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Oral Health Policy in Brazil: transformations and setbacks from 2019 to 2022

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Abstract *This study presents the systematic assessment of oral health policy in Brazil at the federal level during the Bolsonaro administration (2019-2022). The analysis involves document review and secondary data analysis, tracking institutional actions, implementation of public dental services, oral health indicator outcomes, and federal public financing in comparison to 2018. The Bolsonaro government was hit by the COVID-19 pandemic and by the end of it, 29,122 OHTs had been implemented, with population coverage of 46.8% and an increase of 3.8% compared to the previous government. The number of specialized centers increased by 4.1%. Dental consultation coverage was 5.6% and the collective action of supervised tooth brushing was 0.14%, both with the lowest results in the historical series. Specialized dental actions showed a 12.4% and 16,0% reduction in endodontic and periodontal treatment. Only dental prostheses showed an increase (29.4%). The pandemic has influenced the results of the oral health policy, with a reduction in coverage of the first dental appointment and in the collective action of supervised tooth brushing and specialized procedures.*

Key words *Health policy, Monitoring, Oral health, Dental care*

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Introduction

The year 2019 saw the beginning of Jair Bolsonaro's far-right government in Brazil, leading to the development of apparently "irrational" health and education policies in contradiction to desired goals and ignoring legal instruments, scientific evidence and recognized legacies[1].

In the same year, the Ministry of Health (MH) launched the *Previne Brasil* (Prevent Brazil) program, which set new criteria for federal funding of primary health care based on the registered population in health facility catchment areas and evaluation of health team performance[2]. The only mention of oral health in the government plan was a proposal to provide oral health care for pregnant women participating in neonatal programs[3]. This proposal was incorporated into the *Previne Brasil* program, in which the only oral health team (OHt) performance indicator was the proportion of pregnant women receiving oral health care[2]. During the Bolsonaro government, the head of the Office for the General Coordination of Oral Health (CGSB) at the MH was replaced four times[4].

This period was also marked by the COVID-19 pandemic, which had a direct impact on the functioning of health services, including oral health care[5-8]. In March 2020, amid the unfolding of the pandemic in Brazil, the National Health Surveillance Agency (ANVISA) and MH recommended the suspension of elective oral health care, maintaining only urgent care in primary health care services[9,10]. The Federal Council of Dentistry (CFO) also requested that the MH suspended elective care in public and private services and greater rigor in the implementation of biosafety measures[8]. There was a significant reduction in performance across oral health service indicators relative to 2019 both in primary and specialized services[4-7], and services lacked the conditions and resources necessary to ensure adequate biosafety safety levels, especially considering the high cost of personal protective equipment (PPE)[8].

Health policy is the product of a complex interplay of social factors, with changes of government leading to the maintenance of or shifts in policy[11]. Analyses of the National Oral Health Policy (PNSB) since 2003 show that the change of government in 2016 after the impeachment of former president Dilma Rousseff resulted in instability in federal management of sectoral policy, with low priority being given to oral health in ministerial policies, resulting in a reduction or slowdown in performance and funding[12,13].

Systematic monitoring of the PNSB over different periods of government shows a sharp rise in the availability of both primary and specialized oral health services during the first Lula government (2003-2006), followed by a reduction in the pace of expansion during the second government (2007-2010)[14] and maintenance of oral health service coverage during the first and second Dilma governments (2011-2016)[13,14] and Temer government (2016-2018)[4,13]. The results also show that first diagnostic dental appointment coverage decreased during the second Dilma government and that this reduction was even more pronounced during the Temer government[4,13]. Federal funding for oral health care rose during the first and second Lula government and first Dilma government – increasing 10.9 times during the period 2003-2014[14] – followed by a reduction in the Temer government[4,13].

This study updates the systematic monitoring of the PNSB, focusing on the Bolsonaro government (2019-2022). We provide an overview of the PNSB at national level, including the epidemiological profile of oral health, a picture the COVID-19 pandemic, the dental labor market and professional training of dental surgeons (DSs) and the utilization of public and private dental services. We also update data on the delivery of oral health services, key results, federal funding, and relevant institutional actions developed by the federal government.

Methodology

We analyzed documents and secondary data on the implementation of oral health policy during the Bolsonaro government (2019-2022,). We examined institutional actions developed by the federal government, the delivery of oral health services, performance across oral health indicators and federal funding. The data were collected systematically at the end of each quarter, when researcher meetings were held to validate and analyze the information. The final update was performed in October 2023.

