Admission of dentist in Brazilian Universal Health System (SUS): a priority agenda for the strengthening of Smiling Brazil

Abstract This article aims at: i) describing and analyzing the expansion of dental care in the Unified Health System (SUS); ii) Identifying and analyzing the characteristics of hiring dentists’ in the public service; iii) characterizing public vacancies, their duties and remuneration. In this descriptive case study, databases of the Ministry of Health were consulted and public tender notices. The findings indicate that 48% of the dentists enrolled in the National Registry of Health Establishments (CNES) perform care in the SUS, in 13 years there was an increase of 118% of the municipalities with oral health teams (eSB) implanted. The population coverage estimated by eSB increased by 10.46% between the years 2007 and 2015. The main mechanism for joining the Dental Specialties Centers (CEO) was the public tender. Primary care salaries ranged from 1.05 to 12.67 Brazilian minimum wages, to 40-hour weekly jobs, and to CEOs from 3.35 to 7.05. It is concluded that, among other measures, the planning of HRH strategies is necessary. The continuity of successes regulatory measures of labor contracts and support to local managers enter the agenda of priority actions of oral health policy.

Key words Human Resources in Health, Public Policies, Oral Health
Introduction

The poor geographic distribution of health professionals is a global problem which affects a number of countries\(^1\), among which is Brazil\(^2\) and correcting such distortions will certainly contribute to improve the health services coverage. Scholars on the subject point out that to reach the health objectives for all, a workforce at sufficient number, with professionals from different competent areas, motivated and properly assigned to a number of geographic regions, is required. In addition, the importance of explicit policies directed towards the development of Human Resources for Health (HRH)\(^3\) should be emphasized.

International health agencies already foster such discussions over a certain time and, in 2013, Brazil hosted the 3rd edition of the Global Forum on Human Resources for Health, organized by the World Health Organization (WHO), Pan American Health Organization (PAHO) and Health Alliance Global Workforce. The forum resulted in a report which reinforced the need for the political commitment for the valuation of the HRH in the health agendas post-2015. This report encouraged the conduction of this study when it indicated that the government must elaborate regulatory mechanisms to ensure the health system response capacity\(^4\). This subject was also highlighted in the 4th Global Forum on Human Resources for Health held in 2017 in the city of Dublin, Ireland\(^5\).

In Brazil, the “Mais Médicos” program was responsible for bringing the problem of the lack of health professionals in some regions of the country to the political discussions center, once the professionals tend to concentrate in major urban centers\(^6\). The Unified Health System (SUS) poses that the healthcare is fully provided, and for that purpose the coordination of the services with view to meet the promotion, prevention, cure and population rehabilitation is required.

Among the determinants which influence the health professionals’ decisions concerning their working place, are: personal, professional, organizational, economic, political and cultural\(^7\). Thus, the financial incentives cannot be considered as the only way to encourage the recruitment and retention of professionals\(^8\), interventions developed in different sectors, such as education, health and employment, have presented higher impact compared to stagnant interventions\(^9\). In this scenario, the Secretariat of Health Work and Education Management (SGTES), instituted the Health Work Management policy, which values the worker for SUS effectiveness and efficiency guaranteeing the basic service requirements, among them, are: Carrier, Position and Salary Plan and the employment relationship and social protection\(^10\).

At SUS, the human resources contracting forms were subject to changes over the years. The 1988 Federal Constitution, instituted the Single Legal Regime (RJU), i.e., the statutory bond, on which the hiring process would exclusively occur by means of a public sector recruitment examination. However in 1998, the constitutional amendment expanded the employment relationship forms. Currently, the contracts can also be executed according to the Consolidation of Labor Laws (CLT) in addition to allowing the mediation of organization to outsource the HFH contracting (Public or Private)\(^11\).

