ANALYSIS OF HEALTH FINANCING IN A PANDEMIC PERIOD: COVID-19 AND TRANSFERS TO THE MUNICIPALITIES OF VALE DO PARAÍBA AND LITORAL NORTE, SP, BETWEEN 2020 AND 2022

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ABSTRACT

This article aims to present research on the percentage of federal resource transfers to the Unified Health System (SUS) in municipalities of the Metropolitan Region of Vale do Paraíba e Litoral Norte (RMVPLN), São Paulo, between 2020 and 2022. It also seeks to compare the period with the highest number of COVID-19 cases and deaths in Brazil and in the municipalities of the region with the percentage of state transfers for health in these municipalities during the same period. For this purpose, data on the percentage (%) of federal transfers for health (SUS) to the region's municipalities were used, provided by SIOPS - Ministry of Health, monthly COVID-19 death data in Brazil from 2020 to 2022 (Portal G1), and the total funds transferred to the 39 municipalities of RMVPLN during the years 2020, 2021, and 2022 (National Health Fund - FNS). The analysis of data extracted from SIOPS and FNS suggests that small municipalities in the RMVPLN experienced significant decreases in federal and state transfers, although in some cases, health services were not compromised during the pandemic.

Keywords: Health Financing. Covid-19. Vale do Paraíba. Interfederative Relations

RESUMO

Este artigo tem como objetivo apresentar uma pesquisa sobre o percentual de participação das transferências de recursos da União para o SUS dos municípios da Região Metropolitana do Vale do Paraíba e Litoral Norte (RMVPLN), SP, entre 2020 e 2022. Objetiva-se, também, comparar o período de maior número de casos e óbitos por COVID-19 no Brasil e nos municípios da Região, com o percentual de transferências estaduais para a saúde desses municípios, no mesmo período. Para sua realização, foram utilizados dados de porcentagem (%) das Transferências da União para a saúde (SUS), para os municípios da Região, disponibilizados pelo SIOPS- Ministério da Saúde, dados mensais de óbitos por COVID-19 no Brasil, de 2020 a 2022 (Portal G1) e total dos recursos estaduais repassados aos 39 municípios da RMVPLN, nos anos de 2020, 2021 e 2022 (Fundo Nacional de Saúde - FNS). A análise dos dados extraídos do SIOPS e do FNS permite inferir que os pequenos municípios da RMVPLN sofreram quedas significativas nos repasses federais e estaduais, mas, em alguns deles não houve comprometimento dos serviços de saúde durante a pandemia.

Palavras-chave: Financiamento de saúde. Covid-19. Vale do Paraíba. Relações interfederativas.

INTRODUCTION

Recently, the global population has been subjected to a pandemic. The SARS-CoV-2 virus, which causes the disease known as Coronavirus Disease 2019 (Covid-19), demonstrated the vital role of the Unified Health System (SUS) in the context of the country's inter-federative relations characterised by fragility and a discrepancy in the way that different states are financed.

The financing of health services in Brazil has historically been beset with challenges, which have been further exacerbated by the advent of the SARS-CoV-2 pandemic. The decentralisation of the Unified Health System (SUS), which was initiated in the 1980s, was designed to enhance the efficacy of services by transferring responsibilities to municipalities and redefining the role of states and the Union (Andrade; Coelho, 2016; Trevisan; Junqueira, 2007). However, the process of decentralization has revealed a number of weaknesses, including chronic underfunding and a lack of integration between management levels. During the pandemic, the underfunding of the SUS, which was further exacerbated by Constitutional Amendment 95, resulted in significant challenges in combating the virus. This was particularly evident at the state and municipal levels, where the majority of operational costs were assumed due to the inefficiencies observed in the actions of the federal government. Despite occasional advances, studies have demonstrated that the funding logic does not adequately consider epidemiological and social factors, thereby perpetuating regional and social inequalities (Andrade;

Coelho, 2016; Marques; Ferreira, 2023).

The regionalization of health care, while potentially beneficial in reducing inequalities and improving access to services, still faces significant challenges, such as a lack of local resources and capacity (Boisier, 1999; Shimizu; Carvalho; Brêtas Junior, 2021). During the pandemic, the financing of municipalities in the Metropolitan Region of Vale do Paraíba and Litoral Norte (RMVPLN) exemplified these obstacles. Despite an increase in revenue and health spending, a dearth of transparency in data and ineffectual budget execution have served to impede the response to the crisis. The pandemic has revealed the necessity for Brazil to reformulate its fiscal regime and reinforce state regionalization policy, planning, and management at the regional level. This should entail greater involvement from civil society and local managers to guarantee more equitable and sustainable services (Marques, 2017; Lima; Andrade, 2009).

The objective of this article is to present research on the proportion of transfers from the Federal Government and the State of São Paulo (ESP) to the public health sector in the municipalities of the RMVPLN in 2020, 2021, and 2022. Subsequently, a comparison will be made between the period with the highest number of cases and deaths from the Coronavirus Disease 2019 (Covid-19) in Brazil and in the municipalities of the region, with the percentage of state transfers to the Unified health system (SUS) in these municipalities in the same period.

The article is structured into three sections, in addition to the introductory section and the concluding section. The initial section presents a review of the literature on the failure of regionalization in Latin America (LA) and the constraints of health decentralization in Brazil. It places particular emphasis on the relationship between health and development, with a focus on the implications of inadequate resources during periods of public crisis, such as the current pandemic. This serves to contextualize and inform the subsequent discussions in this article. The second section presents a detailed account of the materials and methodological procedures employed in this research project. Subsequently, a subsection presents the RMVPLN, a region that is privileged in some respects but which is nevertheless heterogeneous in terms of the distribution of services such as health, education, and other sectors, including financially. The third section provides an overview of federal and state health transfers to municipalities within the RMVPLN region during the course of the ongoing pandemic.

HEALTH FINANCING: A FINE LINE BETWEEN DEVELOPMENT AND QUALITY OF LIFE

The literature offers no consensus on the definition of "access." In addition to financial aspects, Thiede, Akweongo, and McIntyre (2014) defend its promotion as "freedom of use." In light of these considerations, it is evident that regional development cannot be conceived without an examination of the potential for enhanced functionality within the health system. On the basis of Sen (2010), it can be said that as long as there are people who are deprived of essential freedoms, such as access to health services (including those of medium and high complexity) and even transport to make this access effective, there will be no necessary condition to promote regional development based on the progressive removal of restrictions on the freedoms of these people and the qualification of the management and organizational capacities of the network of action and provision of health services, starting with primary care.

In his analysis of Latin American (LA) development, Boisier (1999, p. 310) asserts that the implementation of public policies at the regional level has facilitated the formulation of "real models," which are based on specific case studies. In consequence, the experience in question revealed three processes. 1) The regionalization of countries, which, according to the author, failed completely; 2) The decentralization of public and private decision-making systems, which, in his opinion, had not yet been established, as the centralizing culture still dominated Latin America; and 3) The actual development of the regions, which was still rarely adopted.

Boisier (1999) offers a critique of regionalization in select Latin American countries. The author employs examples from Brazil and Colombia to argue that regionalization was merely an administrative phenomenon, functioning as a planning device. Another criticism may elucidate the failure of regionalization in Latin America. The author asserts that the economic aspect was the sole factor considered in the endeavors of this process. This context encompasses the health sector.

The relationship between health and development has been widely discussed in the scientific literature (Viana; Elias, 2007; Gadelha, 2007; Gadelha; Costa, 2012; Loureiro; Miranda; Miguel, 2013; Buss *et al.,* 2014). Nuske *et al*. (2017, p. 2) understand that "health plays a role in driving development in its regional dimension with a mission guided by the marked territorial cut of national socioeconomic inequities". However, it is essential to acknowledge the intricate nuances of this relationship, given its multifaceted implications at the social, political, and economic levels.

In Brazil, the preponderance of such interests in public health has become, since the institutionalization of the SUS in 1988 (Brazil, 1988), a significant vulnerability. This fragility was further exacerbated by the advent of the global pandemic caused by the SARS-CoV-2 virus, which originated in China and subsequently had a significant impact on economies and healthcare systems worldwide (Fernandes; Pereira, 2020).

In examining the case of Spain during the pandemic, Legido-Quigley *et al*. (2020) identify underfunding in health as a significant challenge in the fight against SARS-CoV-2. However, what is the actuality of health financing in Brazil? In accordance with the Federal Constitution of Brazil (1988), the financing of health actions and services is the responsibility of the federal, state, and municipal levels. Nevertheless, since 1988, the question of funding has consistently been a point of contention.