To provide an overview of oral health (epidemiological profile, dental labor market and professional training, availability of public oral health care and utilization of public and private dental services) we used publicly available data from the following sources: preliminary results of the National Epidemiologic Survey on Oral Health (SB Brasil 2021-2022); the Brazilian Institute of Geography and Statistics (IBGE);

Ministry of Health (*e-Gestor* primary care information system, National Registry of Health Facilities – CNES and DATASUS); Collaborative Network for Strategic Studies of the Health Workforce in Brazil (2020-2021); e-MEC System; Federal Council of Dentistry (CFO); and National Supplementary Health Agency (ANS).

For the analysis of institutional actions developed by the federal government and changes in the CGSB during the period, we used the following sources: MH and Department of Primary Health Care (SAPS) websites; and ministerial orders and norms published in the official government gazette. Institutional actions were grouped according to the respective health system component using the following categories adapted from Souza and Bahia[15]: infrastructure (facilities, equipment, medication, knowledge and human resources); funding (amount allocated to the program in the federal budget); management and organization (organization of services and networks and execution of actions and programs); and care model (approach to service delivery and health professional work processes). Thematic content analysis[16] was performed to produce a synthesis of institutional actions.

The following markers were used to provide a picture of the COVID-19 pandemic: total number of annual cases; total number of annual deaths; monthly COVID-19 bed occupancy rate (ward and ICU); and total number of fully immunized individuals (second dose or single dose). These data were collected from the MS and ANS websites and "G1" news platform.

The results of the PNSB were analyzed oral health indicators. The data were obtained from the Outpatient Information System (SIA/SUS) and Primary Health Care Information System (SISAB), considering the number of procedures approved each year (January to December). The results were compared to those in 2018, the last year of the previous government. The following indicators of primary care dental services were used: first diagnostic dental appointment coverage (SIGTAP code* 03.01.01.015-3); and mean number of supervised group toothbrushing activities (SIGTAP code 01.01.02.003-1). These indicators were chosen because the former represents the proportion of the population that utilize public primary care dental services and the latter represents collective oral health preventive care actions, which may point to shifts in the care model[17]. Rates were calculated using the resident population as the denominator, based on intercensal estimates produced by the IBGE.

The indicators of specialized dental services were as follows: number of endodontic treatment, including obturation of single and multi-rooted teeth and root perforation sealing (SIGTAP codes 03.07.02.006-1, 03.07.02.004-5, 03.07.02.005-3 and 03.07.02.011-8, respectively); number of periodontal treatment procedures, including gingival grafting, gingivectomy (by sextant), gingivoplasty (by sextant) and periodontal surgical treatment by sextant (by sextant) (SIGTAP codes 04.14.02.008-1, 04.14.02.015-4, 04.14.02.016-2 and 04.14.02.037-5, respectively); and number of dental prostheses produced, including full lower-arch prothesis, full upper-arch prothesis, partial removable lower-arch prothesis, partial removable upper-arch prothesis and crown/fixed intra-root/adhesive protheses (by element) (SIGTAP codes 07.01.07.012-9, 07.01.07.013-7, 07.01.07.009-9, 07.01.07.010-2 and 07.01.07.014-5, respectively). These indicators were chosen because they are typical procedures in specialized dental health services. The procedures in the first two groups of indicators are carried out in dental specialty centers (DSCs), while those in the third group are undertaken in regional dental prosthesis laboratories (RDPLs).

Funding was analyzed using gross annual figures that were inflation-adjusted to December 2022 based on the National Consumer Price Index using the Central Bank calculator (https://www3.bcb.gov.br/CALCIDADAO). The data for 2019 were obtained from National Health Foundation reports, which only contain information on primary care transfers. The data on primary and specialized care for 2020 to 2022 were collected from *e-Gestor* primary care information system website (https://egestorab.saude.gov.br/), accessing "Public Reports" – "Primary Health Care Funding" – "2020 Reports" – "Payments PHC (2022-)". The data covers all transfers to all states and municipalities during the period January to December. Funding in 2019 was compared to 2018. The following years (2020 to 2022) were compared to 2017, because the data for 2018 only include funding for primary care due to changes made to the funding blocks, which were only adjusted at a later date.

For the analysis of implementation, we calculated the percentage change in the number of primary care OHts, DSCs and RDPLs across governments, considering the figures in the last month of each government. The same procedure was performed for the oral health indicators, calculating the percentage change in the

total number of procedures performed during the four years of each term. These calculations were performed to monitor trends and compare the results of previous terms with those of the Bolsonaro government.

Availability of oral health care was estimated based on funding and health team/service coverage. OHt coverage was calculated as follows: total number of primary care OHts (type I and type II) multiplied by 3,450 people (potential coverage of one OHt), divided by the total population and multiplied by 100. DSC and RDPL coverage was calculated by dividing the total number of facilities by the total population, multiplied by 100,000.

Results

Overview of oral health

The preliminary results of the National Epidemiologic Survey on Oral Health (initiated in 2022) reveal improvements in the epidemiological profile for the indicators dental caries and use of and need for dental prosthesis; however, these preliminary data are not representative of all of Brazil's regions (Chart 1).

