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Financial constraints and incentives for the prevention and control of obesity in the state of Rio de Janeiro, Brazil

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Abstract *The present study aimed to analyze how these changes, both at the national and state levels, could affect the conditions of the implementation of obesity prevention and control (OCP) actions in primary health care (PHC) in the Rio de Janeiro State from 2014 to 2021. This study was based on policy analysis methods that emphasize the understanding of the implementation contexts, as well as the induction mechanisms and government incentives for the development of actions and integration of two projects that analyzed the OPC actions in PHC in the 92 municipalities of RJS between 2014 and 2018 (PPSUS-RJS) and between 2019 and 2021 (PEO-RJS). The results indicate that, by 2016, it was possible to observe the positive impacts of the structuring of PHC and the federal induction mechanisms in RJS. However, inflections in the expansion and funding of PHC contributed to the weakening of units, teams, and strategies, and led to retraction of resources for both state and municipal actions. Between 2016-2018, RJS's political and financial scenario deteriorated due to national crises, and the positive counterpoints since then were the induction mechanisms and federal resources that remained, in addition to the technical areas of the RJS-HD and state co-financing resources.*

Key words *Health policy, Obesity, Primary health care*

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Introduction

Obesity is one of the primary global public health problems. In Brazil, in 2019, 60.3% of all adults were overweight, and 25.9% were obese[1]. In the capital of the State of Rio de Janeiro (RJS, in Portuguese) these percentages were, respectively, 57.1% and 21.7%[2].

Several federal policies can affect this picture[3-9] and, as a co-responsible federative entity, the Rio de Janeiro State Health Secretariat (SES/RJ), especially since 2012, has encouraged obesity prevention and control (OPC) actions in municipalities of the RJS[10]. Since then, decentralization has been driven by strengthening structures and agreement strategies, both between SES/RJ and municipalities, and between municipalities, through its technical areas, such as the Technical Area for Food and Nutrition (ATAN, in Portuguese), with Primary Health Care (PHC) as the main organizer of the Health Care Network (RAS)[11]. One prior study analyzed the conditions that favored or hindered the implementation of these actions in RJS since 2014[12]. The originality and relevance of the present study lie in understanding how the changes established in the national and state political-economic contexts, as well as in the financing of the Unified Health System (SUS), conditioned this process.

Between 2014 and 2021, there were political and economic inflections and changes in the financing and structuring of SUS that may have affected the implementation of food and nutrition actions, such as: the approval of Constitutional Amendment (CE) 95/2016[13], which freezes public spending to health; the 2017 National Primary Care Policy (PNAB), which changes PHC funding mechanisms[14]; and the fiscal crisis of RJS[15]. Therefore, the present study aimed to analyze how the political, economic, and financing changes of SUS, in the national and state scenarios, may have affected the conditions necessary to implement OPC actions in PHC in RJS between 2014 and 2021, considering related historical antecedents, incentives, and constraints for PHC. It is assumed that, although conditioned by the national context, the specific processes of RJS, especially within the scope of SES, present their own dynamics that can respond to national constraints in varied ways in different situations.

Methods

The present study is based on policy analysis methods that privilege the understanding of implementation contexts, as well as induction mechanisms and government incentives for the development of programs and public actions[16]. It integrates two research projects that analyzed actions for OPC in PHC in the 92 municipalities of RJS between 2014 and 2018 (PPSUS-RJS) and between 2019-2021 (PEO-RJS). The data are based on the following methods, adopted in the two projects: (1) documental analysis of national policies, having as a framework the 2006 PNAB (Chart 1), of federal programs (Chart 2), federal funding norms (Chart 3), and state policies and regulations (Chart 4); (2) interviews and focus groups with municipal managers (from ATAN and PHC) and with health professionals from PHC and (3) bibliographic research. Based on documents and academic studies, the political, economic, and financial context was analyzed, in addition to the incentives and constraints for the implementation of OPC actions. The main challenges and strategies for the implementation of these actions, from the point of view of managers and professionals, were identified from the interviews and focus groups that, within the scope of the PPSUS-RJS project, have been described in a previous publication[17,18] and within the scope of the PEO-RJS project were systematized by Belo et al.[19]. The document analysis was compared with studies that problematize changes in legislation and policies.

The data set was organized based on the following dimensions of analysis: 1) the national and state political-economic situation and SUS funding, including federal and state strategies for inducing and encouraging actions for OPC; 2) OPC programs and actions at the national and state levels; and 3) the factors that limit and enhance the implementation of these actions in the RJS. These dimensions were defined considering, on the one hand, the elements that make up the objective of the study: 1) political, economic, and financing changes in SUS, in the national and state scenarios; 2) OPC actions in the PHC in RJS between 2014 and 2021; and 3) historical background, incentives, and constraints for PHC. The elements that make up the policy analysis framework adopted in the study[16] were also considered, mainly: the context of policy implementation, characterized by political, economic, and institutional factors, and the mechanisms, mainly financial, of inducing actions, which can

be used by governments seeking to strengthen a given policy on their agenda. Data analysis and systematization methods were based on inductive coding processes (based on empirical data from documentary sources, interviews, and focus groups) and deductive coding (based on the policy analysis framework adopted)[16]. Chart 5 presents key themes and empirical elements according to research sources, analysis dimensions, data collection methods, and techniques, including the document analysis script.

The PPSUS project (2014-2018) was financed through Public Notice PPSUS\FAPRJS - E – 26\110.293\2014 and approved by the HUAP Ethics Committee – Opinion CEP 508.687 of 01/09/2014 – CAE 22822413.0.0000.5243 (PPSUS). The PEO-RJS project was funded by the MS-CNPQ, approved by the HUPE Ethics Committee – opinion CEP 3.288.424 of April 26, 2019 – CAE 10514819.8.0000.5259.

Results

The national political-economic scenario, SUS funding, and mechanisms to induce OPC actions

Inflections in the national political and economic situation between 2014 and 2021

The period of national economic expansion (2003 to 2013) was followed by an economic slowdown and political crisis that began concomitantly with the publication of the Overweight and Obesity Care Line (LCSO, in Portuguese) in 2013[11,19]. The Gross Domestic Product (GDP), which was 4.0% per year before 2014, became negative between 2015-2016. After the 2014 elections, an intense political crisis began, whic culminated in the impeachment of President Dilma Roussef in 2016 and the appointment of Michel Temer to the Office of the President[20].

These events significantly transformed the national political-economic context, as the Temer government deepened fiscal austerity measures and liberalizing reforms, which affected social security policies and the SUS[21,22]. CE 95/2016[13] froze the State's public expenditures and investments for 20 years, despite maintaining expenses related to the payment of interest and amortizations on the public debt (Chart 1). In a scenario of demographic expansion, impoverishment, and growing demands for social protection resulting from the economic crisis, the government suspended the proposal to consolidate investments in health, education, and social policies, all principles enshrined in the Constitution of 1988[23]. Added to this was the removal of important social goals from the Budgetary Guidelines Law and CE Proposal No. 287/2016, which further restricted social security benefits and provided for the extinction of various labor rights[21,24].