Andrade and Coelho (2016) identify the decentralization of policies in Brazil as a response to the centralizing and authoritarian period that commenced with the 1964 coup d'état. They also note that prior to the establishment of the SUS, the Ministries of Health (MS), Social Assistance and Welfare (MAPS), and Education and Culture (MEC) managed the Brazilian health system, which remained fragmented and centralized. At the state level, the responsibility for management was borne by the state health secretariats (SES). At the municipal level, the municipal health secretariats (SMS) were solely accountable for the oversight of their own services. The disparate financing of the various health subsystems resulted in a lack of coordination and inefficiency within the same municipality.

The decentralization of healthcare in Brazil started in the 1980s with the establishment of the SUS, which delineated the responsibility of municipalities for the provision of primary healthcare services (Brazil, 1988). Subsequently, in 1990, the Organic Health Law was enacted (Brazil, 1990), which further reinforced the process of decentralization and established guidelines for the regionalization of health services.

From the 1990s onward, municipalities assumed responsibility for managing and providing services, particularly in the primary care sector. This led to a redefinition of the roles of the states and the federal government, which transitioned from primarily executor roles to defining and coordinating health policy at the macro level. Additionally, the federal government began providing technical and financial support for the development of municipal management (Andrade; Coelho, 2016).

Studies have shown that the decentralization and regionalization of health can bring benefits to the health of the population, including reducing regional inequalities in access to health services and improving the quality of care provided (Louvison, 2019). However, according to Shimizu, Carvalho e Brêtas Júnior (2021, p. 3394), “there is still a clear mismatch between managers in the construction and implementation of the federative agenda, which greatly weakens the implementation of the regionalization guideline”. The considerable distances users must travel to access more complex health services represents a significant challenge. However, the efforts made by the Regional Interagency Commissions (CIR) (Brazil, 2011) to share services are noteworthy (Shimizu; Carvalho; Brêtas Júnior, 2021). Furthermore, these policies encounter obstacles, including the scarcity of local resources and the lack of capacity for managing health services. It is imperative that these policies are accompanied by investments in training and infrastructure, as well as broad participation by society in the management and monitoring of health services in each region.

Andrade and Coelho (2016) reiterate the necessity of addressing the challenges inherent in decentralizing health, particularly with respect to regionalization. Furthermore, the authors emphasize the necessity of enhancing health planning and management procedures at the regional level, with the active involvement of the pertinent stakeholders, including administrators, healthcare professionals, and representatives of civil society.

In their analysis of the decentralization of health actions and services, Trevisan and Junqueira (2007) commend the triple autonomy achieved by Brazilian municipalities, encompassing political, administrative, and financial autonomy. Conversely, they have been critical of this approach, asserting that while operational decisions regarding the public health of Brazilians have been decentralized, the transfer of funds to implement these decisions has not occurred (Trevisan; Junqueira, 2007, p. 896).

A survey conducted by Mendes and Marques (2009) indicates that the increase in funding for the health sector in Brazil between 1990 and 2000 was insignificant. Scatena, Viana, and Tanaka (2009) conducted an analysis of municipal records and identified a progressive mismatch between income and expenditure. This finding was corroborated by Santos and Vieira (2018), who analyzed data from the Ministry of Health between 2002 and 2015 and found insufficient authorized payment limits in relation to spending in each financial year.

As Marques (2017) has observed, the underfunding of the SUS in Brazil is a structural problem that lacks political support for the significant allocation of resources. It is important to note that the primary source of funding for the SUS is the transfer from the Union to states and municipalities (Leite; Lima; Vasconcelos, 2012; Santos, 2018; Lima; Andrade, 2009). However, Fernandes and Pereira (2020) argue that the logic of health financing in Brazil not only fails to consider epidemiological or social factors, but also serves to perpetuate inequality.

This unfortunate situation is further compounded by the enactment of egregious legislation by parliamentarians. For instance, Constitutional Amendment (EC) No. 95 (Brazil, 2016) has been subjected to considerable criticism by scholars. Funcia (2019); Pereira, Oliveira and Faleiros (2019) elucidate that, subsequent to its approval, the budgets of the other federal entities were subjected to considerable pressure due to the reduction in the federal government's contribution, resulting in significant adverse consequences.

Marques and Ferreira (2023) posit that the chronic underfunding of the SUS was exacerbated during the course of the ongoing pandemic due to the implementation of fiscal austerity policies, such as Constitutional Amendment No. 95, which froze public spending for a period of 20 years. The authors posit that the pandemic has revealed the vulnerability of the health financing system, particularly with regard to its capacity to respond expeditiously and effectively to health crises.

The objective of the study conducted by Nascimento (2022) was to gain insight into the budgetary and financial impacts on the RMVPLN during the course of the global pandemic caused by the SARS-CoV-2 virus. Among the study's findings is an increase in municipal revenue, with a 50.01% higher variation in budget expenditure on health during the pandemic period compared to the previous period. Additionally, an increase was observed in the number of municipalities that achieved a budget surplus. However, a limitation of the study was the lack of transparency, as only 15 of the 39 municipalities could be analyzed by budget ratios and 12 by financial ratios.

The COVID-19 pandemic hit Brazil at a time when fiscal austerity was challenging the financing of the SUS. With regard to the pandemic scenario, Servo *et al*. (2020) criticize the slow budget execution of the Ministry of Health in 2020. For these authors, fund-to-fund transfers, which should depend solely on agreements between managers in the tripartite inter-ministerial commission (CIT), were poorly executed.

Of the R$10.0 billion budget allocation for state governments, only R$3.9 billion had been transferred some 100 days after the state of emergency was declared. During the same period, municipal governments received only R$5.6 billion out of a budget allocation of R$16.9 billion. The authors also highlight the federal government's difficulty in planning at a time when rapid responses were needed, and the need to advance the regionalization of health.

In addition, the federal government delayed the approval of Law 39/2020 for four months after the declaration of public emergency (Rossi; David, 2021). This law provided for the restoration of the revenues of the federal entities in the face of the huge drop in revenues.

According to Rossi and David (2021), this delay can be explained by the tensions between the Federal Government, the States and the Municipalities in relation to the disagreements on the social isolation measures.

Marques and Ferreira (2023, p. 474) argue that

> the decentralization of the SUS, a fundamental principle of its organization and management, coupled with the low level of action by the federal government during the pandemic, meant that most of the effective spending was carried out by states and municipalities.

Even in the post-pandemic scenario, the authors claim that there is no doubt that the country's austerity regime will continue. They therefore advocate changes to the current fiscal regime.

The materials used in this study and the methodological path followed are presented below.

MATERIALS AND METHODOLOGICAL APPROACH

This article is a quantitative and exploratory study (Gil, 1994), using indirect documentation (Marconi; Lakatos, 2003). The data was collected through documentary research, using primary sources (public archives and statistical sources, such as the Public Health Budget Information System - SIOPS), and bibliographic research, supported by secondary sources (audiovisual media; cartographic material; publications).

With regard to the methodology employed, this research is comparative in nature (Marconi; Lakatos, 2003). The initial objective was to compare the percentage share of federal transfers to the public health sector in the municipalities of the RMVPLN in 2020. Subsequently, the period with the highest number of cases and deaths due to the novel coronavirus in Brazil and in the municipalities of the RMVPLN

was identified, and the percentage share of federal transfers to the SUS in these municipalities during the same period was then compared.

Tables 1, 2, and 3 were prepared by accessing SIOPS, a computerized system operated by the Ministry of Health (MoH), which is mandatory and accessible to the public. Its purpose is to collate, retrieve, process, store, organize and disseminate information on total income and health expenditure from public health budgets. This system enables the tracking and monitoring of the utilization of health resources at the federal, state, and municipal levels.

In light of the aforementioned considerations, indicator 1.5 was selected, entitled "Percentage (%) of Federal Government Transfers to Health (SUS) in Total Federal Government Transfers to the Municipality." This indicator demonstrates the extent to which the Federal Government has allocated financial resources to the public health sector at the municipal level in Brazil, with data presented on a two-monthly basis. Subsequently, a filter was applied to extract the data for each municipality in the RMVPLN.

The data set comprises monthly data on deaths from coronavirus disease 2019 (COVID-19) in Brazil from February 2020 to February 2022. The data were collected from the G1 Portal, a news portal run by the Globo Group, which gathered this data through a partnership between the health departments and the consortium of press outlets during the pandemic. Cota (2020) tabulated the daily data on confirmed cases of SARS-CoV-2 infection in all Brazilian municipalities.