Regarding the dental labor market and professional training, the number of DSs increased by 29.1% over the period, while the number of dental degrees offered by the private sector increased by 73.7%. The public sector accounts for 80.7% of employed DSs and the average salary is around four minimum wages (Chart 1).

The number of OHts, DSCs and RDPLs increased by 0.7%, 4.1% and 30.1%, respectively, between the last year of the of Temer government (2018) and last year of the Bolsonaro government (Chart 1).

The findings of the 2019 National Health Survey revealed that less than 50% of the Brazilian population visited the dentist during the last 12 months. The results also show that the higher the level of education and household income the higher the proportion of people who visit the dentist, revealing social inequalities in the utilization of dental services. The private sector accounted for most dental appointments (75.0%), with ANS data showing that the number of people holding dental insurance plans increased by 26.1% over the period (Chart 1).

Institutional actions developed by the federal government

The findings show that the post of CGSB coordinator remained vacant for the first four months of the Bolsonaro government and that the coordinator was replaced four times over the president's term in office. The first coordinator of oral health under the Bolsonaro government was Rogéria Azevedo, a retired military dentist who spent her career in the Federal District Fire Department and who also worked in the private sector and was part of Bolsonaro's transition team. She remained one year in the post, until June 2020, when she was replaced by Vivaldo Pinheiro Guimarães Júnior, co-owner of an events company and at the time parliamentary secretary to a Liberal Party Congressman. It was the first time that a person without any background in dentistry had occupied the post, leading to discontent among dental organizations and politicians, one of whom, the Labor Party Congressman Jorge Solla, called for his dismissal. One month later, Vivaldo was replaced by the dentist Caroline Martins José dos Santos, who has a postgraduate degree in Public Health and was a civil servant working in the MS. José dos Santos remained in the post for 15 months. Finally, towards the end of the Bolsonaro government, the CGSB was headed by the dental surgeon Wellington Mendes Carvalho, who has a postgraduate degree in Public Policy and Health Management and worked as a technical consultant in the MS and Pan American Health Organization (Chart 2).

Most of the institutional actions fell within the 'management and organization' component. In the first year of the government, changes were made to primary care funding and evaluation, with the creation of the *Previne Brasil* program. Key actions in the 'management and organization' component included the publication of the manual of prosthodontics. Actions in the 'Infrastructure' component included MS cooperation with an oral health survey in Maputo, Moçambique and the presidential veto of a bill proposing the mandatory provision of dental care to hospital patients (Chart 2).

With regard to the COVID-19 pandemic, 2020 was marked by institutional actions in the 'management and organization' component, focusing on the publication of guidance on the functioning and organization of public and private oral health services. A public hearing about the National Epidemiologic Survey on Oral Health (SB Brasil 2020) was also held. In

Chart 1. Overview of oral health: epidemiological profile, dental labor market, availability of oral health care services and utilization of public and private dental services in Brazil during the Bolsonaro government (2019-2022).

Overview of oral health	
Epidemiological profile[a]	**Dental caries:** Mean DEFT and DMFT less than those found in the SB Brasil 2010, with higher reduction in the 35-44 and 65-74 year groups (DEFT – 5 years: 2.2; DMFT – 12 years:1.6; 15-19 years: 3.5; 35-44 years: 11.2; 65-74 years: 23.3). Brazil remains in the group of countries with low prevalence of dental caries at age 12, according to the WHO classification. Increase in the proportion of **caries-free individuals** across all age groups. **Use of and need for dental prosthesis:** lower rate of use of dental prostheses among adults and older adults, and reduction in the percentage of adults and older adults who need dental prosthesis compared to the results of the SB Brasil 2010. **Assessment of treatment urgenc**y: more than 50% of the population examined across all age groups presented need for treatment.
Dental labor market and professional training [b]	Total number of DSs in the country in 2022: 385,916 (increase of 29.1% relative to 2018); Total number dental degrees: 619 courses, 72 of which are public; 89.5% are private (increase of 73.7% relative to 2018 – all new courses were in the private sector). Average monthly salary of a DS for a 30-hour week: R$5,894.00 (2020-2021). The public sector accounts for 80.7% of employed DSs (2020-2021).
Availability of public oral health care[c]	In 2022, there were 28,253 primary care OHts (increase of 0.7% relative to 2018). **Population coverage = 46.8%.** Total of 1,186 DSCs created in 2022 (increase of 4.1% relative to 2018). **DSC population coverage = 0.55 per 100,000 population.** 3,468 RDPLs created in 2022 (increase of 30.1% relative to 2018). **RDPL population coverage = 1.6 per 100,000 population.**
Utilization of dental services (public and private) [d]	Dental visit in the last 12 months: 49.4% of the population (2019). 75.0% of those who u**tilized dental services in** 2019 used private services. Primary care centers accounted for 19.1% of the appointments. Only 22.9% of the population aged over 18 visited public dental services. The rate of dental visit in the last 12 months was higher among women (52.6%), white people (55.0%), people living in urban areas (51.2%) and the 18-29 and 30-39 year age groups (55.5% and 55.2%, respectively). The higher the level of education and income the higher the rate of dental visit in the last 12 months (2019). **Number of dental health insurance plan holder**s: December 2018 (24,036,544); December 2022 (30,300,244) – increase of 26.1%.