An analysis of the Federal Budget between 2014 and 2017 indicated a negative variation of 85.6% in resources for food access and the Promotion of Healthy Eating (PHE) actions related to OPC[24]. From 2019, with the Bolsonaro government, the backtracking in public investments intensified with the new social security reform (CE 103/2019[25]) and the proposed administrative reform (PEC 32/2020), which eliminates a series of benefits for public civil servants, in turn affecting the rendering of services[26].

Austerity policies in times of economic crisis were presented as the only way out of the crisis and economic recovery, and the improvement of financial indicators was linked to the contradictory need to reduce spending on public policies[27] which impacted PHC in different ways.

Political-economic inflections, financing and the institutional structure and national management of PHC

The most significant change in PHC funding occurred with the Standard Operating Procedures (SOP) 96, which established a regular and automatic transfer mechanism to municipalities, dissociated from the production of services. As of 2003, social indicators were incorporated so as to differentiate among transfers to municipalities, complying with the principle of equity. The volume of federal resources for PHC increased by more than 100% between 2002 and 2016. The financial induction strategy was linked to adherence to specific programs by municipalities, in addition to a fixed amount based on their population. PHC financing must be tripartite, according to the 2017 PNAB. However, RJS is one of the few Brazilian states that practices PHC co-financing[28].

Between 2013 and 2017, important changes were implemented in PHC that positively impacted the implementation of OPC actions. Since its creation in 2006, between advances and setbacks, the PNAB has boosted the strengthening of the Family Health Strategy (FHS) with the creation of Family Health Support Centers (FHSC), which reached a coverage of 63.7% of the Brazilian population in 2016[28]. It is also important to note that strategies were implemented

Chart 1. National policies and factors related to the institutional trajectory and funding of primary health care (PHC), as well as food and nutrition actions with potential repercussions on obesity prevention and control (OPC) from 2006 to 2021.

Document Title	Factors related to the Institutional structure of SUS	Factors related to Funding	Relationship with actions for Obesity Prevention and Control (OPC)
National Primary Care Policy (PNAB) 2006. Ordinance GM/MS no. 648, from March 28, 2006. Approved PNAB, revised guidelines, and regulations for the organization of the Family Health Program (FHP) and the Community Health Agents Program (CHAP).	Incorporation of the concept of Primary Health Care (PHC); Expansion of the Family Health Strategy (FHS) throughout the country as a replacement for traditional PHC).	Minimum wage for PHC (PAB) fixed + variable as the modality for funding PHC actions; The set value for all municipalities and the variable to boost the implementation and re-organization of the healthcare model: FHS; ACS; Oral Health (OH); Compensation for Regional Specificities; Indigenous Health (IH); and Health in the Prison System.	This does not specifically mention any PCO actions, but the set of action goals in strategic areas establishes control of diabetes and hypertension. It indicates a set of actions with direct and indirect impacts on obesity. It characterizes PHC as a set of individual and collective health actions, which include the promotion and protection of health, prevention of grievances, diagnosis, treatment, rehabilitation and health maintenance. It prioritizes the FHS in its organization, according to precepts set forth by SUS.
Organic Law for Food and Nutritional Safety (Law no. 11346/2006) - creates the National System for Food and Nutritional Safety (SISAN), with the purpose of ensuring the human right to adequate food (DHAA).	Dietary and Nutritional Surveillance (VAN); promotion of health; nutrition, biological, health, nutritional and technological quality of foods; ethnical, racial, and cultural respect.	The states will provide resources in budgets from programs and sanctions of the several sectors that are part of the SAN, which are compatible with the compliance established by DHAA in the SAN plans and in the Administration pact.	This does not mention obesity directly, but deals, in a broader perspective, with the guarantee of access to adequate food as a human right.
National Policy for Food and Nutritional Safety set forth by the Presidential Chief of Staff, from August 25, 2010. Regulates Law no. 11346, from September 15, 2006.	Definition of parameters for the formulation of the National Plan for SAN with intersectoral guidelines, which include SUS.	Details on funding mechanisms in the realm of SISAN.	Recommends intersectoral actions aimed at ensuring the human right to adequate food.
Ordinance MS no. 2488 GM from October 21, 2011. Approved the PNAB 2011, revising guidelines and regulations for the organization of PHC for the FHS and the CHAPs Program.	Solution for critical strangleholds by means of the strategies for the Requalification of the Basic Health Unit (BHU); National Program for Access and Quality Improvement (PMAQ); More Doctors Program (PMM); e-SUS; different kinds of teams; increments in investments and resources.	Change in base calculation for fixed PAB. Provides conditions for the transfer of resources to the implementation of priority programs: FHS; CHAP; NASF; Street Clinics; FHS for riverside communities; Home Care, PSE, Health Gyms. Differentiates per-capita values and benefits poorer municipalities; created the Quality Component, resources dependant on commitments and results generated by PMAQ	This does not specifically mention any OPC actions; however, it does indicate a set of actions which have direct or indirect impacts on the condition, such as the universalization of PSE and its expansion to daycare centers, creation of Centers in Health Gyms, actions of health promotion, prevention of grievances, health surveillance; and educational actions. The PSE and the Health Gyms are potentializing actions to combat being overweight and obesity.

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Ordinance no. 2715, from November 17, 2011. Updates the National Policy for Food and Nutrition (Política Nacional de Alimentação e Nutrição - PNAN), created in 1999.	Improvements in the conditions of AN and Health; promotion of nutritional practices which are adequate and healthy, VAN, the prevention and integral care for AN grievances.	Priority in tripartite Funding for PNAN, adequation of equipment and physical structure of healthcare services; VAN and qualification of the workforce.	Indication of strategies, actions, and responsibilities for the fight against being overweight and obesity.
Ordinance no. 424, from March 31, 2013. Redefines the strategies for the organization of the OPC as a line of care of RAS NCD	Definition of guidelines for the organization of the line of care for overweight and obese individuals in the realm of RAS; definition of attributions of the RAS components.	Guaranteed funding is highlighted as a guideline to prevent and control overweightness for RAS and individuals with NCD	Indication of actions to be implemented at each RAS point and criteria to define the flow of care of individuals with overweightness and obesity, to ensure integral healhcare.
Ordinance no. 425, from March 11, 2013. Establishes technical regulations, norms, and criteria for the High Complexity Assistance provided to Individuals with Obesity.	Definition of facilities with High Complexity Assistance for Individuals with Obesity: hospitals with diagnosis and therapeutic specialized support, technical conditions, physical facilities, equipment, and human resources.	Funding increments for the component "ambulatory and pre-operatory services", for procedures in facilities which are credited as High Complexity Assistance for Individuals with Obesity.	This establishes that High Complexity Assistance for Individuals with Obesity should participate in an articulated and integrated manner, with the Health Care Network for People with Chronic Diseases in the SUS level, and with lines of care defined locally, for treatment of being overweight and obesity.
Intersectoral Strategy for Prevention and Control of Obesity: recommendations for states and municipalities. Brasília: CAISAN, 2014.	Indication of the need to organize RAS at the SUS level to combat being overweight and obesity.	Actions related to guaranteed funding, such as 30% of the PNAE resources for purchases of family agricultural products; Highlights the existing resources and implementation mechanisms..	Axis of action I - Availability and access to adequate and healthy foods; II - Education, communication, and information; III- Promotion of healthy lifestyles; IV – VAN; V- Integral healthcare to individuals with obesity, and VI - Regulation and Quality control of foods.
CE 95, from December 15, 2016. Institutes the New Fiscal Regime and makes other provisions.	Freezing for 20 years of the expenses in the health area, which represents a challenge for the maintenance of the PHC structure.	In a scenario of increasing expenses, the State freezes healthcare expenses.	Considering the under-funding of SUS in general, consequently, the actions related to combatting being overweight will be impacted.

