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Structure and performance of medical and dental care in two Brazilian health regions between 2007 and 2014

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Abstract *The structure and performance of medical and dental care were analyzed in two health regions that differed socioeconomically and in the provision of services, through case study in the Norte-Barretos (São Paulo) and Juazeiro (Bahia) regions from 2007 and 2014, taking into account political, organizational and structural dimensions and structure and performance indicators. The results showed that the regionalization was positively recognized, the distribution of services did not meet the population demand, and the installed capacity of the health care network was not adequate for the health needs of the population. Norte-Barretos stood out regarding structure (except for potential coverage of oral health teams in the Family Health Strategy) and effectiveness, while Juazeiro stood out concerning efficiency; e.g. although with fewer resources, the use of services was relatively higher. The observed pattern seems to reflect aspects related to the regionalization and the political path of each care provided, the so-called "silos effect". The results may support the design of health policies aimed at overcoming the undersized structure of public health services in regions of lower socioeconomic development and search for parameters and coordination mechanisms to balance performance indicators better.*

Key words *Health policy, Regionalization, Dental care, Comprehensive healthcare*

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Introduction

In the late 1970s, decentralization was one of the main strategies for transferring power and responsibilities to local levels within the reform process of national states in Europe due to the global economic crisis and the collapse of the Welfare State[1]. In Latin America, decentralization has also been linked to aspirations for democracy and positive expectations for overcoming the problems faced by health systems[2].

While decentralization in some European countries was linked to regionalization, enabling the organization of service networks associated with the creation and strengthening of regional health authorities[3], in Latin America, both processes were implemented with varying degrees of articulation, always with greater emphasis on decentralization[4].The provision of comprehensive services that allow individuals and households to obtain the care they need has been a constant concern in all these processes[5].

In Brazil, decentralization was implemented through the transfer of resources and responsibilities to the municipality, the smallest federative unit. While such a strategy ensures the autonomy of local management to provide comprehensive and equitable care, despite universal access to the system, a financial bottleneck was observed, because most municipalities are not economically self-sufficient, upholding their financial dependence of states and Federal Government[6,7]. Studies have suggested combining the strategy of regionalization with health care networks[4,7-9] to address this situation.

This effort entered the Brazilian health political agenda late, only in the 2000s, through several initiatives, to ensure the principles of universal health (integrality, equity), reduce socio-spatial inequalities, overcome the limits of health services municipalization, strengthen the role of states in regional planning and provide greater legal certainty for intergovernmental cooperation relationships in the construction of health care networks (HCN)[10].

Building networks that are adequately responsive to the needs of the population means ensuring, among other aspects, the provision of comprehensive health programs and services, including programmatic dental care, whose expansion has been advocated in the country since the 7th National Health Conference, in 1980. However, until the 2000s, the National Oral Health Policy (NOHP) was vertical and centralized, which was expressed, among other aspects, in the predominance of school programs and the provision of emergency visits to other population groups. New oral health policy guidelines in the country are approved[11] in January 2004, expanding access to dental care and articulating oral health actions to the comprehensive health care model[12].

Investigating the structure and performance of medical and dental care from a regional perspective can be useful to assess the adequacy of services and the level of implementation of health policy considering territorial inequalities, the multiple governmental and non-governmental actors involved in the conduct and delivery of health care, and the growing tension between the expectations of the population and the limitations of resources available to the sector. When this study involves a more extended period, we can identify the permanence or alteration of patterns that may reflect trends in the historical path or inflections resulting from more recent public policies.

The production of scientific information on structure and performance may reflect similar or different patterns depending on the process of implementing the HCN and the distribution of health equipments in regional territories. Such patterns can be related to multiple, general, and specific factors.

Among the general aspects, worth highlighting are deadlocks resulting from regionalization policies, such as, for example, the creation of service networks based on negotiation, and not on prior planning; the allocation of extensive responsibilities to a level of government with limited capacity; the lack of clarity in the rules and gaps in the exercise of competences for the development of HCN in the territories[13].

Concerning the specific aspects, gaps resulting from the political path that has marked medical and dental care may be associated with patterns of structure and performance. Some authors highlight the separation between medical and dental care[14-17], a historical fact and, at the same time, a factor of dependence on the political course experienced by many countries, including Brazil, and that could highly influence the level of equivalence with which both services are structured in the health regionalization process. Internationally, this separation is called the "silos effect"[14-17].