DEFT = Decayed, Extracted, and Filled Permanent Teeth Index; DMFT = Decayed, Missing, and Filled Permanent Teeth Index; WHO = World Health Organization; SB Brasil = National Epidemiologic Survey on Oral Health; OHt = oral health team; DSC = Dental Specialty Center; RDPL = Regional Dental Prosthesis Laboratory; SUS = *Sistema Único de Saúde* (Unified Health System, Brazil's public health system).

Sources: [a] Preliminary results of the SB Brasil, 2021-2022 (based on data obtained up to 26/11/2022 – 66.2% of randomly selected tracts). Available at: egestorab.saude.gov.br/image/?file=20221216_I_mod 2resultadospreliminarOHtrasiliamonsitecompressed_288277690346345359.pdf. [b] CFO (2022); e-MEC system (2022); Collaborative Network for Strategic Studies of the Health Workforce in Brazil (https://trabalhoemsaude.com.br/odontologia-2020-2021/#). [c] e-Gestor system, Ministry of Health; CNES. [d] National Health Survey (IBGE, 2019) Available at: https://www.pns.icict.fiocruz.br/wp-content/uploads/2021/02/liv101764.pdf e https://biblioteca.ibge.gov.br/visualizacao/livros/liv101748.pdf **;** ANS, 2018; 2022 (plan holders per operator). Available at: https://www.ans.gov.br/anstabnet/cgi-bin/tabnet?dados/tabnet_cc.def, data collected in October 2023.

the 'infrastructure' component, the government introduced the accreditation of part-time OHts (20/30 hours per week). In the 'funding' component, there was a 10% increase in the amount allocated for monthly health team expenses (material and equipment): from R$2,230.00 to R$2,453.00 for type I teams and R$ 2,980.00 to R$3,278.00 for type II teams. A budget item

Chart 2. Institutional actions related to the PNSB developed by the federal government during each year of the Bolsonaro government (2019-2022), Brazil.

Categories analyzed	2019	2020	2021	2022
Office for the General Coordination of Oral Health, Ministry of Health[a]	January to April 2019 – post of Coordinator remained vacant; Rogéria Cristina Calastro de Azevedo (appointed 05/2019)	Rogéria Cristina Calastro de Azevedo (up to 05/2020) Vivaldo Pinheiro Guimarães Júnior (06/2020 to 07/2020) Caroline José Martins dos Santos (08/2020	Caroline José Martins dos Santos (up to 11/2021) Wellington Mendes Carvalho (appointed 12/2021)	Wellington Mendes Carvalho (up to 12/2022
Institutional actions[b]	**Management and Organization:** Publication of a manual on the manufacture of dental prostheses using the microwave polymerization technique; **Funding and Care Model:** Creation of the Previne Brasil program and changes in primary health care funding and evaluation; **Infrastructure:** Oral health survey in Maputo (International cooperation, Brazilian MH and MH of Moçambique); Presidential veto of Bill 34/2013 proposing the mandatory provision of dental care to hospital patients.	**Management and Organization:** Publications on Covid-19 (guidance on the functioning and organization of oral health services). **Funding:** Financial incentives for the reorganization of physical space in health facilities and risk reduction; 10% increase in the amount allocated for monthly expenses of type I and II OHts; **Infrastructure:** Registration and financial incentives for part-time OHts (20 and 30h per week); **Care model:** *Programa Saúde na Hora.*	**Management and Organization:** Creation of a Technical Advisory Board in the SAPS; Revision of technical note on RDPLs; Adjustment of dental care in the SUS in response to Covid-19. **Funding:** Ministerial orders setting out new funding rules for OHts and changing the deadlines for the introduction of the rules of the Previne Brasil program; **Infrastructure:** Public hearing on "Guidelines for clinical dental practice in PHC – dental treatment for pregnant women"; Changes to the registration of primary care teams in the CNES and creation of the INE for funding, monitoring and evaluation; Inclusion of the "Dental services closest to you" function in the "Conecte SUS" app	**Management and Organization:** data collection, SB Brasil; Manual "A step-by-step guide to the actions of the National Oral Health Policy"; Report on the use of dental amalgam; Guidance on the registration of OHts in the CNES; Guidance on the recording and sending information on dental procedures performed in DSCs; **Funding:** Federal monitoring and funding of DSCs and RDPLs during the pandemic. **Infrastructure:** Public hearing on "Guidelines for clinical dental practice in PHC (10 guidelines of 22); Revision of the standard primary health care individual dental treatment record; Revision of the electronic patient record (PEC version 5.0 for use in DSCs); **Care Model:** national plan to guarantee dental care for pregnant women in public health services