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to improve and expand access, such as the Access and Quality Improvement Program (PMAQ, in Portuguese), which creates a specific financial incentive for performance, the More Doctors Program (PMM, in Portuguese), and the creation of e-SUS, which institutionalized electronic medical records (Chart 2). Between 2003 and 2012, the number of new Family Health Teams (FHTs) expanded as a reflection of the expansion context of both the FHS and the PHC[29].

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Document Title	Factors related to the Institutional structure of SUS	Factors related to Funding	Relationship with actions for Obesity Prevention and Control (OPC)
PNAB 2017. Ordinance MS no. 2436, from September 21, 2017. Establishes the revision of guidelines for the organization of basic health at the SUS level.	Reduction of ACS per team; Reduction in minimum workload.	Incorporation of the model of Funding based on performance parameters.	It does not mention specifically any OPC actions, but instead reduction in CHAs and in the workload, which impacts the quality of healthcare for hypertensive and diabetic patients. Actions such as PSE and Health Gyms.
2nd revised National Health Plan for SAN - 2016-2019. Revised. Brasília, September 2018. CAISAN.	Definition of goals related to food and nutritional safety	Problematizes the low use of the resources from the National Plan for SAN; Lists values of the expenses related to the challenges and actions in the Plan.	Definition of indicators and goals for the promotion of adequate and healthy eating.
CE no. 103, from November 12, 2019. Changes the social security system and rules for transition and transitory regulations.	This has no direct connection with the structure, but it represents the deconstruction of constitutional rights established in the 1988 Constitution.	Indicates, together with other policies, a change in the models of funding for public policies.	This has no direct relationship with actions for obesity control.

Source: Authors.

Chart 2. Federal programs and factors related to the institutional trajectory and funding of primary health care (PHC), as well as actions regarding food and nutrition with potential repercussions on obesity prevention and control (OPC) from 2006 to 2021.

Document Title	Factors related to the Institutional structure of the SUS	Factors related to Funding	Relationship with actions of Obesity Prevention and Control (OPC)
Presidential Decree no. 6286, from May 12, 2007. Institutes the School Program Health (SHP).	Defines the objective of contributing to the complete education of students in the public Elementary Education system through actions of healthcare prevention and promotion, thus constituting an intersectoral action at the SUS level.	The municipalities which adhere to the program have guaranteed financial resources specifically for the development of actions.	Nutritional evaluation, Promotion of healthy nutrition and physical activities.
Ordinance GM/M no 719, from April 07, 2011. Created the Health Gym Program (Programa Academia da Saúde).	Implementation of centers with infrastructure, equipment, and personnel qualified to guide individuals on bodily practices and physical activities.	Guarantee of resources from the Federal Government for the implementation of actions related to the Program.	Health promotion, disease prevention, care production, and healthy lifestyles through the practice of physical activities and healthy nutrition, integrative and complementary practices.

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Document Title	Factors related to the Institutional structure of the SUS	Factors related to Funding	Relationship with actions of Obesity Prevention and Control (OPC)
Ordinances define adherence of towns to the SHP and Growing Healthy (Crescer Saudável) programs - enables one to receive the agreed upon financial resources. Ordinance GM/MS no. 2706, from Oct. 18, 2017: cycle 2017/2018; Ordinance GM/MS no. 2264, from August 30, 2019: cycle 2019/2020; Ordinance GM/MS no. 1320, from June 22, 2021: 2021/2022 cycle.	Definition of criteria related to the calculation of financial incentives passed on to municipalities and the Federal District.	Priority municipalities receive specific resources for the implementation of actions due to the prevalence of obesity in children younger than 10 years of age.	Establishes, at the level of the SHP program, a set of actions to be implemented with the purpose of contributing to combatting childhood obesity.
Ordinance no. 2979, from November 12, 2019. Institutes the Prevent Brasil Program, which establishes a new model to fund the costs of PHC at the SUS level.	Transformation of the funding model based on the number of individuals registered and goals established by the Ministry of Health (MH).	Reduces financial transfers for towns; demands enrollment (informatization), worsening the difficulties for each town; includes programs and actions related to the fight against being overweight and obesity (Health Gyms and SHP) as strategic, with guaranteed funding. Parameters for the transfer of resources: 1. Number of individuals registered at the PHC; 2. Performance based on results achieved in relation to goals; and 3. Incentives for priority actions, and programs.	Indication of the Health Gyms and SHP programs as strategic
Technical note no. n° 3/2020-DESF/SPHC/MS. Expanded Center for Primary Family Healthcare (Núcleo Ampliado de Saúde da Família e Atenção Básica - NASF-AB) and Prevent Brasil Program.	Reinforces the transformation of the multidisciplinary teams, disconnecting them from the NASF-AB teams, providing more autonomy to municipal administrators. Moreover, it reinforces the impact in the certification of new NASF-AB teams. The technical note indicates the structure of the teams for the promotion of articulation between different professionals.	The note reinforces the change in the model of funding, for one with emphasis on the cared-for individual. Establishes that, during the transition of the models, no town shall suffer any losses in terms of transferred resources.	Due to the greater autonomy provided by the Prevent Brasil Program, the state and municipal administrators can direct more financial incentives to PHCactions and services.

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Document Title	Factors related to the Institutional structure of the SUS	Factors related to Funding	Relationship with actions of Obesity Prevention and Control (OPC)
Protect Program, Ordinance GM/MS no. 1863, from August 10, 2021. Institutes financial deferral incentives for support costs generated by municipalities with a population size below 30,000 inhabitants in order to implement actions of child obesity prevention and care at the level of the National Strategy for Child Obesity Prevention – Protect (Estratégia Nacional para a Prevenção e Atenção à Obesidade Infantil - Proteja). Ordinance GM/MS no. 2670, from October 13, 2021: Defines and enables participating municipalities to receive federal financial incentives for funding the Proteja Program.	Establishment of federal financial incentives for funding, geared toward towns with less than 30,000 inhabitants in order to implement the actions for child obesity prevention and care at the level of the National Strategy for Child Obesity Prevention – Protect	Establishment of criteria and indicators for the transfer of financial resources to towns.	Financial incentive seeks to: intensify VAN actions of health promotion and prevention and care provided to combat child obesity; promote adequate care that is integral and opportune in identified cases of child obesity; implement actions in schools to make them spaces which promote health, encouraging the consumption of adequate and healthy foods and the regular practice of physical activities; to encourage the implementation of actions of an intersectoral and community nature, which promote healthy environments and support healthy eating, and encourage the practice of physical activities around the cites; to implement actions of communication in order to promote healthy eating and the practice of physical activities; and encourage permanent health education of all professionals involved in child care.