Thus, this study aimed to compare the structure and performance of medical and dental care in two socioeconomically distinct health regions and the provision of services in order to verify

Ciência & Saúde Coletiva, 26(Supl. 2):3555-3566, 2021

the assumed pattern and examine the proposals presented.

Methods

A qualitative and quantitative case study was performed[18]. Two health regions with different social conditions were intentionally selected to meet the objectives, taking as a starting point the classification formulated for the 438 health regions in the country, through the research "Policy, Planning and Management of Regions and Health Care Networks Health in Brazil"[19].

Brazilian health regions were classified into five groups as per the socioeconomic situation and the supply/complexity of health services: group 1 (low socioeconomic development and low service supply); group 2 (medium/high socioeconomic development and low service supply); group 3 (medium socioeconomic development and medium service supply); group 4 (high socioeconomic development and medium service supply); and group 5 (high socioeconomic development and high service supply). Furthermore, we verified the predominant type of provider for outpatient production and hospitalizations, whose categories were predominantly public provider, intermediate situation, and predominantly private provider[20].

The regions chosen were Juazeiro and Norte-Barretos because they had different socioeconomic characteristics and service offerings, standing at the extremes of group 1 and group 5, respectively. The provider was predominantly private in both.

The Juazeiro region is located in the north of the state of Bahia, and consists of ten municipalities: Campo Alegre de Lourdes, Canudos, Casa Nova, Curaçá, Juazeiro, Pilão Arcado, Remanso, Sento Sé, Sobradinho and Uauá. Norte-Barretos is located in the north of the state of São Paulo, and alsoincludesten municipalities in its region: Altair, Barretos, Cajobi, Colina, Colombia, Guaíra, Guaraci, Jaborandi, Olímpia and Severínia.

Table 1 shows the demographic, socioeconomic, and health service offer contrasts in the regions for selected years.

The qualitative approach involved documentary research in the files of the respective regions to extract the analyses related to the political, structural, and organizational dimensions of the regionalization process in each context. The files were constructed from field research using the semi-structured interview instrument, with several actors (state, regional, and municipal managers and providers, in addition to representatives of society through the municipal health councils). Norte-Barretos had 46 interviews, Barretos 18, Olímpia 8, and in Cajobi, 7. In Juazeiro, 32 interviews were conducted, 13 in Juazeiro, 11 in Remanso, and 8 in Casa Nova.

Concerning the quantitative approach, the following sources were used for data extraction and construction of indicators: National Registry of Health Facilities (CNES) and Outpatient Information System (SIA), from access to the SUS Computer Department (DataSUS). The 2007-2014 period was analyzed because it was a period traversed by the second and third phases of the regionalization process, guided, respectively, by the Health and Contracting Pact. Moreover, the seven years analyzed in this research crossed more than one municipal administration in different political situations to allow the elaboration of more structural proposals.

Based on some studies[21-25], the structure indicators were the number of doctors and dental surgeons (DS) per 10,000 inhabitants who attend the SUS. Furthermore, the numbers of dental surgeons per 10,000 inhabitants who work in primary healthcare units (PHU) and in dental specialty centers (DSC) were identified, as well as the proportion of the total population potentially covered by the oral health teams (OHT) of the Family Health Strategy (FHS).

The effectiveness indicators were based on some studies[21,26] and were number of medical visits in PHU, number of individual basic dental procedures and individual specialized dental procedures, all standardized per 100 inhabitants; coverage of collective action of supervised toothbrushing for the population aged 5 to 14 years; coverage of the first programmatic dental visit; proportion of OHT that provided a more comprehensive set of procedures in the FHS; proportion of OHT who schedule specialized visit towards the coordination of care.

The efficiency indicators calculated for each year of the period were based on some studies[21,25,27] and were: ratio between PHU medical visits/doctors who attend in PHU of the SUS; ratio between the total number of first dental visit procedures/number of DS working in PHU of the SUS; ratio between the number of primary dental procedures/DS working in PHU of the SUS; and ratio between the number of specialized dental procedures/DS working at the DSC.

Some indicators showed information available from 2008 because, this year witnessed a

Table 1. Demographic, socioeconomic, and health service delivery indicators, Norte-Barretos, and Juazeiro regions in selected years.

