, Fernando de Freitas e. Organização sanitária do Brasil e reforma dos serviços sanitários do Rio Grande do Sul. *Revista dos Cursos*, ano 19, n.19, p.156-184, 1933.

CASTRO, Fernando Freitas e. Rockefeller Foundation, Record Group 10.2 Fellowship Cards, Series "Castro, Fernando Freitas" (Rockefeller Archive Center, Sleepy Hollow). s.d.

COSTA, Nilson do Rosário. *Lutas urbanas e controle sanitário: origens das políticas de saúde no Brasil*. Petrópolis: Vozes, 1985.

FAILLACE, Jandyr Maya. Sessão inaugural. In: Congresso Sul-riograndense de Higiene, 2., 1959, Porto Alegre. *Anais...* Porto Alegre: Selbach, 1960. p.25-29.

FAILLACE, Jandyr Maya. Prof. Fernando de Freitas e Castro. *Arquivos do Departamento Estadual de Saúde*, v.2, p.131-132, 1941.

FARIA, Lina Rodrigues de. *Saúde e política: a Fundação Rockefeller e seus parceiros em São Paulo*. Rio de Janeiro: Editora Fiocruz, 2007.

FARIA, Lina Rodrigues de; COSTA, Maria Conceição da. Cooperação científica internacional: estilos de atuação da Fundação Rockefeller e da Fundação Ford. *Dados: Revista de Ciências Sociais*, v.49, n.1, p.159-191, 2006.

FARLEY, John. *To cast out disease: a history of the International Health Division of the Rockefeller Foundation, 1913-1951*. New York: Oxford University Press, 2004.

FEE, Elizabeth. *Disease and discovery: a history of the Johns Hopkins School of Hygiene and Public Health, 1916-1939*. Baltimore: The Johns Hopkins University Press, 1987.

FEE, Fundação de Economia e Estatística Siegfried Emanuel Heuser. *De província de São Pedro a estado do Rio Grande do Sul: censos do RS, 1803-1950, v.1*. Porto Alegre: FEE, 1981.

FONSECA, Cristina M. Oliveira. *Saúde no governo Vargas (1930-1945): dualidade institucional de um bem público*. Rio de Janeiro: Editora Fiocruz, 2007.

FRANCO, Álvaro (org.). *Porto Alegre, biografia de uma cidade*. Porto Alegre: Tipografia do Centro, 1940.

FRANCO, Álvaro; RAMOS, Sinhorinha Maria (ed.). *Panteão médico riograndense: síntese cultural e histórica: progresso e evolução da medicina no estado do Rio Grande do Sul*. São Paulo: Ramos, Franco Editores, 1943.

HOCHMAN, Gilberto. Reformas, instituições e políticas de saúde no Brasil, 1930-1945. *Educar*, v.21, n.25, p.127-141, 2005.

HOMENAGENS ao Dr. Bonifácio Costa. *Arquivos do Departamento Estadual de Saúde do Rio Grande do Sul*, v.4, p.243, 1943.

IYDA, Massako. *Cem anos de saúde pública: a cidadania negada*. São Paulo: Editora Unesp, 1994.

JAGUARÍ. Porto Alegre: Globo, 1940.

KORNDÖRFER, Ana Paula. *"An international problem of serious proportions": a cooperação entre a Fundação Rockefeller e o governo do estado do Rio Grande do Sul no combate à ancilostomíase e seus desdobramentos (1919-1929)*. Tese (Doutorado em História) – Pontifícia Universidade Católica do Rio Grande do Sul, Porto Alegre, 2013.

KUMMER, Lizete Oliveira. *A medicina social e a liberdade profissional: os médicos gaúchos na Primeira República*. Dissertação (Mestrado em História) – Universidade Federal do Rio Grande do Sul, Porto Alegre, 2002.

MARINHO, Maria Gabriela S.M.C. *Norte-americanos no Brasil: uma história da Fundação Rockefeller na Universidade de São Paulo, 1934-1952*. Campinas: Autores Associados; São Paulo: Universidade São Francisco, 2001.

PIANTA, Dante. *Personalidades rio-grandenses*. Porto Alegre: [s.n.], 1962.