Source: Authors.

As of 2014, the crisis led to several transformations in policies that weakened the structure of SUS. Despite the historical series of the underfunding of SUS[30], in 2015, the federal transfer was half of what would be due. After the enactment of CE 95/2016, the scenario of underfunding became more severe, as the projection of revenue loss for SUS over the following 20 years was calculated at around R$415 billion. At the same time, obesity cases and the demand for PHC resources increased in a context of a heavy decrease in resources[31].

Despite the advances that had been taking place in the PHC, the structural problems worsened from 2017 onwards with the beginning of full validity of the primary expenditure ceiling rule of CE 9513 and with the new PNAB[14], which establishes specific funding for any other models in the PHC that do not contemplate the formulation of multidisciplinary teams that include community health agents (CHA), breaking with the centrality of the FHS within the framework of SUS[32]. The year 2017 was critical, as the underfunding of the SUS led to de-funding[14,31], and the FHS was weakened. Consequently, PHC problems, such as a high turnover of professionals and the scarcity of financial resources, were not addressed. There was also a dismantling of professional teams with a decrease in the minimum number of CHAs per FHT and a decrease in the

minimum weekly workload of the CHA teams in the traditional format established in the 2017 PNAB, with repercussions on the rendering of services and actions[14].

In 2017, a modification was also approved in the form of federal funding for SUS on the prerogative of guaranteeing greater autonomy for municipal managers. Federal transfer criteria no longer guaranteed specific resources for PHC and were based on the production of services guided by the historical series of expenditures and financial incentives according to the implementation of health actions and services[31] (Chart 1).

In 2019, the criteria for financing PHC with the "Previne Brasil"[33] program were again changed, limiting it to the number of registered people and extinguishing the financial incentive for FHSC/FHS (Chart 2). Municipalities in both poor areas and areas with large populations must present greater difficulties in enrollment, and there is no indication that this funding model in fact promotes improvements in health outcomes[34].

Considering that two-thirds of MS expenditures correspond to transfers to states, municipalities and the Federal District (DF), limitations in SUS funding have repercussions on State and Municipal Health Departments[31] and may affect the conditions necessary to implement OPC actions. Nonetheless, federal mechanisms of political and financial induction that drive such actions do stand out.

Food and Nutrition policies and actions at the national level

One of the main policies that contributed to the definition of guidelines to organize OPC actions in SUS was the National Food and Nutrition Policy (PNAN, in Portuguese) of 1999 and 2011[3,4], in addition to the PNAB itself and the National Policy for Health Promotion (PNPS, in Portuguese)[35]. Another important policy was the LCSO (2013)[11], which guides health regions and municipalities in the elaboration of their own lines of care and guides the planning of actions[10]. In addition to SUS, another important milestone was the 2014 Intersectoral Strategy for Obesity Prevention and Control (EIOPC), which encourages states and municipalities to develop intersectoral actions[7] (Chart 1).

In 2006, an important financial induction mechanism was put in place, established by Ordinance No. 1.357/GM/MS, of June 23, 2006, and redefined by Ordinance No. 1.738/GM/MS, of August 19, 2013, which establishes funding incentives to structure and implement food and nutrition actions by state and municipal departments based on PNAN. The Food and Nutrition Fund (FAN) is intended for municipalities with a population of over 150,000 inhabitants and for the Federal District (FD) and is transferred directly to the respective State or Municipal Health Fund. In 2019, this incentive was extended to municipalities with a population of over 30,000 inhabitants. Among the priority actions are PHE, Food and Nutritional Surveillance (VAN, in Portuguese), and the prevention of eating disorders, especially being overweight and obesity, malnutrition, iron deficiency anemia, hypovitaminosis A, and beriberi. ATAN's technical managers, in different Brazilian states and municipalities, consider that the FAN enhances the area's actions, but they do recognize difficulties in using the resource, such as the small number of nutritionists, the excessive bureaucratic obstacles, in addition to the already mentioned high staff turnover[36,37].

The National Health Plan (PNS) is also a strategic planning tool. However, in the last PNS (2020-2023), the food and nutrition indicators were not related to the objectives of the Multi-Year Plan (MYP), but rather to General Indicators for which targets are not set, but rather reference indexes are established, which may affect the release of specific food and nutrition resources during the period.

Certain programs also contribute to the induction of OPC actions, such as the 2007 School Health Program (SHP) and the 2011 Health Academy Program. Despite the critical inflection in funding established at the time, in 2017, the Crescer Saudável Program (*Growing Healthy Program*) provided resources for children's OPC within the scope of the SHP. In 2020 and 2021, the national funding of OPC actions was linked, temporarily and exceptionally, to facing the COVID-19 pandemic, considering the worsening of symptoms in individuals with obesity, diabetes, and hypertension[38]. Moreover, in 2021, the National Strategy for the Prevention and Care of Childhood Obesity (Proteja, in Portuguese) was instituted, which also provides for a financial incentive to support municipalities (Chart 3).

Sets of actions driven by these funding incentives include: the VAN; PHE actions and physical activity; regulation of advertisements and labels; the need for public safety to perform physical activity; self-care; promotion of breastfeeding and adequate complementary feeding; food and nutrition education; group activities; individual and multidisciplinary care; and culinary practices[12,17].

Chart 3. Federal regulations and factors related to the institutional and financial trajectory of primary health care (PHC) and actions on food and nutrition with potential repercussions on obesity prevention and control (OPC) from 2006 to 2021.