Indicators	Health region	
	Norte-Barretos	Juazeiro
Demographic and socioeconomic		
Total population (2014)	283,993	537,115
Number of municipalities	10	10
HDI (Increase 2000-2010)	0.687 to 0.824	0.506 to 0.677
% population with ten years and over with at least elementary school (2010)	52.9	33.6
% population with ten years and over with at least secondary school (2010)	34.7	19.7
Per capita GDP (R$)		
2010	23,013.01	6,884.75
2013	28,550.02	8,461.60
Per capita household income (R$)		
2000	657.97	235.07
2010	805.72	331.90
Health services indicators		
High-complexity hospitalizations/100 thousand inhabitants		
2008	164	0.5
2011	210	0.4
2014	260	7.4
Quantity of beds/thousand inhabitants		
2007	4.0	2.0
2011	3.2	2.0
2014	3.3	1.7
Primary care team coverage (%)		
2008	48.9	49.8
2009	48.9	51.7
2010	50.8	55.8
2011	48.0	64.9
2012	51.1	64.5
Health equipment (2015)		
UBS	82	121
PCU with oral health team	33	86
Psychosocial care center	3	10
Natural birth home	-	1
General hospital	4	14
Specialized hospital	8	3
Day hospital	-	3
Health gym hub	6	4
Emergency care unit	6	1
Support services for diagnose and therapy	1	18
Mobile emergency care service	14	17
Diagnostic imaging equipment	278	106
Elderly health outpatient clinic	2	-
Testing and counseling center	3	-
Rehabilitation center	7	-
Dental specialty center	3	2

Source: IBGE, DataSUS/CNES.

Ciência & Saúde Coletiva, 26(Supl. 2):3555-3566, 2021

change in the SUS procedures table, with a particular discontinuity vis-à-vis previous years. Data were interpreted with the help of spreadsheets created by the Excel program, besides the historical and socio-economic-epidemiological data of the compared regions. This study used publicly available secondary data.

Results

Chart 1 shows the qualitative results present in the files of the respective study regions. The regionalization process was positively recognized, and the regional level at the state level was of great importance for both health regions. Both understood that the preferred gateway to the HCN should be the PHU, shared the analysis that the installed capacity of the HCN was not adequate to the health needs of the population; the supply of the workforce, specially in the medical category, was insufficient; and that the distribution of health services did not meet the territorial distribution of the population, due to the concentration of services in some municipalities, especially in those more developed.

Some differences in the scope of the political dimension stood out between regions. While in the region with the best social conditions, the leading figures of conflicts were the municipalities and the regional authority, followed by municipalities and the state government, in the other, the leading figures of conflicts were the municipalities and the state government, followed by municipalities and the regional authority. In this region (Juazeiro), decision-making was shared with the Petrolina region that belongs to the state of Pernambuco. This innovative experience was carried out through the Regional Management Board whose purpose was to discuss and agree on decisions involving the interstate health network.

Chart 2 shows the quantitative results, referring to the structure and performance indicators (effectiveness and efficiency) of the respective study regions. Regarding the structure of medical and dental care, the doctor/inhabitant ratio that attends the SUS was twice as high as the dentist/

Chart 1. Main aspects arising from the analysis of the political, organizational, and structural dimensions of the Norte-Barretos (2016) and Juazeiro (2017) regions.

Analyzed dimensions	Norte-Barretos	Juazeiro
Political	- Order of importance in health decisions: Regional Health Department (RHD). - Importance of institutions in health decision-making: RHD > Public Prosecutor's Office > State Health Secretariat. - Main involved in conflicts: municipalities x regional authority > municipalities x state government.	- Order of importance in health decisions: Regional Management Board. - Importance of institutions in health decision-making: State Health Secretariat > participatory councils and Legislative power > civil society organization (media) > health service providers (medium- and high-complexity). - Main involved in conflicts: municipalities x state government > municipalities x regional authority.
Organizational	- Health care network (HCN) installed capacity is not adequate to the population's health needs. - There is an insufficient workforce in the regions, especially in the medical category.	- HCN installed capacity is not adequate to the population's health needs. - There is an insufficient workforce in the regions, especially in the medical category.
Structural	- The distribution of health services does not meet the territorial distribution of the population. - Services are concentrated in the municipalities, especially the more developed municipalities. - The gateway to HCN must be the Primary Health Care Unit.	- The distribution of health services does not meet the territorial distribution of the population. Services are concentrated in the municipalities, especially the more developed municipalities. The gateway to HCN must be the Primary Health Care Unit.

Source: Elaborated by authors based on data from research files from the Norte-Barretos and Juazeiro regions.

Chart 2. Indicators of structure, effectiveness, and efficiency, Norte-Barretos and Juazeiro regions, 2007-2014.