PHC = primary health care; CNES = National Registry of Health Facilities; DSC = Dental Specialty Center; OHt = oral health team; INE = National Team Identifier; RDPL = Regional Dental Prosthesis Laboratory; MS = Ministry of Health; SB Brasil = National Epidemiologic Survey on Oral Health.

Sources: [a] Official government gazette (2019; 2020; 2021; 2022); [b] Ministry of Health (official websites); website of the Department of Primary Health Care (SAPS).

was also created for part-time teams (20h, R$1,226.50; and 30h, R$1,839.75)[18]. Actions in the 'care model' component included the creation of *o Programa Saúde na Hora* (the Timely Health Care program) and introduction of part-time OHts (Chart 2).

In 2021, the MS issued ministerial orders setting out new OHt funding rules and moving

the deadlines for commencing the application of the rules of the *Previne Brasil* program. In the 'management and organization' component, the ministry created the Technical Advisory Board within the SAPS, revised the technical note on RDPLs, and published new reports on oral care in public health services. The following actions were developed in the 'infrastructure' component: first public hearing on the "Guidelines for clinical dental practice in PHC; changes to the registration of primary care teams in the CNES; creation of the National Team Identifier (INE) for team funding and monitoring and evaluation; and addition of the 'Dental services closest to you' function to the "*Conecte SUS*" app, providing the address of the public oral health service closest to the patient (Chart 2).

During the last year of the Bolsonaro government (2022), institutional actions in the 'management and organization' component were marked by the beginning of data collection for National Epidemiologic Survey on Oral Health, publication of the Manager Guidance Manual on PNSB Actions, technical report on the use of dental amalgam, and guidelines on registering OHts in the CNES and on recording dental procedures performed by DSCs. In the 'Funding' component, guidance was published on federal funding incentives for DSCs and RDPLs in the context of the pandemic, ensuring the maintenance of federal transfers regardless of whether or not performance targets were met, with suspension of funding only in the case of services that failed to register performance figures ("zero output") in the SIA-SUS for three consecutive months[19]. Regarding the 'infrastructure' component, public hearings were held to discuss the "Guidelines for clinical dental practice in PHC" and the primary care individual dental treatment record and DSC electronic patient record were revised. Finally, in the 'care model' component, a national plan to guarantee the provision of dental care for pregnant women in public health services was introduced. The aim of the plan was to incorporate oral health care into routine antenatal care, envisaging the following key goals: to guarantee pregnant women free access to oral health care in primary care services; to provide guidance to pregnant women on the importance of oral health care for maternal and infant health; to raise awareness of the importance of antenatal dental care among health care workers in public health services; and to improve indicator performance in the *Previne Brasil* program[20] (Chart 2).

Policy results

There was a decline in performance across indicators of primary care oral health services in 2019 and across all indicators in 2020. It is important to note that the pandemic started to unfold in 2020, with high mean monthly COVID-19 bed occupancy rates (Table 1).

COVID-19 vaccination began in 2021 and, despite an increase in deaths during this year, there was a reduction in bed occupancy rates compared to July and December of the previous year. In 2022, the percentage of the population who had received the COVID-19 vaccination increased and the total number of COVID cases, deaths and hospitalizations decreased. These improvements in the COVID-19 epidemiological profile were accompanied by an improvement in oral health service indicators. However, the only indicators to reach levels equal to or higher than those in 2019, prior to the pandemic, were first diagnostic dental appointment and production of dental prosthesis (Table 1).

There was a peak in overall funding for the PNSB in 2020, followed by a reduction in subsequent years and gradual increase in the percentage of funding allocated to specialized services (Table 1).

Percentage growth in oral health services, especially DSCs and RDPLs, was highest during the first and second Lula governments. In the first Dilma government, RDPLs showed the highest percentage growth, with growth tapering off across all types of services in the second Dilma government, Temer government and Bolsonaro government. The lowest percentage growth was found during the Bolsonaro government (Figure 1).

Percentage change was highest during the first and second Lula governments across all oral health indicators except production of dental prosthesis, which was highest during the first Dilma government. Percentage change was negative across some oral health indicators during the first Dilma government, second Dilma/Temer government and Bolsonaro government. Supervised group toothbrushing only began to be recorded in the last year of the first Lula government (2006) (Figure 2).