To perform the requisite mappings (Figures 4 and 5), we accessed the National Health Fund (FNS) portal, an additional computerized system operated by the Ministry of Health. Thereafter, we calculated the total amount transferred to the 39 municipalities comprising the RMVPLN in 2020, 2021, and 2022. The total amount was derived from the aggregation of two blocks: (i) Structuring the Public Health Services Network (INVESTMENT) and (ii) Maintaining Public Health Actions and Services (COST). The selected consultation type was fund by fund. This entailed the exclusion of certain elements from the analysis, including amounts passed on to municipalities related to councils, management and administrative contracts, lawsuits, popular pharmacy, international organizations, and transfers to federal agencies. Once the data was available, a spreadsheet was created, the total percentage for each year of the series was calculated, maps were created using the ArcMap geographic information system, and a comparison was made of whether there had been a drop or increase in transfers from one year to the next.

The methodological procedure is summarized in Table 1 (presented below), which organizes the main stages and components of the research, highlighting the quantitative and exploratory approach used for this article.

Table 1 | Summary of methodological procedures

Methodology	Description
Data Sources	- Primary: Public archives, Public Health Budget Information System (SIOPS), National Health Fund (FNS). - Secondary: Scientific publications, cartographic material, audiovisual media, G1 Portal (COVID-19 data).
Variables Analyzed	- Percentage of federal transfers to health (SUS) in RMVPLN municipalities (SIOPS indicator 1.5). - Number of deaths from COVID-19 in Brazil and RMVPLN municipalities (data from Portal G1). - Total state financial transfers from the FNS to RMVPLN municipalities, segmented into: i) Structuring the Public Health Services Network (investment); ii) Maintenance of Public Health Actions and Services (costs).
Analysis Techniques	- Indirect documentation: Documentary and bibliographic analysis (Marconi; Lakatos, 2003). - Comparative: Comparison between periods (federal transfers and COVID-19 deaths). - Geospatial: Mapping and territorial analysis using ArcMap to identify changes in transfers between 2020 and 2022. - Descriptive Statistics: Construction of tables and maps to interpret financial and epidemiological data.
Analysis Procedures	- Extraction of data from SIOPS on federal transfers to each municipality in the RMVPLN (indicator 1.5). - Tabulation of death data by COVID-19 (Portal G1). - Calculation of total state financial transfers from the FNS by municipality and year (2020-2022). - Creation of thematic maps to visualize variations in transfers.
Tools and Systems	- Systems: SIOPS, FNS. - Software: ArcMap for geoprocessing and data mapping. - Electronic spreadsheets: Organization and calculation of transfer percentages.

Source: prepared by the authors, based on the research's methodological procedures.

The design of the data collection and analysis instruments was informed by the discussions proposed by Leite, Lima, and Vasconcelos (2012); Santos (2018); Lima and Andrade (2009), which asserted that the primary source of funding for the execution of health actions and services in the SUS is the Union. Additionally, the findings of Funcia (2019), Pereira, Oliveira, and Faleiros (2019) regarding the reduction in the federal government's contribution as a result of EC 95 were considered.

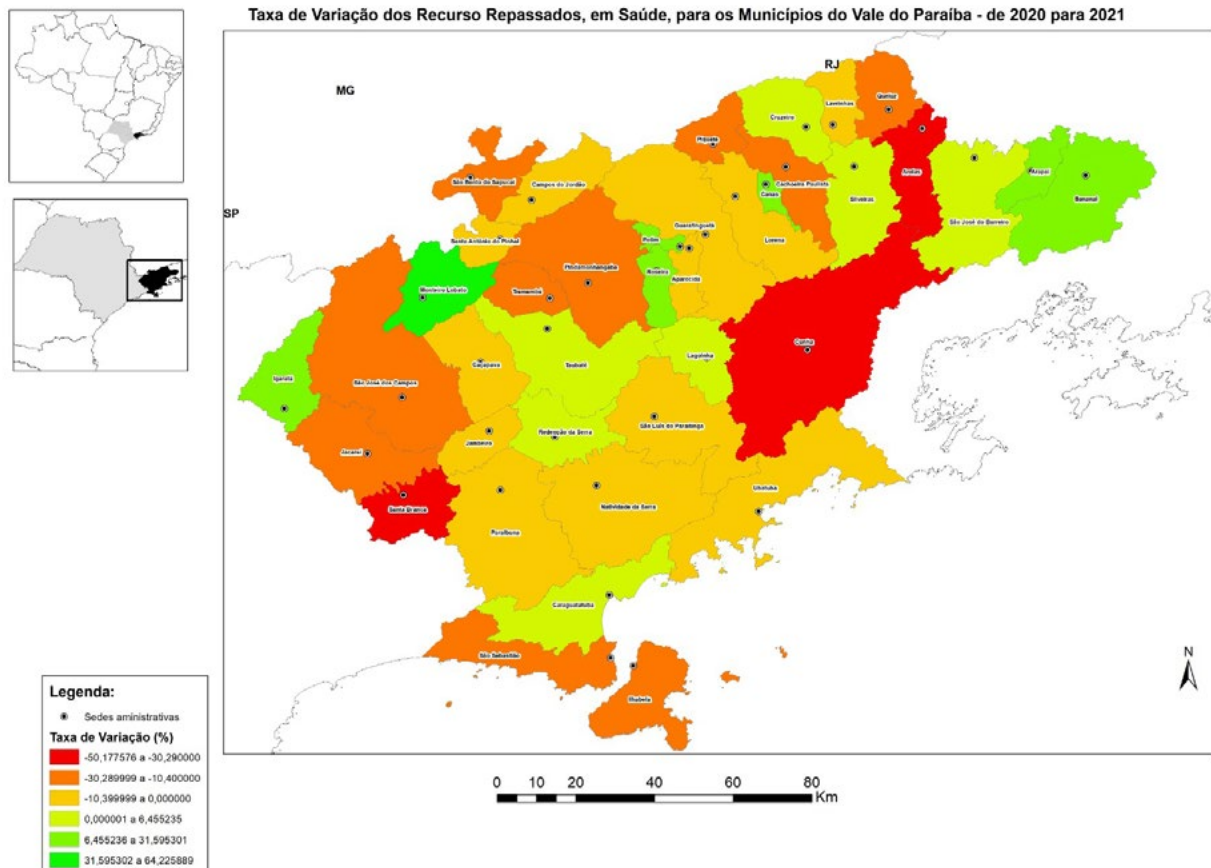
The following section presents a brief overview of the study area.

FIELD OF STUDY

Institutionalized by Complementary Law 1,166, of January 9, 2012 (São Paulo, 2012), the RMVPLN is located in the far east of the ESP, and is made up of five sub-regions, covering an area of approximately 16,177.94km² and a population of around 2.5 million inhabitants (SEADE, 2021).

Sub-region 1 covers the municipalities of Caçapava, Igaratá, Jacareí, Jambeiro, Monteiro Lobato, Paraibuna, Santa Branca and São José dos Campos; sub-region 2, Campos do Jordão, Lagoinha, Natividade da Serra, Pindamonhangaba, Redenção da Serra, Santo Antônio do Pinhal, São Bento do Sapucaí, São Luiz do Paraitinga, Taubaté and Tremembé; sub-region 3, Aparecida, Cachoeira Paulista, Canas, Cunha, Guaratinguetá, Lorena, Piquete, Potim and Roseira; sub-region 4, Arapeí, Areias, Bananal, Cruzeiro, Lavrinhas, Queluz, São José do Barreiro and Silveiras; sub-region 5, Caraguatatuba, Ilhabela, São Sebastião, and Ubatuba, as shown on map 1.

Map 1 | Location of the study area.



Source: Prepared by the authors (2023), based on SEADE data (2021).

Of the 39 municipalities in the RMVPLN, 27 (equivalent to 70% of the total) had fewer than 50,000 inhabitants in 2022. This places them at the demographic level of small municipalities, according to the Brazilian Institute of Geography and Statistics (IBGE, 2022). The influence of these small municipalities on regional development is further evidenced by their role as both the origin and destination of population movements for various purposes, as well as their function as the location of smaller companies that supply components to larger companies situated in other municipalities. In terms of health, the municipalities in question face a number of challenges, including those related to infrastructure provision, financial resources and institutional capacity. These challenges pertain to the organization, functioning and access to services, and as a result, the municipalities in question are dependent on the provision of specialized services from other municipalities, which are typically larger and intermediate in size.