Document Title	Factors related to the Institutional structure of SUS	Factors related to Funding	Relationship with actions of Obesity Prevention and Control (OPC)
Ordinance GM/MS 1357, from June 23, 2006. Ordinance MS 1738, from August 19, 2013. Ordinance 1941, from June 12, 2014. Ordinance 1677, from October 02, 2015. Ordinance 1060, from May 24, 2016. Ordinance 2512, from September 28, 2017. Ordinance 445, from February 23, 2018. Ordinance 2076, from May 8, 2019 Ordinance 802, from April 14, 2020.	Instituted the Food and Nutrition Fund (FAN). Financial resources from the Healthy Food program to boost the organization and structuring of actions of AN by State and Municipal Secretaries.	Financial incentive allocated to municipalities/Federal District with population above 150,000 inhabitants.	Funding of services and expenses related to actions of AN at the RAS, especially at the PHClevel, prioritizing: I – promotion of adequate and healthy food; II - food and nutritional surveillance (VAN); III - prevention of nutritional grievances, especially being overweight and obesity, undernourishment, anemia due to iron deficiency, hypovitaminosis A, and beriberi; IV - qualification of the workforce.
Ordinance 55, from January 6, 2017. Ordinance 3799, from December 26, 2017. Ordinance 3943, from December 28, 2017.	Straightening the actions of AN by providing resources to the State and Municipal Health Secretaries.	Financial incentives for the implementation of AN actions, respectively, for municipalities with populatiosn between 30,000 and 149,999 inhabitants; between 30,000 and 39,870, and between 39,870 and 78,800 inhabitants.	Similar to Ordinance GM/MS 1357, from June 23, 2006, which created FAN.
Ordinance by Ministry of Health (MH) 3992/2017. Changes Consolidation Ordinance 6/GM/MH, from September 28, 2017, to define the funding and transfer of federal resources for public services and actions in health by SUS.	Changes the conditions for the transfer of resources to States and Municipalities; Reallocation of resources related to the funding and investment package.	Criteria to transfer federal resources based on the production of services guided by the historical series of expenses and financial incentives. Transforms five funding packages into only two (funding and investment).	The application of transferred federal resources should meet the purpose of the Work Program of the General Federal Budget as well as the plan for health and the local Annual Health Programing. Therefore, it is necessary to include being overweight and obesity in those instruments.
Ordinance 423, from February 23, 2018. Ordinance 4393, from December 28, 2018. Ordinance 4394, from December 28, 2018. Ordinance 4395, from December 28, 2018.	Strengthening of AN actions through financial resources for State and Municipal Departments of Health.	Incentive for funding and AN actions, respectively, for municipalities with populations between 78,801 and 149,999; between 32,709 and 35,670; between 35,710 and 46,548; between 46,567 and 149,999 inhabitants.	Similar to Ordinance GM/MH 1357, from June 23, 2006, which created the Food and Nutrition Fund.
Ordinance 447, from February 25, 2018. Ordinance 1210, from May 18, 2020.	Financial support to structure VAN by means of acquiring anthropometric equipment, according to Consolidation Ordinance 06/GM/MH, from September 28, 2017.	Municipalities which were contemplated with PHC teams, which adhered to the National Program for Access and Quality Improvement in Primary Healthcare (PMAQ-AB) which has never received funding for the Structuring of VAN and has never received financial incentives for the structuring of the Health Gym Centers.	Financial support provided to municipalities and to the Federal District in the structuring of Food Surveillance in order to achieve a more adequate and humane diagnosis of food and nutrition diagnoses by providing adequate equipment for this purpose.

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Chart 3. Federal regulations and factors related to the institutional and financial trajectory of primary health care (PHC) and actions on food and nutrition with potential repercussions on obesity prevention and control (OPC) from 2006 to 2021.

Document Title	Factors related to the Institutional structure of SUS	Factors related to Funding	Relationship with actions of Obesity Prevention and Control (OPC)
Ordinance 2068, from August 8, 2019. Ordinance 2088, from August 9, 2019.	Strengthening of AN actions through financial resources for Municipal and State departments of health.	Financial incentives for the implementation of AN actions, based on the PNAN for municipalities with populations between 30,000 and 149,999 (2019) and 30,000 and 32,654 inhabitants (2018).	Similar to Ordinance GM/MH 1357, from June 23, 2006, which created the FAN.
Ordinance 2994, from October 29, 2020.	Established, in an exceptional and temporary nature, federal financial incentives allotted for the care of individuals with obesity, diabetes mellitus, or hypertension at the PHC level, during the emergency in public health caused by the COVID-19 pandemic.	Indication of values to be transferred to municipalities with the aim of strengthening the actions to combat being overweight and obesity, based on the number of FHTs and CHAs.	Funding of actions against being overweight and obesity.
Ordinance 1012, from May 18, 2020.	Funding for FAN.	Ordinances referring to FAN regarding the structuring and implementation of AN actions by State departments and municipalities with 30,000 to 149,999 inhabitants.	Similar to Ordinance GM/MH 1357, from June 23, 2006, which created FAN.
Ordinance GM/MH 3297, from December 4, 2020, as part of the Nursing and Feeding Strategy (Estratégia Amamenta e Alimenta Brasil - EAAB), in PHC.	Financial incentive allocated to the AN fotor promote breastfeeding and healthy complementary nutrition.	Prioritized municipalities which have taken actions and been registered in the AB e-administrator system, the EAAB workshops between January 1, 2015, and August 31, 2020.	AN actions to promote breastfeeding and complementary nutrition are essential for the prevention of being overweight and obesity.
Ordinance 1012, from May 18, 2020.	Strengthening of actions for food and nutrition through financial resources for State and Municipal Departments.	Financial incentives for the structuring and implementation of AN Departments of Health in municipalities with a population between 30,000 and 149,999.	Similar to Ordinance GM/MH 1357, from June 23, 2006, which created FAN.
Ordinance 894, from May 11, 2021.	Financial incentives to support PHC services in the fight against the COVID-19 pandemic.	The calculation for the transfer of funding will be based on a per capita values for municipalities, referring to the estimate conducted in 2019.	Financial incentives for the funding of actions and services at the PHC level to fight against the COVID-19 pandemic and the organization of RAS, and healthcare at PHC.
Ordinance GM/MS n1127, from June 2, 2021.	Funding for FAN.	Ordinances related to FAN for municipalities with populations above 30,000 inhabitants, transferred directly to the State or Municipal Health Fund, in annual transfers.	The financial resources must be used for AN actions, prioritizing the Promotion of Healthy Eating, the prevention of grievances and AN, especially concerning being overweight and obesity.

Source: Authors.

Although driven by national policies, the implementation process is challenging.

Reflections and counterpoints of national dynamics in the State of Rio de Janeiro

In RJS, some sectors of the SES/RJ carry out OPC actions, such as ATAN, linked to the Superintendency of Primary Health Care (SPHC), which seeks to institute and support food and nutrition interventions. In addition, the Division for Surveillance of Noncommunicable Diseases and Injuries (DIVDANT, in Portuguese) and the decentralized structure of PHC to support municipalities stand out, which enhances dialogue with managers and local professionals through regional supporters, the work group of PHC, and the Regional Intermanagers Commission (RIC).

The PHC was boosted by the FHS, and is currently one of the fundamental structures used to provide roots for and reach SUS with a potential impact on obesity control. The institutional structure of PHC in RJS, between January 2014 and February 2017, showed an increase in the number of FHTs from 2,182 to 2,913. However, subsequently, the number tended to decline until the end of 2020, reaching a total of 2,448[39].