Discussion

Our findings show that the PSNB was affected by a series of changes in the CGSB during the Bolsonaro government, with a slight increase in

Table 1. Monitoring of indicators of the COVID-19 pandemic, public oral health services (results of the PNSB) and federal funding of oral health for each year of the Bolsonaro government (2019-2022), Brazil.

Categories	2019	2020	2021	2022
Indicators of the COVID-19 Pandemic [a]				
Cases		7.675.973	14.611.548 (+ 90%)*	14.043.760 (+3,9%)*
Deaths		194.949	424.107 (+117%)*	74.797 (-82,4%)*
Mean Covid-19 bed occupancy rate (ward and ICU)		59% (jul. 2020) 67% (dez. 2020)	55,8% (jul. 2021) 44,4% (dez. 2021)	52,1% (jul. 2022)
Number of fully immunized individuals			143.356.785 (67,20%)	172.821.751 (80,45%)
PNSB results [b]				
First diagnostic dental appointment	11.848.993 (- 16,65%)**	5.212.835 (-53,24%)**	8.195.482 (-26,49%)**	12.113.628 (+8,66%)**
First diagnostic dental appointment coverage	5,6%	2,5%	3,8%	5,6%
Mean number of supervised group toothbrushing	0,37% (-7,5%)**	0,02% (-95,0%)**	0,03% (-92,5%)**	0,14% (-65,0%)**
Endodontic treatment	642.021 (+8,4%)**	296.655 (-49,9%)**	379.774 (-35,8%)**	518.451 (-12,4%)**
Specialized periodontal treatment	341.248 (+1,2%)**	211.363 (-37,3%)**	235.522 (-30,2%)**	283.438 (-16,0%)**
Total number of dental prostheses produced	822.982 (+14,2%)**	505.116 (-29,9%)**	618.005 (-14,2%)**	931.913 (+29,4%)**
PNSB funding [c]				
Total in R$ (inflation adjusted)	630.484.521,59 (-8,4%)**	1.636.275.692,58 (+16,0%)***	1.562.818.334,03 (+10,8%)***	1.513.110.630,12 (+7,3%)***
% primary care	100,00%	64,08%	67,25%	66,00%
% specialized care	0,00%	35,92%	32,75%	34,00%

* compared to previous year; ** compared to results in 2018; *** compared to funding in 2017.

Sources: [a] Cases confirmed up to the last day of the year (31/12) https://covid.saude.gov.br/; https://g1.globo.com/saude/coronavirus/vacinas/noticia/2021/12/31/vacinacao-contra-a-covid-mais-de-1433-milhoes-de-pessoas-estao-totalmente-imunizadas.ghtml; https://g1.globo.com/saude/coronavirus/noticia/2022/12/30/brasil-registra-121-novas-mortes-por-covid-media-movel-retorna-para-estabilidade-apos-quase-40-dias-com-tendencia-de-alta.ghtml; ANS (https://www.gov.br/ans/pt-br/assuntos/noticias/covid-19); [b] Time series data of dental procedures obtained from the Outpatient Information System (SIA-SUS) and Primary Health Care Information System (SISAB). [c] National Health Foundation (2019); e-Gestor primary care information system (2020-2022).

the number of OHts and DSCs and larger increases in the number of RDPLs. There was a reduction in federal funding of the policy and a decline in performance across most of the indicators analyzed by this study – first diagnostic dental appointment coverage, supervised group toothbrushing, endodontic treatment and specialized periodontal treatment. The only indicator to see an improvement in performance was production of dental prostheses.

In line with the results of the present study, previous studies also show poor access to both primary and specialized oral health care, revealing regional inequalities in the distribution of services[21,22] and lack of access to many services among vulnerable populations[21]. Less than 50% of the Brazilian population visited the dentist in the last 12 months and only 22.9% of those who did used public services[23]. Rates of dental visit in the last 12 months, utilization of private services (out-of-pocket) and private dental health insurance plans were higher in the South, Southeast and Midwest, the country's most developed regions[23]. The rate of utilization of public services was highest in the North and Northeast[23]. In addition to the inequalities highlighted by this