The RMVPLN is a region of significant historical importance within the country. Its strategic location has facilitated economic and urban development in the ESP, with the region's urbanization and development axes running along the Presidente Dutra Highway (BR-116) in the middle valley of the Paraíba do Sul River and along the Rio-Santos Highway on the coast. The region has experienced accelerated development in conjunction with the expansion of São Paulo and Rio de Janeiro into metropolitan areas. The region is notable for its economic diversity, with a particular focus on the aerospace sector and other significant industrial and technology-oriented industries. Additionally, it boasts a network of research and development centers specializing in science and technology, along with a range of supporting services. (São Paulo, 2022).

Additionally, the region boasts considerable tourist potential, offering a diverse array of attractions, including beaches, mountains, theme parks, and historical centers. The city of São José dos Campos, for instance, is home to a Technology Park, which is regarded as one of the primary innovation hubs in the country, facilitating collaboration between companies, universities and research centers.

Nevertheless, despite its considerable potential for growth and development, the region is confronted with a number of socio-economic challenges, including social inequality, a dearth of adequate housing, urban violence, and a workforce that is inadequately qualified.

> The RMVPLN is characterized by significant heterogeneity in terms of the living conditions observed in the municipalities that comprise it. In terms of wealth, the São Paulo Social Responsibility Index (IPRS) reveals that only two municipalities (São Sebastião and Ilhabela)

> exhibit a higher average than that observed at the state level. In terms of the three dimensions of the IPRS (wealth, longevity and schooling), five municipalities in the region are considered to be dynamic, in addition to those already mentioned (São José dos Campos, Jacareí and Aparecida). Five are considered to be equitable (Pindamonhangaba, Santo Antônio do Pinhal, Tremembé, São Bento do Sapucaí and Lagoinha). Ten are considered unequal, including the tourist municipalities of the mountains and the coast. Ten are in transition and eight are vulnerable (São Paulo, 2022, p. 11.)

Regarding territorial vulnerability,

> furthermore, concerns have been raised regarding the distribution of services and public facilities, as well as the precarious nature of some settlements. The concentration of equipment and economic assets is evident along the Via Dutra highway, with a lesser concentration also observed along the coast. A similar pattern can be observed in the distribution of precarious settlements, which are concentrated in the municipalities of São José dos Campos, Campos de Jordão and on the coast. Notwithstanding the accumulation of equipment, jobs and income, municipalities such as São José dos Campos and Caraguatatuba also exhibit elements of socio-territorial vulnerability, particularly in the form of a concentration of precarious settlements (São Paulo, 2022, p. 11).

Furthermore, the RMVPLN Diagnostic Booklet (São Paulo, 2022) indicates that the utilization of health, education, culture and sports facilities, as well as the health network connections themselves, exhibit a polarized distribution. Furthermore, disparities in the potential for tax collection are evident among the municipalities within the RMVPLN.

> A mere eight municipalities exceed the regional average of R$1,092.00 per capita, including the central hub of the region (São José dos Campos) and the cities of Queluz and the coastal municipalities. The latter municipalities have higher revenues from IPTU, which can be attributed to the number of high-value holiday homes in their jurisdictions. In terms of transfer revenues, it is notable that Ilhabela has a high figure of R$18,180.00 per capita. This is attributable to royalties and special participations derived from oil and gas exploration (São Paulo, 2022, p. 17).

It is crucial to acknowledge that the region continues to experience the ramifications of the ongoing global pandemic, particularly in the economic sphere. As indicated by the Ministry of Health (Brazil, 2024), the RMVPLN documented 389,224 cases and 8,141 mortalities between 2020 and 2022. With respect to inter-federative and sectoral collaboration, the RMVPLN Diagnostic Booklet highlights that the region has a history of endeavoring in this regard, yet that,

> still has weaknesses when it comes to articulating a regional development agenda capable of overcoming socio-territorial inequalities and fostering sectoral integration based on the formulation of public policies (São Paulo, 2022, p. 28).

In order to overcome these challenges, it is understood that there must be integrated and participatory planning, involving the various spheres of government, the private sector, civil society and universities. In this sense, the RMVPLN Integrated Urban Development Plan (2022) proposes

actions in the areas of economic development, urban mobility, the environment, housing, health, security, culture and tourism.

In the midst of the complexity of analyzing the processes of regionalization and decentralization of health care, there is financing. In this context, we try to answer two essential questions: Is social development, and therefore quality of life, possible without financing? In Brazil, has the transfer of funds kept pace with the decentralization process?

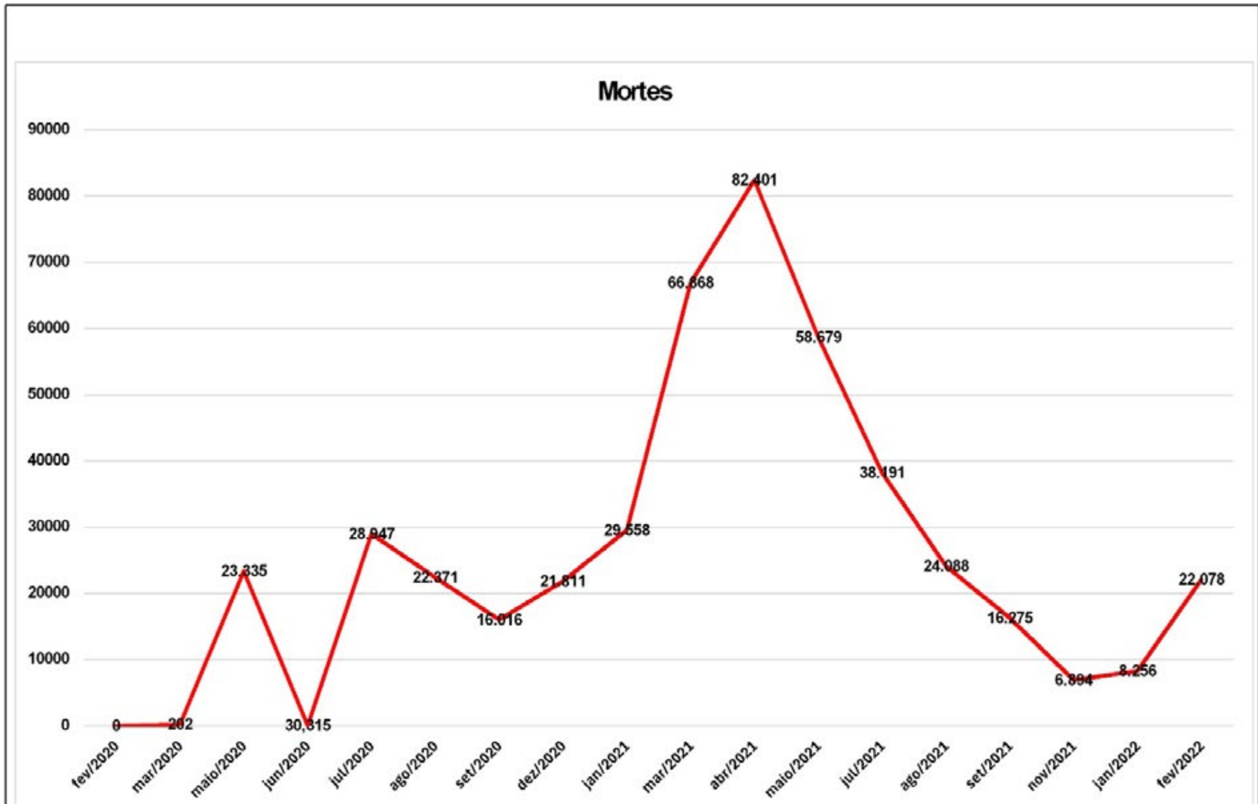
The following section analyzes some Covid-19 data, federal and state transfers to the health sector in these municipalities.

FROM THE FEDERAL TO THE MUNICIPAL LEVEL: HEALTH TRANSFERS TO THE RMVPLN DURING THE PANDEMIC

Tables 1, 2 and 3 were drawn up from the data on transfers of funds from the Federal Government to the health sector in the RMVPLN municipalities. An initial analysis of the data shows that, in the last two quarters of 2020, there was a decline in the percentage share of federal transfers to the public health sector in 15 of the 39 municipalities in the RMVPLN: Bananal; Caçapava; Campos do Jordão; Canas; Caraguatatuba; Cunha; Lagoinha; Natividade da Serra; Potim; Queluz; Redenção da Serra; Roseira; Santa Branca; São Bento do Sapucaí and São José dos Campos. A review of the data in Table 1 reveals that eight municipalities experienced the most significant declines during the six-month period spanning 2020. This process of decreasing transfers reached 14.02% for the municipality of Aparecida. The municipality of Bananal experienced a 6.72% decline, while the municipality of Caçapava saw a 4.86% reduction. Jacareí exhibited a 22.27% decrease, Pindamonhangaba a 8% decline, Santa Branca a 9.08% reduction, São José dos Campos a 11.12% decrease, and São Luiz do Paraitinga a 9.88% decline.