Despite limitations in federal funding, along with complex and difficult state circumstances, in political and economic terms, since 2019, several specific financial incentives from RJS have been observed, which have boosted PHC and the development of actions related to coping with NCDs with a potential impact on OPC[40-43]. The MYP and the State Health Plans (SHPs) constitute an important planning instrument in RJS and the SHP 2012-2015[44], one can observe a major focus on OPC actions, as they affect the development of NCDs, as well as strategies, objectives, and goals related to these diseases. In PES 2016-2019[45] the same trend was observed, but with the addition of specific goals related to the performance of bariatric surgery procedures. In the current MYP[46] and in the last PES 2020-2023[47], for the first time, the aim is to elaborate specific lines of care to face not only being overweight and obesity, but also other risk factors related to NCDs. In addition, the same SHP set the goal of institutional support in the nine regions of RJS for the organization of nutritional care, interlinking PHC with other sectors (Chart 4).

In RJS, the policy instrument that more specifically indicates priority actions and guidelines to organize local OPC actions is the Strategic Action Plan for Combating NCDs (2013-2022), which highlights measures related to: the practice of physical activities; the promotion of healthy habits in an intersectoral way; and the implementation of comprehensive care models in the health network, mainly PHC[10].

The development of actions to fight being overweight and obesity in the State of Rio de Janeiro and conditioning factors

What stands out here are LCSO construction initiatives in RJS, especially in the North region, in addition to municipal processes in RJ, Niterói, and São Gonçalo[17]. The main OPC actions indicated by municipal managers of PHC and ATAN, within the scope of the two projects, included: individual consultation and group work, the Health Academy Program, and SHP. In PPSUS, the SHPs also include: bariatric surgery and program actions to combat hypertension and diabetes, and at PEO-RJS, matrix support, shared consultations, and continuing education actions; culinary workshops; specialty clinics and the National School Feeding Program (PNAE, in Portuguese)[19].

It was also recognized by managers and professionals that ATAN plays a leading role in OPC actions, but the involvement of different health sectors and other policies is essential.

Challenges and potential for implementing OPC actions according to PHC managers and professionals

Despite the strengthening and enhancement of PHC up to 2016, the managers and professionals interviewed within the scope of the PPSUS claim that the theme of obesity was rarely discussed in the institutional spaces of the SES-RJS (WG of AB and meetings of regional centers of ATAN and RIC), except as a risk factor for NCD. The prioritized themes were those established in the state co-financing instrument, such as actions for the prevention and control of Diabetes and Hypertension, maternal and child care, Infant Mortality and Congenital Syphilis. With the LCSO in 2013, specific discussions on OPC were boosted.

The decentralized support structure of AB and ATAN favored the coordination of actions and the dialogue and support provided to the RJS regional offices. In addition, according to PHC regional supporters, the interaction of different sectors of SES, from local professionals to managers, and the support and discussion of local work, strengthened this decentralized structure.

Chart 4. Policies and regulation set forth by the state of Rio de Janeiro and factors related to the institutional and financing trajectory the primary health care (PHC), as well as the food and nutrition actions with potential repercussions on obesity prevention and control (OPC).

Document Title	Factors related to the Institutional Structure of SUS	Factors related to Funding	Relationship with actions for Obesity Prevention and Control (OPC)
State Health Plan – 2012-2015. Rio de Janeiro: SES/RJ, 2012.	Structuring, expansion, and qualification of PHC in municipalities.	Planning or budget in terms of the allocation and use of financial resources needed to reach the established goals and objectives.	Implementation of the national guidelines of the Plan of Strategic Actions of the DCNT; SHP; Health Gyms; NASF; Capacitation of CHA, NASF nutritionists and ATAN coordinators.
Strategic action plan to combat non-communicable diseases (NCDs) in the State of Rio de Janeiro (RJS), 2013-2022.	Definition of goals, objectives, and responsibilities related to the strategic action plan to combat NCDs in RJS.	Although it has no direct relationship with elements of Funding, the Plan, by recommending actions and strategies, highlights the need for directing resources for this purpose, and its formulation was set forth under Ordinance SVS/MH 23, from August 9, 2012, through the transfer of federal resources.	Definition of actions related to several axes, including: surveillance, health promotion, and integral care; establishment of an action schedule for the execution of the Plan.
State Health Plan - 2016-2019. Rio de Janeiro: SES/RJ, 2016.	Boosts the expansion and the qualification of PHC in municipalities.	Planning of budget in terms of the allocation and use of financial resources to reach the established objectives and goals.	Care provided to patients with morbid obesity by offering bariatric surgery and repair surgery, through public announcement; Implementation of the State Plan to Combat NCDs
SES Resolution 1846, from May 9, 2019. Approves the Funding for PHC in the state of RJ.	The PHC Funding Program was established in RJS due to the need to support sustainability and boost expansion, and quality in innovative PHC. For that, the program aims to support FHS by maintaining and expanding FHTs.	Direction of financial resources through three components: 1. PHC Sustainability Component; 2. FHS Expansion Component; 3. PHC Performance Component. Moreover, the resolution also defines the classification criteria of each transfer.	Strengthening of the PHC structure in RJS through the transfer of financial resources, which consequently expands the possibility of actions related to the fight against being overweight and obesity in RJS.

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Several ATAN municipal references cited the lack of specific financial resources necessary to implement OPC actions. However, despite the existence of the FAN resources, it is recurrent that these references report a lack of autonomy in the use and management of this transfer. In addition, between 2006 and 2010 there were financial transfer mechanisms to strengthen specific actions of the PNPS, with emphasis on the Integration of Surveillance, Promotion, and Prevention of NCD actions. During this period, MS made a resource available for the implementation of health promotion projects – according to the axes of the PNPS – which includes the promotion of healthy eating. In RJS, of the 37 participating municipalities: 13 had projects related to the

Chart 4. Policies and regulation set forth by the state of Rio de Janeiro and factors related to the institutional and financing trajectory the primary health care (PHC), as well as the food and nutrition actions with potential repercussions on obesity prevention and control (OPC).

Document Title	Factors related to the Institutional Structure of SUS	Factors related to Funding	Relationship with actions for Obesity Prevention and Control (OPC)
Resolution SES 1925 from October 31, 2019. approves the program of the funding of health promotion in RJS. The regulations of the state's program to fund health promotion are instituted, for the year of 2019.	Support to the structuring of DANT epidemiological surveillance teams, with the purpose of improving quality and outreach in health situation analyses.	The definition of the values, by town, will follow the classification in the last assessment of the Human; Development Index, criteria "Education" - HID-S, conducted by the 2010 IBGE. This criteria was chosen as it is considered to be that with the highest impact on the change in behavior and lifestyles of the population.	COFI-PS has the objective of supporting the Health Promotion (PS) actions conducted by the municipalities, based on DANT epidemiological surveillance teams, with capacity to foment the quality and outreach of the analysis of the health situation regarding the main NCDs and grievances, prioritizing actions to reduce and control risk factors, according to the epidemiological profile of the regions, reaching targets of improvements in the health conditions of the population under its jurisdiction. Surveillance Component I - Health situation analysis, risk, and protective factors, and transfers of resources, based on the recognition of the health situation and causes of mortality in RJS. Inadequate food consumption and offering of executive actions regarding heathy eating practices.
Pluriannual Plan, Rio de Janeiro, 2020. Rio de Janeiro: SES/RJ, 2020.	A program named Food Security was created, which combines several state departments.	The SES creates a budgetary action named: "Food and Nutrition: Surveillance, Promotion, and Organization of Nutritional Care.	The referred action combines the resources of both the federal and state treasuries. Column: This budgetary action joined the actions of the SHP, Health Gyms, and Agreement by LCSO