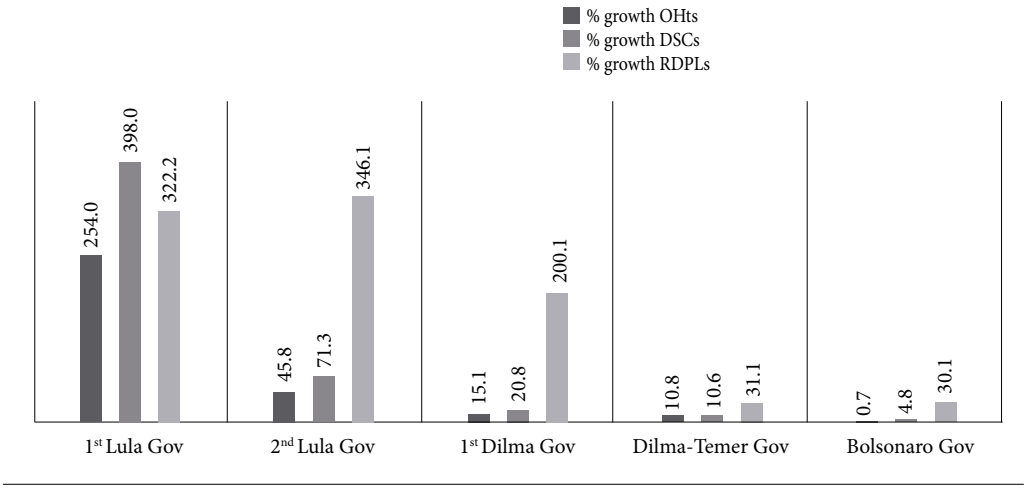

Figure 1. % change in the number of oral health teams, dental specialty centers and regional dental prosthesis laboratories in each government between 2003 and 2022, Brazil.

Source: Ministry of Health. DATASUS/CNES, 2023.

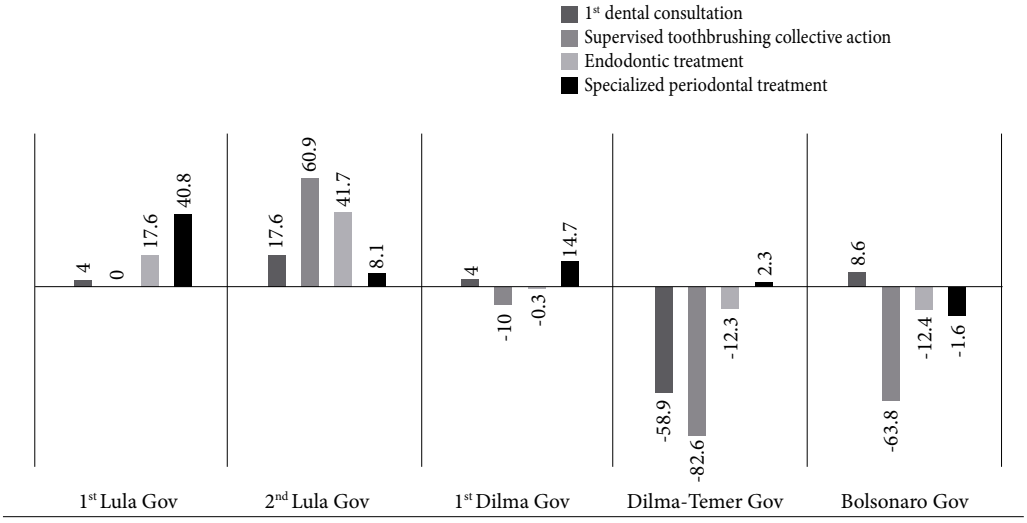

Figure 2. Percentual change in first diagnostic dental appointments, supervised toothbrushing collective action; endodontic treatment and specialized periodontal treatment in each government between 2003 and 2022, Brazil.

Source: Ministry of Health. SIA-SUS, SISAB, 2023.

study, the results show that people rely largely on the private sector for dental treatment and the proportion of the population with private dental health insurance is growing, with an increase of 24.7% over the period.

It is important to highlight that public oral health services were suspended in 2020 due to the COVID-19 pandemic, influencing performance. Routine dental services were badly affected by the pandemic, with less developed regions being especially impacted by the reduction in the availability of services[24]. The results show that the number of patients receiving dental care decreased more in public services than

in private services (38.7 ± 18.6 versus 22.5 ± 17.8)[25]. Shortages in PPE was one of the factors that contributed to the reduction in dental appointments in public services, including urgent care. These findings confirm the reduction in the provision of oral health care and suggest an increase in regional health inequities and socioeconomic inequalities during the pandemic[25,26].

In addition, the fact that the *Previne Brasil* program only receives funding for one oral health indicator – dental care for pregnant women[2] – may have induced municipal health authorities and teams to prioritize this agenda to the detriment of other population health needs and demands. This is one of the adverse effects of this performance-based funding mechanism, in addition to an increase in overreporting and misreporting[27,28].

The design of the PNSB is top-down, meaning that federal government institutional actions, especially those tied to funding such as the *Previne Brasil* program, have greater influence on policy implementation at municipal level, where actions and services are developed, affecting results[29].