In the same year, the municipality of São José dos Campos documented a series of four bimonthly reductions in the transfer of funds from the federal government to the health sector. As indicated by the Health Secretariats, the Consortium of media outlets and exclusive surveys conducted by the news portal maintained by Grupo Globo (G1), between January and April 2021, Brazil recorded a greater number of deaths from Covid-19 (209,311) than were recorded in the entirety of 2020 (194,976), as illustrated in Graph 1.

Graph 1 | Deaths by Covid-19, by month, in Brazil.



Source: Health departments/Consortium of press outlets/Exclusive G1 surveys.

Interestingly, the two two-month periods preceding this period were marked by a drop in transfers of funds from the Federal Government to many municipalities in the RMVPLN, as shown in Table 1. This situation reproduces the national pattern, as verified by Marques and Ferreira (2023) and Funcia (2019). In other words, the RMVPLN reproduced the national pattern.

Table 1 | Share (%) of Federal transfers to health (SUS) in total Federal transfers to the municipalities of the RMVPLN in 2020.

MUNICÍPIOS	PERÍODO						
	1º bim/2020	2º bim/2020	3º bim/2020	4º bim/2020	5º bim/2020	6º bim/2020	TOTAL
Aparecida	10,89	16,44	24,46	29,86	31,90	17,88	131,43
Arapeí	3,08	4,24	4,36	4,29	4,51	4,43	24,91
Areias	3,04	8,71	8,68	16,13	16,35	15,51	68,42
Bananal	14,23	18,47	16,91	22,71	21,94	17,55	111,81
Caçapava	20,19	27,95	28,40	30,27	29,20	28,64	164,65
Cachoeira Paulista	14,12	15,82	17,24	14,71	14,86	15,43	92,18
Campos do Jordão	9,54	13,71	15,04	18,45	18,35	17,52	92,61
Canas	2,86	7,75	9,81	10,33	9,74	8,76	49,25
Caraguatatuba	18,55	19,95	23,14	27,30	26,46	26,12	141,52
Cruzeiro	23,47	29,80	30,84	33,97	32,77	33,01	183,86
Cunha	13,21	21,59	23,76	28,17	26,89	23,31	136,93
Guaratinguetá	30,37	42,52	42,10	44,43	42,18	42,68	244,28
Igaratá	3,29	8,15	11,08	16,32	13,81	15,10	67,75
Ilhabela	0,77	1,27	1,26	2,28	2,31	2,24	10,13
Jacareí	43,23	44,51	49,74	51,84	52,72	30,45	272,49
Jambeiro	6,34	8,49	11,68	12,95	12,46	13,18	65,1
Lagoinha	16,36	15,69	14,37	17,66	16,02	15,43	95,53
Lavrinhas	5,30	8,07	8,13	11,87	12,16	13,66	59,19
Lorena	0,00	32,48	35,61	38,38	39,42	37,15	183,04
Monteiro Lobato	0,03	3,48	6,68	7,32	7,68	7,11	32,3
Natividade da Serra	4,49	7,33	9,89	10,98	10,84	10,18	53,71
Paraibuna	4,49	13,30	12,02	15,00	14,10	16,31	75,22
Pindamonhangaba	22,18	28,75	25,01	20,75	20,97	21,43	139,09
Piquete	11,21	10,56	9,75	8,38	8,75	11,81	60,46
Potim	6,48	11,79	10,14	14,22	12,92	12,67	68,22
Queluz	sem dados	22,06	18,27	21,93	21,40	19,86	103,52
Redenção da Serra	5,51	12,03	12,12	12,71	12,52	11,58	66,47
Roseira	7,20	9,21	9,22	16,93	16,21	15,82	74,59
Santa Branca	7,87	9,12	16,53	24,53	24,13	15,45	97,63
Santo Antônio do Pinhal	10,53	15,21	17,01	21,34	21,07	21,51	106,67
São Bento do Sapucaí	10,76	15,56	23,34	25,44	24,50	22,92	122,52
São José do Barreiro	6,79	8,99	10,77	15,22	14,85	13,71	70,33
São José dos Campos	47,25	56,25	50,36	47,50	45,19	45,13	291,68
São Luís do Paraitinga	11,28	14,49	17,69	24,44	14,56	19,91	102,37
São Sebastião	6,01	8,07	9,52	11,56	11,64	12,29	59,09
Silveiras	3,85	4,95	6,34	11,07	11,59	12,59	50,39
Taubaté	32,27	40,81	36,05	35,71	35,50	35,75	216,09
Tremembé	6,98	10,46	9,95	14,14	15,51	13,38	70,42
Ubatuba	18,90	25,11	30,75	32,33	31,19	29,15	167,43

Source: SIOPS (2022). Prepared by the authors.

The decline observed in the aforementioned municipalities persisted throughout the initial two months of 2021, with the exception of Caraguatatuba, Santa Branca, and São José dos Campos. During this period, a further 21 municipalities also demonstrated a decline (Aparecida; Arapeí; Areias; Cruzeiro; Guaratinguetá; Igaratá; Ilhabela; Jacareí; Jambeiro; Lavrinhas; Lorena; Monteiro Lobato). Table 2 indicates that 36 municipalities (92%) exhibited a decline, including Paraibuna, Pindamonhangaba, Santo Antônio do Pinhal, São José do Barreiro, São Luís do Paraitinga, São Sebastião, Silveiras, Tremembé, and Ubatuba.

Table 2 | Share (%) of Federal transfers to health (SUS) in total Federal transfers to the municipalities of the MVPLN in 2021..

MUNICÍPIOS	PERÍODO					
	1º bim/2021	2º bim/2021	3º bim/2021	4º bim/2021	5º bim/2021	6º bim/2021
Aparecida	8,68	8,14	16,05	8,14	9,57	9,78
Arapeí	3,38	3,79	7,45	9,40	8,48	8,27
Areias	4,55	4,99	5,07	5,15	4,84	4,57
Bananal	7,15	7,43	11,87	10,31	9,65	15,09
Caçapava	21,21	24,40	25,76	26,20	27,19	27,63
Cachoeira Paulista	15,87	16,26	16,78	16,35	18,36	17,5
Campos do Jordão	13,75	15,30	17,49	17,32	18,33	21,04
Canas	3,41	3,72	4,26	6,65	7,44	7,74
Caraguatatuba	27,78	26,75	24,94	25,69	26,73	24,71
Cruzeiro	21,73	29,16	32,25	32,76	35,70	34,67
Cunha	14,83	15,81	16,31	15,95	16,98	13,1
Guaratinguetá	28,97	36,05	37,98	38,39	40,66	39,4
Igaratá	6,30	8,76	8,65	10,12	14,88	13,25
Ilhabela	1,24	1,43	1,36	1,50	1,94	1,86
Jacareí	25,54	32,98	37,33	38,66	39,43	55,86
Jambeiro	5,93	6,51	7,05	9,72	10,39	10,79
Lagoinha	7,09	8,37	8,78	11,16	14,57	12,7
Lavrinhas	6,41	7,06	7,65	9,24	9,24	9,78
Lorena	21,59	30,79	33,02	32,01	33,91	32,71
Monteiro Lobato	3,84	4,01	6,94	7,89	8,23	8,54
Natividade da Serra	6,17	6,58	6,84	9,55	9,77	8,81
Paraibuna	12,50	11,69	11,45	12,42	13,89	13,26
Pindamonhangaba	21,14	23,26	23,37	23,30	24,71	28,56
Piquete	sem dados	sem dados	sem dados	sem dados	sem dados	10,92
Potim	7,49	7,89	10,30	12,57	15,31	16,91
Queluz	11,11	12,20	12,66	12,33	13,84	14,72
Redenção da Serra	7,07	7,08	12,68	10,88	9,58	10,23
Roseira	5,82	28,65	38,79	13,31	17,23	15,31
Santa Branca	27,91	20,81	17,03	15,72	14,91	13,45
Santo Antônio do Pinhal	12,22	17,88	16,21	15,57	20,37	19,68
São Bento do Sapucaí	13,23	14,76	17,15	15,84	19,16	17,18
São José do Barreiro	8,22	11,68	11,29	10,84	12,92	11,61
São José dos Campos	45,69	46,67	47,60	47,99	49,54	48,45
São Luís do Paraitinga	18,39	15,72	13,73	15,40	16,43	17,18
São Sebastião	12,23	10,92	12,61	13,65	13,66	13,07
Silveiras	10,52	16,95	17,19	14,87	16,33	15,58
Taubaté	37,82	38,52	40,08	41,85	42,13	40,24
Tremembé	9,58	10,15	10,49	9,46	11,61	12,18
Ubatuba	17,67	19,35	22,02	25,31	28,06	26,86

Source: SIOPS (2022). Prepared by the authors.