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PHE and 19 related to the promotion of physical activity. The remainder was divided into: tobacco control; coping with violence; combating drugs and alcohol and accidents. The resource could be used to hire professionals, but it did not allow for the construction or purchase of permanent materials. In 2011, this resource was transferred to the Health Academies. Projects of this type can help promotion actions to become more concrete and indicate paths toward the integration of the different health sectors that deal with the priorities of the PNPS, such as food and nutrition. The State Plan to Combat NCDs provides for the integration of these sectors and emphasizes the importance of integrated policies to deal with complex problems[10].

For the managers and professionals interviewed in the PPSUS, the FHS stands out as essential for the coordination of OPC actions and the organization of levels of care, as these require various types of interventions. They emphasize the matrix work of the FHS and FHSC as the main channels and operators of OPC actions in the territories[17].

Chart 4. Policies and regulation set forth by the state of Rio de Janeiro and factors related to the institutional and financing trajectory the primary health care (PHC), as well as the food and nutrition actions with potential repercussions on obesity prevention and control (OPC).

Document Title	Factors related to the Institutional Structure of SUS	Factors related to Funding	Relationship with actions for Obesity Prevention and Control (OPC)
State Health Plan, 2020-2023. Rio de Janeiro: SES/RJ, 2020.	To support, technically and financially, the nine health regions in order to strengthen municipal PHC management and increase PHC coverage.	Planning of the budget in terms of the allocation and use of financial resources to reach established goals and objectives.	Reduce premature mortality through the four main NCDs, technical support in the nine health regions, structuring of care in Ambulatory and Hospital Services; Operationalizing of the state's 24h UPA's; VAN - organization of nutritional care; Care provided to Morbid Obesity; Bariatric and Repair surgeries; Health promotion and bodily practices.
Resolution SES/RJ 2194 from December 8, 2020. Approves the program of the funding of health surveillance actions in RJ.	Recommendation of support for the structuring of terms in health, environmental, and epidemiological surveillance.	Financial transfers based on population size and other criteria; for investment and operational costs; structuring and strengthening of health surveillance actions for the municipalities of RJS.	Support VAN actions, structuring of teams for health, environmental, and epidemiological surveillance; Strengthening the quality and outreach of the DANT situation analysis with priority food actions to reduce and control its risk factors.
Resolution SES/RJ 2199 from December 23, 2020. Approves Funding of Health Promotion in the State of RJ.	Financial support for healthcare, aimed at strengthening the prevention and control of NCDs in SUS health services.	Transfer based on the situation of health in terms of risk and protective factors; Definition of values according to the HDI classification; Transfer for the funding of health actions and NCDs, with focus on prevention and control.	Support provided to Health Promotion Actions in municipalities, based on the structuring of DANT surveillance teams: DANT health situation analysis: prioritizing actions to reduce and control risk factors.
Resolution SES 2348 from July 15, 2021. Updates the program of PHC Funding in RJS (PREFPHC) for the year of 2021.	Such a resolution has the purpose of supporting PHC in municipalities by providing incentives related to the maintenance and expansion of FHS teams and other actions.	Funding incentives for the structuring, expansion and qualification of PHC in municipalities.	Through the strengthening of the PHC, especially the FHS, the actions related to fighting being overweight and obesity are improved.

Source: Authors.

Despite this, the municipal ATAN coordinators also pointed out several challenges for the consolidation of the RAS in the municipalities of the RJS, mainly related to the historical trajectory of the institutional structure and management, such as: the discontinuity of management; changes of program coordinators together with the change of managers; the lack of knowledge on themes guided by the program coordinators; the lack of a job and salary plan; difficulty in managing FAN resources; the monitoring of the implementation of actions related to the LCSO; insufficiency and high turnover of professionals; and the lack of equipment and physical spaces.

Due to the political, financial, and institutional crisis, several significant changes occurred in the

Chart 5. Synthesis of research sources and empirical elements according to the analytical dimensions of the complications and financial incentives for obesity prevention and control in the State of Rio de Janeiro (2014-2021).

	Analytical dimensions		
Sources and methodology	**Economic, political, and funding conjuncture**	**Programs and actions for obesity prevention and control (OPC)**	**Factors which complicate and enhance actions**
Documents All of the analyzed documents are described in charts 1, 2, 3, and 4. **Methodology for documental analysis; Analytical Route:** date of publication and historical conjuncture of the production of the document; author, type of document (Law, Ordinance, Norma tive Resolution, Policy, Decree, Technical Note, Program, Plan), obesity prevention and control (OPC) actions and financial incentives established.	The contents related to the economic, political, and funding conjunctures, explored in this study by analyzing government documents, are described in Charts 1, 2, and 3: a) the contents analyzed based on federal policies are described in Chart 1; b) the contents analyzed based on federal programs are described in Chart 2; c) the contents analyzed based on federal normative resolutions for funding are described in Chart 3, and those analyzed based on state-level policies and normative resolutions are described in Chart 4.	The contents related to the OPC programs and actions, examined in this study based on the analysis of government documents, are described in charts 1, 2, and 3. 1) contents analyzed based on national policies are described in Chart 1; 2) contents analyzed based on federal programs are described in Chart 2; (3) contents analyzed based on federal normative resolutions for funding are described in Chart 3, and contents analyzed based on state-level normative resolutions are described in Chart 4. Systematization and analysis of those actions at both Federal and State levels have been presented in greater detail in previous publications that focused on the same theme[12,17,18,19].	The factors which complicate or enhance actions, and are present in the documents, deal with the very existence of the funding mechanisms, guaranteeing resources for the implementation, in addition to recommending actions that can be implemented by municipalities, priorities for the policy planning, and instruments of public action related to budgeting. The complications mainly refer to reductions in funding mechanisms.

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structure of PHC in the RJS from 2016: the disruption of work spaces and processes, followed by difficulties in receiving salaries, which occurred in 2016, in addition to changes in SUS funding mechanisms, with the 2017 PNAB and with the austerity measures that directly affected the major potential of the PHC that had been growing. Within the scope of the PEO-RJS, professionals claimed the following as the main challenges for the implementation of OPC actions: the scarcity of financial resources to plan and execute actions; the lack of information; the shortage of professionals; violence in territories; the non-existence of FHSC; problems related to professional commitment; and low integration of municipal actions[19]. Thus, there is a similarity between the challenges reported in the two research periods of 2014-2019 and 2019-2021.