Dimension	Norte-Barretos	Juazeiro
Structure		
Number of SUS doctors/10 thousand inhabitants	Increase from 15 to 25	Increase from 6.1 to 8.6
Percentual population potentially covered by the OHTs under the ESF	Increase from 29.7% to 37.1%	Increase from 38.1% to 52.6%
Number of dentists attending the SUS/10 thousand inhabitants	Variation: 6.9 and 6.4	Variation: 1.8 and 2.4
Number of dentists working in the PHU/10 thousand inhabitants	Variation: 5.5 and 5.6	Variation: 1.6 and 1.8
Number of dentists working in the specialized care/10 thousand inhabitants	Variation: 5.0 and 5.7	Variation: 0.1 and 0.3
Effectiveness		
Number of medical visits in the PHU/100 inhabitants	Variation: 12.4 and 14.5	Variation: 2.4 and 7.3
Collective action coverage of supervised tooth brushing, population 5 to 14 years	Variation: 14.5 and 38.2%	Variation: 1.8 and 6.2%
Coverage of first programmatic dental visit	Decrease from 15% to 10.4%	Decrease from 22.8% to 8.7%
Proportion of OHTs offering the most comprehensive set of procedures	74.4%	71%
Proportion of OHTs scheduling specialized visit acting in favor of the coordination of care	86.6%	93%
Number of basic dental procedures/100 inhabitants	Decrease from 44.8 to 41.6	Decrease from 37.6 to 14.8
Number of specialized dental procedures/100 inhabitants	Increase from 15.1 to 25.3	Decrease from 7.7 to 4.7
Efficiency		
Medical visits/doctors attending in the PHU-SUS annual ratio	Decrease from 215 to 125	Increase from 186 to 196
First dental visit procedures/dentists working at the PHU annual ratio	Decrease from 272 to 193	Decrease from 1,758 to 500
Basic dental procedures/dentists working at PHU-SUS annual ratio	Variation: 998.4 and 1,302.2	Variation: 615.7 and 1,446.5
Specialist procedures/dentists working at the DSC annual ratio	Variation: 12.7 and 15.7	Variation: 28.4 and 73.7

Note: OHT = Oral Healthcare team; PHU = Primary healthcare unit; DSC = Dental specialty center.

Source: Elaborated by authors.

inhabitant ratio, for Norte-Barretos, and three times higher for the Juazeiro region. Concerning the list of dentists working at SUS, who serve at the PHU and work at the DSC, the Norte-Barretos region was better, ranging from three to five times more, depending on the indicator.

Concerning effectiveness indicators, Norte-Barretos was better, with an increased difference between regions. The mean coverage of collective action for supervised toothbrushing was two to seven times higher than that recorded in the Juazeiro region.

Regarding efficiency, Juazeiro had higher values in all aspects compared. For medical care, for example, the number of visits in the PHU per professional increased in this region, while in Norte-Barretos dropped. Concerning the number of specialized procedures per professional, the variation was almost five times higher for Juazeiro.

Discussion

Structural and performance aspects of medical and dental care were compared in two regions of the Brazilian health system selected intentionally due to the high difference in socioeconomic conditions (GDP per capita, per capita household income and schooling) and provision of health services (high-complexity hospitalizations/thousand inhabitants and number of beds/thousand

inhabitants), and the results showed a mixed pattern, that is, either favorable or unfavorable to the region with the best conditions. While one region stood out regarding structure (except for the estimated coverage of the OHT in the FHS) and effectiveness indicators, the other stood out concerning efficiency, that is, although with fewer resources, the use of services was relatively higher.

The results showed that regionalization was positively recognized in both regions, for several aspects, among which, its potential contribution to reducing inequalities in access to services, universal use of the health network, the greater possibility of dialogue, and integration of network, or even less possibility of the financial strangulation of municipalities. Expanding the level of sharing and democratization of problems and decisions, including the distribution of financial resources, is essential for building regionalization positively and autonomously since the principle of hierarchy is something that is rooted in the legal system of the Brazilian State so that, if not democratized, regionalization can represent just another form of presence and control of state institutions over the territory[28], suppressing the role of the municipalities that underpin and build that geographical space. France has shown a clear trend towards democratization at the regional level of the health system[29].

The analyze of interviews and documents showed that the distribution of services has not met the population demand, with their concentration persisting in the more developed municipalities. Examining the extent and determinants of the health policy municipalization process in Brazil, Arretche and Marques[27] pointed out that the larger the population of a municipality, the higher the presence of the absolute amount of equipment and services under municipal management, which was taken as a sign of ongoing municipalization.