The decline in the transfer of funds from the federal government to the municipality of Santa Branca, observed in five consecutive bimesters of 2021 (14.46%, between the second and sixth bimesters), and Roseira (from the first to the last bimester of 2021, 27.4%), also merits attention.

As reported by Cota (2020), the municipality of Santa Branca recorded 34 cases of the novel coronavirus (Covid-19) on March 21, 2021. This period also saw a reduction in the proportion of federal funding allocated to the municipality's health sector, with a 7.1% decline observed between the first and second bimesters. On June 18, 2021, Santa Branca registered 49 cases, but again experienced a 3.78% reduction in transfers between the second and third bimesters. On May 27 and June 7, 2022, the municipality of Santa Branca recorded 39 and 38 cases, respectively. Despite the absence of a reduction in federal transfers to health during this period, it is notable that in the corresponding two-month interval in the previous year, the federal government allocated 17.03% of its resources to health. In 2022, for the same two-month period, a mere 8.65% was transferred. On July 12, 2022, Santa Branca registered 35 cases, which coincided with a period of reduced federal health transfers.

A comparison of the percentage of transfers from the Federal Government to the health of the RMVPLN in each bimester between 2020 and 2021 reveals that six municipalities (Aparecida; Bananal; Guaratinguetá; Jambeiro; Lagoinha and Ubatuba) received a reduction in resources across all bimesters. Of the total of 39 municipalities, 13 (33%) exhibited a decline in transfers across nearly all two-month periods (Areias; Caçapava; Canas; Cunha; Jacareí; Lavrinhas; Lorena; Natividade da Serra; Paraibuna; Queluz; Redenção da Serra; Santo Antônio do Pinhal and São Bento do Sapucaí).

Table 3 shows the percentage share of transfers from the Federal Government to health in the RMVPLN municipalities in 2022. It should be noted that there was a major limitation in accessing the data, since most municipal managers did not approve the information in SIOPS.

Table 3 | Share (%) of federal transfers to health (SUS) in total federal transfers to the municipalities of the RMVPLN in 2022.

MUNICÍPIOS	PERÍODO					
	1º bim/2022	2º bim/2022	3º bim/2022	4º bim/2022	5º bim/2022	6º bim/2022
Aparecida	11,22	sem dados	sem dados	sem dados	sem dados	sem dados
Arapeí	sem dados	sem dados	sem dados	sem dados	sem dados	sem dados
Areias	2,76	2,49	3,74	4,48	4,29	sem dados
Bananal	18,63	12,01	10,10	9,95	23,33	sem dados
Caçapava	19,92	21,48	25,35	23,74	sem dados	sem dados
Cachoeira Paulista	11,58	13,27	20,46	sem dados	sem dados	sem dados
Campos do Jordão	sem dados	sem dados	sem dados	sem dados	sem dados	sem dados
Canas	2,62	2,65	1,96	2,27	2,58	sem dados
Caraguatatuba	17,16	16,03	sem dados	sem dados	sem dados	sem dados
Cruzeiro	sem dados	sem dados	sem dados	sem dados	sem dados	sem dados
Cunha	sem dados	sem dados	sem dados	sem dados	sem dados	sem dados
Guaratinguetá	27,80	30,29	33,02	31,19	30,67	sem dados
Igaratá	5,84	8,23	9,25	sem dados	sem dados	sem dados
Ilhabela	1,45	1,79	1,39	1,28	1,40	sem dados
Jacareí	sem dados	sem dados	sem dados	sem dados	sem dados	sem dados
Jambeiro	5,60	6,19	7,41	sem dados	sem dados	sem dados
Lagoinha	7,63	8,88	20,03	17,26	16,33	sem dados
Lavrinhas	6,58	8,94	12,45	11,42	10,94	sem dados
Lorena	23,61	21,51	23,06	21,07	sem dados	sem dados
Monteiro Lobato	sem dados	sem dados	sem dados	sem dados	sem dados	sem dados
Natividade da Serra	4,03	4,23	6,85	5,86	5,73	sem dados
Paraibuna	sem dados	sem dados	sem dados	sem dados	sem dados	sem dados
Pindamonhangaba	23,66	23,83	24,21	23,62	sem dados	sem dados
Piquete	sem dados	sem dados	sem dados	sem dados	sem dados	sem dados
Potim	6,36	9,61	16,24	14,17	11,38	sem dados
Queluz	sem dados	sem dados	sem dados	sem dados	sem dados	sem dados
Redenção da Serra	4,35	8,45	12,11	9,49	sem dados	sem dados
Roseira	6,71	7,26	7,64	7,81	8,07	sem dados
Santa Branca	6,26	6,54	8,65	7,75	7,65	sem dados
Santo Antônio do Pinhal	10,07	12,42	15,92	14,36	sem dados	sem dados
São Bento do Sapucaí	sem dados	15,17	15,52	14,45	14,36	sem dados
São José do Barreiro	7,51	8,24	6,85	6,13	5,89	sem dados
São José dos Campos	42,13	43,96	44,09	43,39	sem dados	sem dados
São Luís do Paraitinga	12,57	12,09	11,78	11,14	14,81	sem dados
São Sebastião	sem dados	sem dados	sem dados	sem dados	sem dados	sem dados
Silveiras	sem dados	sem dados	sem dados	sem dados	sem dados	sem dados
Taubaté	27,64	29,87	32,30	sem dados	sem dados	sem dados
Tremembé	7,42	8,20	11,06	10,42	sem dados	sem dados
Ubatuba	15,86	16,95	19,60	sem dados	sem dados	sem dados

Source: SIOPS (2022). Prepared by the authors.

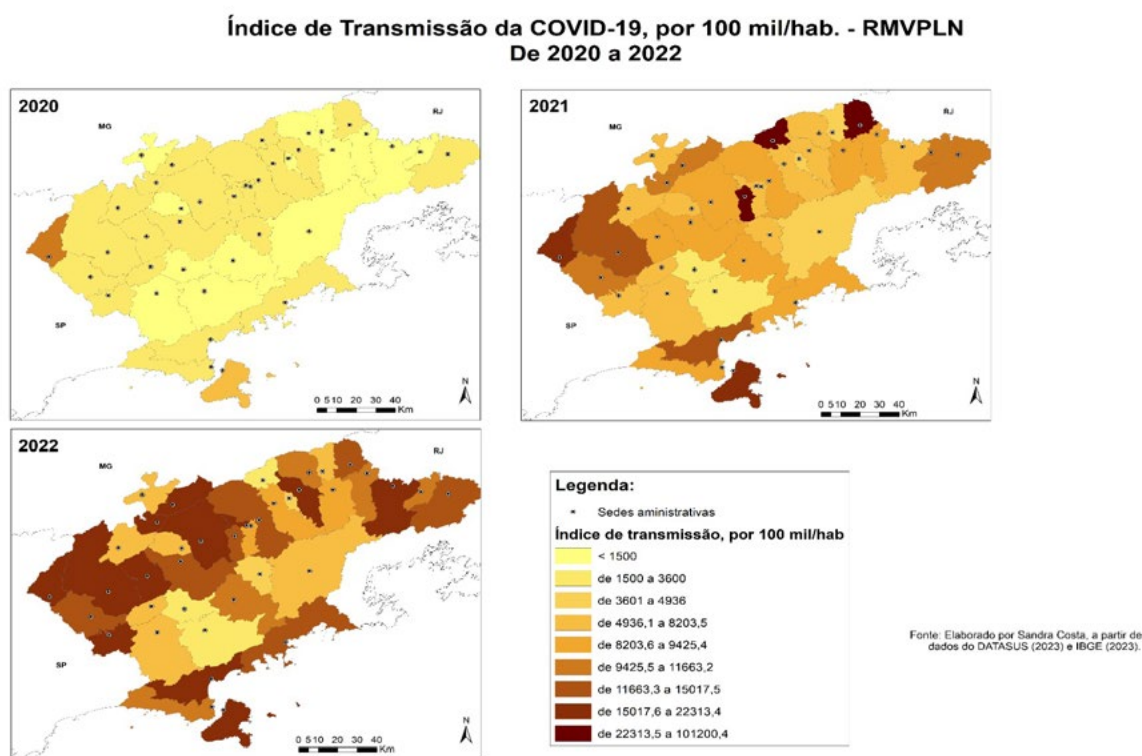
A comparison of the percentage of transfers from the Union to the health of the RMVPLN in each bimester between the years 2020 and 2022 reveals that the municipality of Areias received a lower quantity of resources in all bimesters of 2022. Additionally, 15 municipalities (Caçapava; Canas; Guaratinguetá; Lorena; Natividade da Serra; Redenção da Serra; Roseira; Santa Branca; Santo Antônio do Pinhal; São Bento do Sapucaí; São José do Barreiro; São José dos Campos; São Luís do Paraitinga; Taubaté and Ubatuba) exhibited a decline in transfers across nearly all bimesters during this period.