The implementation of the PNSB has witnessed some major setbacks. The policy was coordinated by agents from the military field (Rogéria Cristina Calastro de Azevedo) and political field, outside the field of dentistry (Vivaldo Pinheiro Guimarães Júnior). It was only after significant pressure from dental organizations that the post of coordinator was occupied by agents from the bureaucratic field, career civil servants from the MS qualified in the field of public health (Caroline Martins José dos Santos, Wellington Mendes Carvalho). In addition to instability, successive changes in the coordination of the CGSB during the period reveal the low priority given to this policy by the Bolsonaro government in comparison to the Dilma and Lula governments[29], resulting in a lack of expansion.

In 2021 and 2022, when the post of coordinator of the CGSB was occupied by agents from the bureaucratic field, actions aimed specifically at enhancing the PNSB were developed (creation of a technical advisory committee; public hearings; beginning of the data collection process for the National Epidemiologic Survey on Oral Health; computerization of OHts and DSCs). This reveals the importance of professional qualification in the field of public health and a background in management in the bureaucratic field, with greater accumulation of capital, including scientific, bureaucratic and political capital, and the incorporation of habitus and technical and administrative skills specific to this field, to ensure the effective implementation of the policy[30].

In addition to changes in funding introduced by the *Previne Brasil* program, other funding-related actions developed by the MS warrant highlighting. In 2020, the MS increased the amount of funding for monthly type I and II OHt expenses[18] and, despite the suspension of elective care during the pandemic, maintained federal funding of DSCs and RDPLs. In 2021 and 2022, performance-based transfers were also maintained regardless of whether or not monthly targets were met[31]. However, despite the maintenance of these transfers, total federal funding for the PNSB decreased by R$123,165,062.46 (Table 1) between the first year of the pandemic (2020) and last year of the Bolsonaro government (2022).

Percentage changes across indicators of oral health services and the results of the PNSB show that performance during the Bolsonaro government was poorer, deepening the downward trend observed in the previous government; unlike the results in the first and second Lula governments and first Dilma government, which showed greater growth in the first period and subsequent stabilization[14]. From the Temer government onwards, the coordinator of the CGSB was replaced several times and performance across indicators of primary and specialized oral care declined, with this trend being maintained during the Bolsonaro government[4,13].

These results corroborate the findings of other studies showing that left-leaning governments tend to allocate more funding to social welfare policies than right-wing governments, with greater expansion of health care provision, primary care and OHts[32]. The same occurred with the PNSB in the center-left governments of the first and second Lula governments and first Dilma government.

This tendency was no different during the Bolsonaro government. The process of defunding the public health service and policy shifts and setbacks intensified with the introduction of ultra-neoliberal policies[33,34]. Despite the pandemic, after adjusting for inflation, health funding in 2021 was similar to that in 2017[35]. Privatization was also observed within primary care services, with the introduction of mechanisms to allow the allocation of resources to social organizations, as seen with specialized and hospital care[35]. It is also worth mentioning that in 2016, when a right-wing party coalition came

to power, a constitutional amendment freezing public spending on social protection policies for 20 years was passed, ushering in a process of defunding of public health services and private sector partnerships[36], with some studies predicting that this would impact the maintenance of health services and the quality of the government response to the population's health needs[32,35]. Our findings show that these predictions have proved to be accurate.

It is also important to highlight that this period of government also witnessed a major regression in the transparency of public data, prioritizing practices that promote opacity and secrecy [37], with certain data on the PNSB not being found or being more difficult to access.

Study limitations include the fact that data collection was performed during a period of governmental instability, with inadequate feeding of information systems and difficulties in accessing data due to changes in the provision of data on primary care indicators and federal funding of the policy, and the use of preliminary results of the National Epidemiologic Survey on Oral Health (2021-2022). However, these limitations do not undermine the potential use of these publicly available data for monitoring and analyzing trends in oral health policy in Brazil. Our findings reveal important insights into the implementation of oral health policy and provide inputs to help improve performance and indicate new directions for future research.

In conclusion, our findings reveal setbacks to oral health policy during the Bolsonaro government, evidenced by a decline in performance across oral health indicators, limited expansion of services, reductions in federal funding and instability and lack of continuity in the coordination of policy at federal level in the MS. This last aspect especially undermined an historically important space in Brazil for the implementation of national oral health policy. Federal government is expected to govern and develop guidelines for action, including the area of oral health, which was not done effectively. Future studies should continue to monitor the PNSB to assess the implementation of new actions developed under this policy.

Collaborations

LPS Santos, SCL Chaves and AMFS Limaparticipated in the conception and design of the study, collection, analysis and interpretation of data, writing of the article and final critical review. DMOC Vilela, CVO Figueiredo and TP Lima participated in the collection and analysis of data and writing of the article. CLM Soares participated in the critical review of the article.

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