Finally, one project that stands out is the PEO-RJS, which is financed through federal resources and built in partnership with SES-RJS, which can contribute to boosting the implementation of OPC actions through courses offered to managers and professionals in the municipalities.

Discussion

There was an abrupt transformation of the political-economic situation during the study period (2014-2021), and the historical series of national economic expansion was interrupted after 2014. From then on, the redirection of economic policies and SUS financing negatively impacted the conditions for implementing actions in the PHC. Although SUS underfunding scenarios are historical, they worsened from 2014 onwards and deepened even further from 2017 onwards. This same trend was recorded for the financing of SAN and PHE actions[24].

Between 2014 and 2016, the positive impacts of the institutionalization can be seen in the PHC of RJS, in the decentralized structure of technical support provided to municipalities through

Chart 5. Synthesis of research sources and empirical elements according to the analytical dimensions of the complications and financial incentives for obesity prevention and control in the State of Rio de Janeiro (2014-2021).

	Analytical dimensions		
Sources and methodology	**Economic, political, and funding conjuncture**	**Programs and actions for obesity prevention and control (OPC)**	**Factors which complicate and enhance actions**
Interviews and focus groups with municipal managers and professionals from the technical area of Nutrition and Primary Health Care (NPHC) conducted between 2014 and 2018 (PPSUS-ERJ). The number and the profile of the participants of those events have been described in previous publications[17,18].	The participants of interviews and focus groups mentioned the lack of specific resources for OPC, and low autonomy in terms of using allocated federal resources, in this case, from the Food and Nutrition Fund.	The participants in the interviews and focus groups mentioned the programs and actions implemented in municipalities. The analysis of those programs and actions was presented in previous publications[17,18]. The main programs which stood out are those implemented at PHC, Health Gym Program, as well as the Health in School Program, the National Program of Feeding in School. The main actions implemented are the execution of individual consultations, group actions, actions in the school space, and incentives for the practice of physical activities.	The participants in the interviews and focus groups mentioned the strategies and challenges for the implementation of programs and actions. This analysis was presented in previous publications[17,18.] The main highlighted financial difficulties were low autonomy in the use of allocated federal resources, in this case, from the Food and Nutrition Fund.
Questionnaires with open and close-ended questions with health professionals from municipalities from the state of Rio de Janeiro (RJS) between 2019-2021 (PEO-ERJ). The number and profile of the participants are described in a previous publication[19].	The kind of question most often mentioned by the participants as a factor that complicates the implementation of OPC actions was the lack of financial resources. In fourth place, the participants mentioned insufficient teams.	The participants mentioned programs and actions implemented in the municipalities. The analysis of those programs and actions was presented in a previous publication[19]. The main programs highlighted are those implemented at the PHC level, the Health Gym Program, as well as the National Health in School Program and the Program of Feeding in School. The main implemented actions included the execution of individual consultations, group actions, actions in the school space, and incentives for the practice of physical activities.	Factors indicated by the professionals as challenges to conduct analyses, more related to the issue of funding, referred to the scarcity of financial resources; insufficient staff, and changes in administrative personnel and staff turnover; the distinct employment relationships were also considered.

Source: Authors.

regional supporters. In addition, federal triggers, through policies, programs, and the LCSO, have also positively impacted the state process. As of 2016, these gains began to undergo a significant reversal, which was intensified by the political and financial crisis of the RJS government.

The inflections in the expansion of PHC at the federal level, with CE 95/2016 and PNAB 2017, in addition to the cut in resources for PHE and SAN actions as of 2014, contributed to the weakening of units, teams, and strategies in RJS, in addition to a withdrawal of resources for state and municipal actions. Between 2016-2018, the political and financial crisis in RJS was exacerbated by national crises and the underfunding of SUS. Nevertheless, resources from the FAN, the mechanisms for inducing the LCSO and the National Policies, resources for the OPC through specific programs, and the actions of the SES, through ATAN, Health Promotion, and SPHC, as well as state co-financing, continued during this period. It is also necessary to consider the PEO-RJS project itself, which promoted courses for managers and health professionals in the RJS

municipalities, promoted the OPC theme, and triggered support from local managers.

Since 2014, the main federal and state induction mechanisms with a positive impact on the conditions for implementing OPC actions included: the LCSO; FAN resources; EIOPC; financial incentives to restructure PHC, including the consolidation of decentralized support structures; the State Plan to combat NCDs, and, on a temporary basis, PNPS resources, in addition to resources from specific programs, state co-financing, and actions by ATAN and SPHC. This set of incentives favors the participation of municipal managers, who are closer to the population's reality and play a strategic role in the OPC in the RJS28.

Several challenges for the implementation of OPC actions highlighted by managers and professionals are directly or indirectly related to funding: insufficient resources and teams; low autonomy in the financial management of the FAN; in addition to salary issues, as corroborated by the literature. Fragilities in the institutional and management structure are also highlighted; low VAN coverage and limited support for the FHSC, despite the relevance of its multidisciplinary structure, which enables an expansion in the scope of actions[29]. Such factors can compromise the care for overweight and obese individuals, as they affect the organization of actions in the territory.

In the scenario of the COVID-19 pandemic, the Ministry of Health's initiative to finance care actions for individuals with obesity, diabetes mellitus and systemic arterial hypertension was closely related to the decrease in complications of the disease's symptoms in these individuals. In the most recent critical national context, additional funding sources that may favor the OPC are the resources associated with the COVID-19 Pandemic, Proteja, and the different co-financing projects from RJS.

Conclusions

Important inflections were identified in the macro political and economic conditions for the implementation of OPC actions: in 2014, with the political and economic crisis and cuts in resources for food access programs and PHE; in 2016-2017, with the austerity measures and changes in the funding for PHC boosted by the RJS crisis; and in 2019, with "Previne Brasil", followed by the COVID-19 pandemic.

At the national level, the rerouting of economic policies and SUS funding negatively impacted the conditions for the implementation of PHC actions shortly after the LCSO was issued in 2013. However, the federal mechanisms that induce actions and financial transfers were key to guaranteeing resources and guiding RJS and municipal managers, in addition to triggering agreement and management processes that boosted OPC actions.

In RJS, the transformations that took place were related to the inflections that directly affected the institutional structure of PHC, where strategic OPC actions are located. In this way, despite the progress through federal financial incentives and the orientation of actions, goals, and indicators, due to the political-economic crises, the austerity measures and the difficulties, especially concerning the municipal ATAN in their application of the resources, the conditions for the implementation of OPC shares were affected.

Despite this, important counterpoints to these constraints stand out through the actions of ATAN, APS, DIVIDANT, and resources from state co-financing, in addition to the PEO-RJS project itself.

Collaborations

MAP Freitas and L Burlandy: study design, data collection and analysis and writing of the final version of the article. LMC Castro and CB Santos: study planning, data collection and analysis and review of the final version of the article. MCC Cruz, MRM Teixeira and KS Teléfora: data collection and analysis and review of the article text.

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