Although the user's pilgrimage is a persistent factor in the service network, it was recognized in both regions that PHU should be the gateway to the HCN. The installed capacity was not adequate for the needs of the population, especially concerning access to highly sophisticated services. This fragility of integration of the assistance network persists after the municipalization of health services and has been associated with the political dynamics of Brazilian health federalism. The cooperative relationships established between states and municipalities are weak, hindering the definitions of duties and responsibilities, despite attempts to strengthen the role of states in conducting the SUS. A more cooperative type of federalism may prevail in some regions with a higher financial autonomy of the municipalities, while a type of federalism with a strong dependence on the federal entity may be present[30] in less financially autonomous municipalities.

Three points are worth mentioning based on the indicators. First, the best structure and absolute volume of procedures for the better socioeconomically favored region and in the provision of services may be associated with the country's exclusive model of social and economic development, in which social rights were expanded by authoritarian regimes and oriented to produce inequalities between categories of citizens and between different regions of the country. The Southeast, for example, not only concentrated GDP growth. It also started to have a broader urban service infrastructure than any other region. The poorest regions, in turn, were not only lacking job opportunities but also all essential residential infrastructure services (water, sewage, garbage collection)[31].

Second, inequalities in the service provision structure tend to be reflected in inequality of access. Less educated people and with low income tend to have lower access to health services[28]. In Brazil, the effect of this inequality can be measured by the asymmetric distribution of the use of dental services by the population[32].

Third, the fact of having a smaller workforce performing a more significant number of oral health procedures/actions can mean, on the one hand, undersizing the available dental resources, and on the other, clinical/procedural work overload for professionals, signaling for a possible care model logic centered on disease/procedure (curative), which reproduces a liberal-privatist orientation[33]. Situations of undersized dental resources are not uncommon in the Brazilian health system[23] and would justify the higher allocation of resources and investment in permanent education to critically reorient the care model and care strategies in service practices.

As expected, the provision of dentists in primary and specialized dental care, linked to the SUS, was favorable to the best region. The exception was estimated coverage provided by the OHT in the FHS, which had the highest rate for Juazeiro. It is also worth noting that the differences between regions in the provision of dentists linked to the SUS decreased in the period under analysis.

With the NOHP, oral health care became one of the priorities in the federal government, boost-

ing the implantation and expansion of OHT, especially in the Northeast region[34-36]. The Pact for Life established, for the 2010-2011biennium, a target of 40% of population coverage by OHT. The Northeast and Midwest regions managed to achieve it[35], which may explain the more significant expansion in the Juazeiro region and show a trend towards equity. This trend was also observed in the implementation of the Family Health Strategy, in which federal incentives have been more advantageous for regions with worse social conditions[36]. In the 2008-2012 period, the coverage of PHU teams for the Juazeiro region was higher compared to Norte-Barretos. In 2011, for example, the gap in favor of the region with the worst social condition was 16%.

Regarding the structure of medical care, the doctor/inhabitant ratio was higher in the region with the best social conditions. As the number of physicians attending SUS increased throughout the historical series, the number of hospitalizations due to high complexity also increased. The fact that hospitalizations are not declining may be related to the lower availability of hospital beds, a result pointed out in a research carried out by Castro et al.[21], also identified in this study. It is noteworthy that the city of Barretos hosts a national reference cancer treatment hub, which is reflected in a higher demand that requires a more significant number of contracted doctors, compared to a region that is not a national reference hub.

The fact that some indicators evidence a different pattern from what could be expected, considering the socioeconomic conditions and the provision of services in the regions, suggests the presence of different conditions, among which, those of a more general character can be highlighted, acting from the federal to the local plan, and those more specific, acting from the local to the general level. Among the former, the regionalization process and its deadlocks[13] can be identified, and the NOHP, which was boosted in the period[12]. Among the local constraints, on the one hand, the process of expanding health democracy can be related through different channels of communication and spaces for political articulation, in which regions of more significant social deprivation would be more likely to voice their needs. On the other hand, the silos effect, translated by the particular characteristics that have marked the policies and practices of the different types of care, among which, the medical care and dental care, whose separation and isolation has been described by several researchers[14-17,37], an effect that could portray a strong dependence on the policy path of dental care and its configuration in a regional system.