A review of the transfer dynamics from the federal government to the health of small municipalities reveals a consistent decline in revenue from transferred funds across 10 municipalities (Areias; Canas; Natividade da Serra; Redenção da Serra; Roseira; Santa Branca; Santo Antônio do Pinhal; São Bento do Sapucaí; São José do Barreiro; and São Luís do Paraitinga) during almost every two-month period between 2020 and 2022. In consideration of the 28 municipalities with a population of less than 50,000 inhabitants, they constitute 35% of the total.

A review of the financial data for larger municipalities, such as Taubaté and São José dos Campos, reveals a decline in revenue from funds transferred by the federal government in the final two quarters of 2021. However, in 2020, the funds transferred to São José dos Campos declined in four subsequent bimesters, and to Taubaté they also declined in three consecutive bimesters. This suggests that there was no preferential treatment with regard to federal transfers.

Upon examination of the data pertaining to the transmission rates of the novel coronavirus (2019-nCoV) per 100,000 inhabitants within the RMVPLN in the years 2020, 2021, and 2022, as illustrated in Map 2, it becomes evident that the municipality of Igaratá exhibited the highest rate in 2020, with the municipality of Ilhabela following closely behind. Furthermore, a standardization in the indices of the municipalities on the Dutra axis is evident. In addition to the aforementioned municipalities, three other municipalities on the North Coast (São Sebastião, Caraguatatuba, and Ubatuba), Bananal, Jambeiro, Santa Branca, Monteiro Lobato, Lagoinha, Piquete, and two municipalities in the Serra da Mantiqueira (Campos do Jordão and Santo Antônio do Pinhal) exhibited a similar transmission pattern. It should also be noted that some municipalities with a mostly rural population or whose main economic activities are concentrated in the countryside recorded lower transmission rates. Residents of these municipalities tend to circulate less in central areas (Maciel; Gomes; Becceneri, 2020), which may explain this phenomenon.

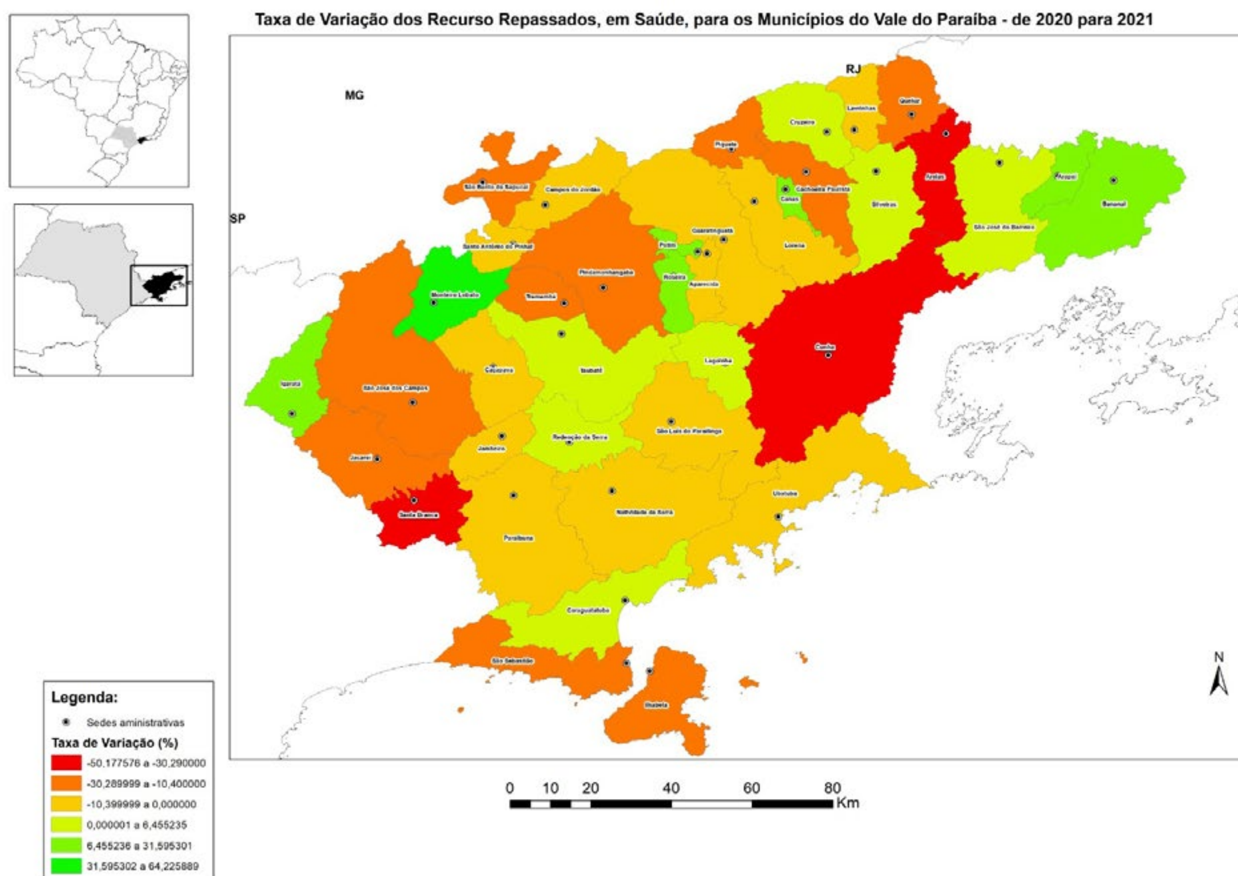
Map 2 | COVID-19 transmission rate, per 100,000 inhabitants, in the RMVPLN, from 2020 to 2022.



Source: Prepared by the authors, based on data from DATASUS (2023) and IBGE (2023).

Map 3 illustrates the rates of change in state resources transferred to the health sector in each municipality within the RMVPLN, from 2020 to 2021. In contrast to its status as the municipality with the highest rate of disease transmission in 2020, Igaratá received a greater allocation of funds in 2021. In contrast, the municipality of Ilhabela, which had recorded the second highest rate of transmission in 2020, saw a significant reduction in the transfer of funds in 2021. A discrepancy was identified in the transfer to the municipalities on the Dutra axis. Of the 11 municipalities (Jacareí, São José dos Campos, Caçapava, Taubaté, Pindamonhangaba, Roseira, Aparecida, Guaratinguetá, Lorena, Cachoeira Paulista, and Queluz) that had previously presented standardized transmission rates, nine experienced a decline in transfers in 2020, with the exception of Taubaté and Roseira. Similarly, Campos do Jordão, Santo Antônio do Pinhal, Piquete, Jambeiro, São Sebastião, and Ubatuba, which exhibited a comparable transmission margin in 2020, also experienced a reduction in funding in 2021. In total, 14 of the 39 municipalities in the RMVPLN received more resources in 2021 than they did in the previous year.