RF, Rockefeller Foundation. *History of the Fellowship Program at the Rockefeller Foundation*. Rockefeller Foundation, Record Group 10.2 Fellowship Recorder Cards (Rockefeller Archive Center, Sleepy Hollow). s.d.

RIO GRANDE DO SUL. Decreto-lei n.367, de 24 de agosto de 1943. Cria postos de higiene em municípios. (Arquivo Histórico do Rio Grande do Sul, Porto Alegre). 24 ago. 1943.

RIO GRANDE DO SUL. Departamento Estadual de Saúde. *Relatório apresentado ao Exmo. Snr. Gal. Osvaldo Cordeiro de Farias, interventor federal no Rio Grande do Sul, em janeiro de 1943, pelo Dr. José Bonifácio Paranhos da Costa, diretor-geral do Departamento Estadual de Saúde, compreendendo o período administrativo de 1939 a 1942*. Porto Alegre: Oficinas Gráficas da Imprensa Oficial, 1943a.

RIO GRANDE DO SUL. *Relatório apresentado ao Exmo. Sr. Dr. Getúlio Dorneles Vargas, ao presidente da República, pelo general Osvaldo Cordeiro de Farias, interventor federal no Rio Grande do Sul, durante o período 1938-1943*. Porto Alegre: Oficinas Gráficas da Imprensa Oficial, 1943b.

RIO GRANDE DO SUL. Departamento Estadual de Saúde. *Relatório apresentado ao Exmo. Snr. Gal. Osvaldo Cordeiro de Farias, interventor federal no Rio Grande do Sul, em fevereiro de 1942, pelo Dr. José Bonifácio Paranhos da Costa, diretor-geral do Departamento Estadual de Saúde, compreendendo o período administrativo de 1939 a 1941*. Porto Alegre: Oficinas Gráficas da Imprensa Oficial, 1942.

RIO GRANDE DO SUL. Secretaria de Educação e Saúde Pública. *Relatório apresentado ao Exmo. Snr. Cel. Osvaldo Cordeiro de Farias, interventor federal no Rio Grande do Sul, em janeiro de 1940, pelo Dr. J.P. Coelho de Souza, secretário da Educação e Saúde Pública, compreendendo o período administrativo de 21/10/1937 a 31/12/1939*. Porto Alegre: Oficinas Gráficas do Instituto Técnico Profissional, 1940.

RIO GRANDE DO SUL. Decreto n.7.481, de 17 de setembro de 1938. Reorganiza os serviços de Higiene e Saúde Pública do Estado (Museu de História da Medicina do Rio Grande do Sul, Porto Alegre). 17 set. 1938.

RIO GRANDE DO SUL. Decreto n.5.969, de 26 de junho de 1935. Cria a Secretaria de Estado dos Negócios da Educação e Saúde Pública (Arquivo Histórico do Rio Grande do Sul, Porto Alegre). 26 jun. 1935.

ROSEN, George. *Uma história da saúde pública*. Tradução Marcos Fernandes da Silva Moreira. São Paulo: Hucitec; Editora da Unesp; Rio de Janeiro: Abrasco, 1994.

SANTOS, Luiz Antonio de Castro; FARIA, Lina Rodrigues de. O ensino de saúde pública no Brasil: os primeiros tempos no Rio de Janeiro. *Trabalho, Educação e Saúde*, v.4, n.2, p.291-324, 2006.

SANTOS, Luiz Antonio de Castro; FARIA, Lina Rodrigues de. Os primeiros centros de saúde nos Estados Unidos e no Brasil: um estudo comparativo. *Teoria e Pesquisa*, n.40-41, p.137-181, 2002.

SCHWARTZMAN, Simon (org.). *Estado Novo, um auto-retrato (Arquivo Gustavo Capanema)*. Brasília: CPDOC/FGV; Editora da Universidade de Brasília, 1983.

SOUZA, Blau (org.). *Médicos (pr)escrevem: vidas e obras*. Porto Alegre: AGE/Amrigs/Simers, 2001.

WEBER, Beatriz Teixeira. Médicos e charlatanismo: uma história de profissionalização no Sul do Brasil. In: Silva, Mozart Linhares da (org.). *História, medicina e sociedade no Brasil*. Santa Cruz do Sul: Edunisc, 2003. p.95-128.