Even with some defined and agreed minimum guidelines, some deadlocks resulting from the political and particular dynamics of each territory seem to be modulating the implementation of the HCN. One aspect may be the predominance of the negotiating strength and autonomy of certain municipalities at the expense of a planning process that favors a cooperative regional perspective on resource allocation. Difficulties have been observed in redistributing these services, whether for political (electioneering, bargaining) or financial reasons (the service can ensure the transfer of some funds to the municipality). Another aspect may be the full accountability for a level of government with limited capacity, a context more clearly identified in one of the regions under study, which has many small municipalities that are financially insufficient and strongly dependent on the Federal Government. The results of the case study showed that the structural interregional differences were maintained in the period, which supports the concept that the regionalization process lacks instruments and mechanisms to induce the reduction of interregional inequalities. Most of the conflicts led by municipalities and states (Juazeiro) reflect, at some level, the crossing of responsibilities between levels of government, disregarding the importance of the regional level. Moreover, policies do not define the financing of regional HCN. The design of a global budget at the regional level (based on funding, for example) could be a strategy[13].

Another proposal that may be associated with the mixed pattern found concerns the silos effect. The unlinking between the mouth and the rest of the body has been built in medical and dental training for generations and is still reflected today[14]. Consequently, health care modalities operate separately, in the form of silos[15-17,38], and this could, to some degree, explain a course different from what was expected, as was observed in this study from the viewpoint of performance.

The isolation of general health care and dental care is recognized internationally, as well as nationally[14-17], and this led to the need for political recommendations for linking oral health services to the provision of general health care[16,38,39], as both are interrelated, despite being treated as independent.

Brazilian health policy guidelines also recognize the importance of integrating oral health

Ciência & Saúde Coletiva, 26(Supl. 2):3555-3566, 2021

and general health care. Comprehensiveness is a doctrinal principle of the SUS and has been advocated as the guiding principle of the processes of change towards a rupture of traditional values in health, such as people's fragmented care[40].A strategy to ensure this principle, in practice, was the implementation of multi-professional teams in the FHS, including oral health teams, as well as the orientation of this strategy (Primary Healthcare) as the coordinator of care for the other levels of care[40,41]. In 2013, there were three family health teams in the country[35] for every two oral health teams.

Integrating oral health into general health does not depend only on the conceptual idea of health, professionals, and the care that underpin it. It also means addressing the financing system that enables both health actions and specific oral health actions[37]. It implies understanding the trend of the dental care policy and identifying the challenges resulting from its separation from the rest of health care by exploring the consequences of this division for the future of the oral health policy and health system reform[37].

Some aspects must be commented concerning the limitations and scope of this study. The information records (SIA-SUS) that generated the effectiveness indicator "Collective action coverage of supervised toothbrushing for the population aged 5 to 14 years" showed significant variations in the analyzed historical series, and outliers were detected and removed to minimize them. The indicators selected to analyze the workforce in medical and dental care should be considered with caution, as only the CNES/DataSUS filter was used, which may present problems of under or over-registration. The analysis covering an extended period, such as the one adopted in this study, contributed to mitigate the instability of the records and can support the design of health policies aimed at overcoming the undersizing of the service structure in the less socioeconomically developed regions and the search for a greater balance in the effectiveness and efficiency indicators between health regions. Aspects related to the political orientation of the coalition parties responsible for the management of the health sector of states and municipalities in each region were not analyzed. They could bring information about the level of competition or cooperation in the structuring strategies of outpatient services[27]. The continuity of the research with a new round of *in situ* interviews and observations could favor the investigation of details related to the use of available resources and the possibilities of rearranging the activities developed within and outside the health units, including their horizontal and vertical relationships, in order to meet expectations geared to the practical field of service organization. Although this case study involves embedded approaches (it involved more than one unit of analysis), generalization is a limiting factor of this method[18].

It can be concluded that the structure and performance of medical and dental care in the two socioeconomically distinct health regions and the provision of services showed a mixed pattern. That is, while the region with the best condition stood out concerning the structure indicators (except for estimated OHT coverage in the FHS) and effectiveness, the other stood out concerning efficiency, in that the use of services was higher even with fewer resources. The observed pattern can support the design of health policies aimed at overcoming the undersizing of the structure of free medical and dental care services in less socioeconomically developed regions and the search for parameters and coordination mechanisms aiming at a greater balance in the effectiveness and efficiency indicators across health regions.

Collaborators

JDB Carneiro contributed to the conception and design of the research, in data analysis and interpretation, to the critical review of the content and to the final versionof the manuscript. Bousquat A contributed to the critical review of the contentand to the final version of the manuscript. SCL Chaves contributed to the critical review of the content to the final version of the manuscript. Frazão P contributed to the conception and design, in data analysis and interpretation, to the critical review of the content and to the final version of the manuscript.

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