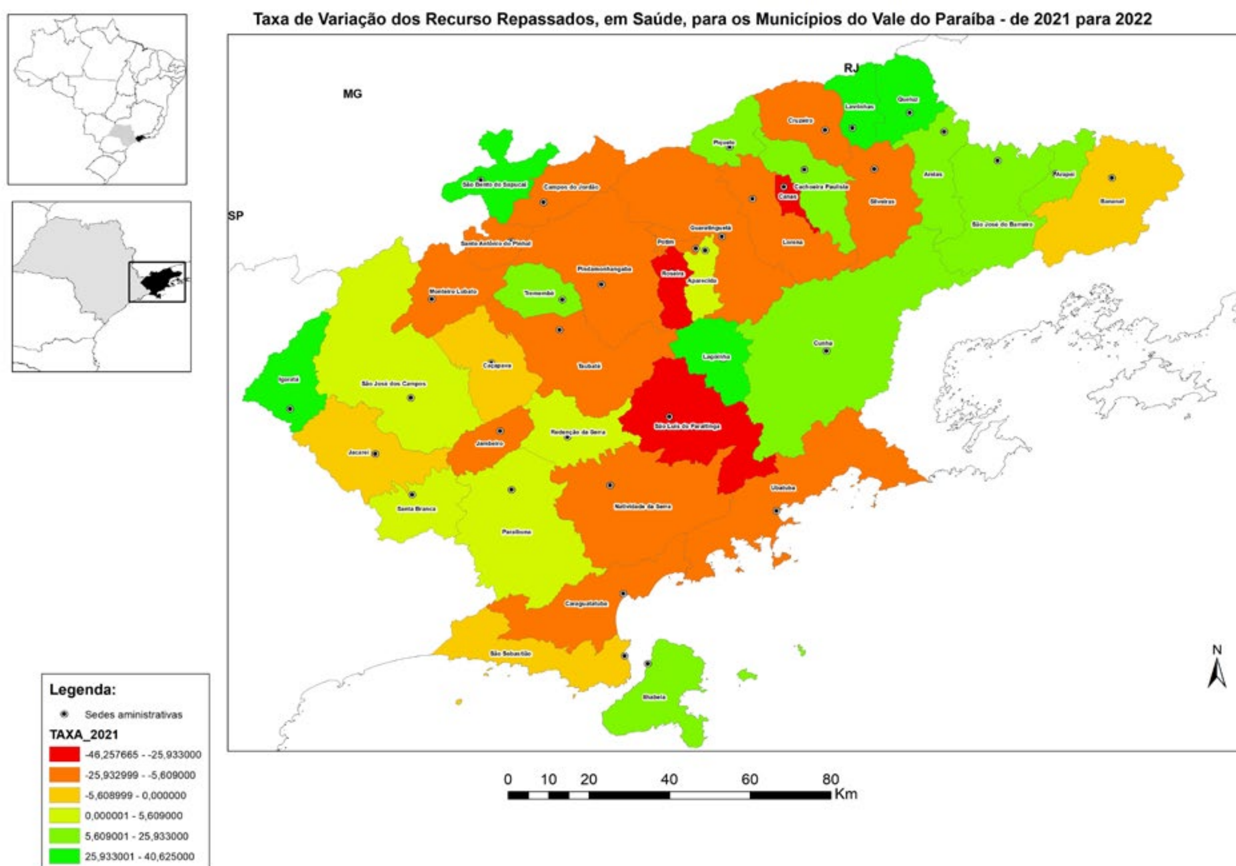
Map 3 | Rate of change in state health resources transferred to RMVPLN municipalities from 2020 to 2021.



Source: Prepared by the authors, based on FNS data (2023).

Map 4 illustrates the rates of change in state resources transferred to the health sector in each municipality within the RMVPLN from 2021 to 2022. It is evident that Igaratá sustained its favorable rate of change, and Ilhabela also received augmented funding. Nevertheless, in 2022, the dynamics of health financing in the municipalities situated along the Dutra axis continued to exhibit a predominantly negative trend. A total of nine municipalities received less funding in the current fiscal year when compared to 2021 (Jacareí, Caçapava, Taubaté, Pindamonhangaba, Roseira, Guaratinguetá, Lorena, Canas, and Cruzeiro). Furthermore, the municipalities of Jambeiro, Natividade da Serra, Caraguatatuba, Ubatuba, São Sebastião, Monteiro Lobato, Santo Antônio do Pinhal, Campos do Jordão, Potim, Silveiras, São Luiz do Paraitinga, and Bananal also exhibited a negative rate of change in transfers. In total, only 18 municipalities in the RMVPLN demonstrated a positive rate of change in transfers.

Map 4 | Rate of change in state health resources transferred to RMVPLN municipalities from 2021 to 2022.



Source: Prepared by the authors, based on FNS data (2023).

We can't end our analysis without first reflecting. Is there an equitable financial distribution in the RMVPLN? It is suggested that, in order to obtain a plausible answer to this question, studies should be carried out over a longer period of time. What is really worrying is the ability of small municipalities to raise funds to supplement the lack of federal or state transfers. Larger municipalities have lost out, but small municipalities, as well as losing out, don't have the economic capacity to overcome the absence of these resources.

In order to reinforce the decentralization and regionalization of health actions and services in the RMVPLN, this study puts forth strategies such as the formation of new intermunicipal health consortia (CIS) for the administration of hospitals, whose funding is distributed among the municipalities. This would optimize the utilization of resources and ensure the provision of medium and highly complex services for the regional population. At present, there is only one CIS in the RMVPLN: the Alto Vale do Paraíba Intermunicipal Health Consortium (CONSAVAP). This includes the

municipalities of Caçapava, Igaratá, Jacareí, Jambeiro, Monteiro Lobato, Paraibuna, Santa Branca, and São José dos Campos.

Another strategy would be to implement ongoing training programs for health managers in the state and municipalities, focusing on planning, resource management, quality control and evaluation. Such training would reinforce decentralization, since managers would tend to manage local resources efficiently, and would be an action integrated with the National Policy for Permanent Education in Health (Brazil, 2018).

In an attempt to make up for the lack of resources, the third strategy would be to promote the use of technology, which is already provided for in the State Health Plan 2024-2027 (São Paulo, 2024). Municipalities could set up telemedicine platforms, enabling remote consultations with specialists.

In addition to the aforementioned strategies, this article contributes to supporting regional management and development policies and actions, as it provides a detailed overview of the unequal allocation of federal and state resources to the municipalities of the RMVPLN, allowing for the identification of the most deficient areas. By revealing the financial flow in a pandemic period, it helps public managers to plan investments for the health sector in future alarming situations. Finally, it stresses the need for regionalization that takes into account the particularities of each municipality, adopting strategies geared towards local characteristics.

CLOSING REMARKS

The interdependence of services in the RMVPLN is notorious. Although this is common in metropolitan regions, it compromises the access of residents of small municipalities to certain services, such as health services. It should be noted that both decentralization and regionalization can be considered a step forward in Brazil. However, there are still challenges to be overcome, especially with regard to inter-federative agreements, the lack of resources and local capacity to manage services. There has been an effort to decentralize operational actions in public health, but not in the transfer of funds.

If there were doubts about the fragility of inter-federative relations, the COVID-19 pandemic has brought to light the mismatch in health financing. The logic of health financing in Brazil, which disregards epidemiological or social factors and contributes to increasing inequality, was maintained during the pandemic period, disregarding the dramatic moment the country was going through. In the case of a heterogeneous region such as the RMVPLN, the impacts of this logic may have had aggravating consequences.

The literature review conducted for the purpose of understanding the health financing model allows us to infer that the underfunding of the SUS was a process that was deliberately engineered by previous governments. This is evidenced by the fact that studies have shown that between 1990 and 2015, the increase in funding for the health sector in Brazil was insignificant, even resulting in a situation of incompatibility between income and expenditure. Moreover, it is evident that the implementation of EC No. 95, which resulted in a reduction of the federal government's contribution to health, has exacerbated the situation, particularly in small municipalities.

Although it may seem counterintuitive, this study also demonstrates that the impact of the SARS-CoV-2 pandemic has not been entirely negative. From an economic perspective, for instance, the increase in municipal revenue and the rise in the number of municipalities in the RMVPLN that achieved a financial surplus during this period can be regarded as positive outcomes.

Analysis of the data extracted from the SIOPS and the FNS allows us to infer that the small municipalities of the RMVPLN have suffered from the drops in federal and state transfers, but in some of them, health services have not been compromised during the pandemic, due to the transfer of parliamentary amendments and the achievement of a financial surplus.

In summary, with respect to the organization of the regional network of health actions and services and financing, the necessity to enhance the circumstances of small municipalities is accentuated. Without such an improvement, the level of federative interdependencies and the health conditions of the populations residing in a given region, such as the RMVPLN, will not be elevated. Furthermore, the fundamental human dignity of these populations will remain unfulfilled, thereby impeding the ability to address other needs for a less unequal and more equitable regional development.

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