In this context, for recognizing the Oral Health as an integral and essential part for the general health and for the quality of life of the population\(^12\), in 2004 the Ministry of Health implemented the National Oral Health Policy (PNSB), called “Brasil Sorridente” which, in addition to strengthen the primary attention by means of the Oral Health Teams (eSB), linked to the Family Health Strategy (ESF), constitutes an oral health attention network which was responsible for the expansion of the dentist jobs at SUS throughout the national territory. However, it is noted that, as well as in medicine, dentistry also shows health gaps, resulting from the poor distribution of dentists\(^13\). Taking this reality posed in Brazil into consideration and the existing conceptual framework concerning the factors which influence the HRH distribution\(^14\), this article is intended to i) describe and analyze the dentist provision expansion at SUS, ii) identify and analyze the characteristics of the employment relationship of the dentists with the service; iii) characterize the public sector recruitment examination vacancies concerning the requirements, attributions and remuneration.

Methodology

This is a Brazilian, descriptive case study which integrates a set of researches on HRH regulation developed by the Brazilian Human Resources Observatory on Dentistry (OBSERVARHODONTO) and the Institute of Hygiene and Tropical Medicine (IHMT) of the New University of Lisbon, Lisbon - Portugal.
Different sources of information were used in order to generate the data required for the study. Secondary data extracted from different Ministry of Health banks was used, being: 1) *Department of Basic Care (DAB)*\(^{15}\) – in order to identify the expansion of the dentist provision at SUS (by means of the eSB implementation history); 2) *DATASUS – Information Technology Serving SUS and the National Registry of Healthcare Establishments (CNES)*\(^{16}\) – (in order to identify the number of dentists with job relationship with SUS); 3) *Healthcare e-management*\(^{17}\) – in order to identify the population coverage of the eSB; 4) *Program for the Improvement of the Access and Quality of the Dental Specialty Centers (PMAQ-CEO)* – in order to analyze the employment relationship of the dentists with the job and the offer of specialized service in Brasil Sorridente in the five country regions. In this step, data from the external evaluation by PMAQ-CEO 1\(^{\text{st}}\) Cycle, conducted in 2014\(^{18}\), was used.

The external evaluation by PMAQ-CEO was divided into three modules: direct observation module, interview with the manager and with a professional from the unit and the last one, user satisfaction. In this study, questions from the interview with the manager and with a professional from the unit module were selected, because they allowed to identify the number of CEOss in the country, the geographic distribution of the services and the employment relationship of the dentists with the job, determining the choice of this Brasil Sorridente network component for this study. Among the indicators, the following ones were considered: contracting agent (question VIII.4.1), type of relationship (question VIII.4.2), hiring mechanism (question VIII.4.3.1) and career plan/financial premium for performance (question VIII.5).

Finally, a documentary survey was conducted in the public sector recruitment examination’s schedule of conditions. The schedule of conditions bank was made available by a company which advertises public sector recruitment examinations in websites and contained schedule of conditions related to different open positions in the country in the period from 2006 to 2015. Only the schedules of conditions which contemplated open positions for dentists with jobs in the city halls of Brazilian municipalities were selected, generating a total of 210 schedules of conditions. This data was organized on the SPSS program (version 15.0, SPSS Inc, Chicago, IL) and a draw by sample replacement selected five schedules of conditions per State (convenience sample) so as to contemplate the five Brazilian regions (Center-West, Northeast, North, Southeast and South). It’s worth emphasizing that in some states, the maximum number of schedule of conditions found was five, thus, this number was also standardized for the other States, totaling, therefore, a total of 135 schedule of conditions analyzed in a convenience sample. The schedule of conditions were fully read and the information relevant for the study, such as general aspects (year when the public sector recruitment examination was performed and geographic region), position aspects (specialty required, care level, number of positions offered, as-needed registry, employment relationship, contracting agent, hours worked and salary) were analyzed by applying descriptive statistics in software SPSS (version 15.0, SPSS Inc, Chicago, IL).

**Results**

The findings are presented in three sections: 1) Expansion of the dentist provision at SUS; 2) Characteristics of the employment relationship of the dentists with the service; 3) Characterization of the public sector recruitment examination for the dentists at SUS.

**Expansion of the dentist provision at SUS**

Around 48% of the dentists registered with CNES do Brasil provide services at SUS (Table 1). The North and Northeast regions present most of the dentists registered with CNES with job relationship with SUS, 61% and 67% respectively, while the Center-West, Southeast and South regions are prevalent in the private sector, this data shows that the dental work market is changing and is no longer being characterized only as a sector, but within a public-private scenario\(^{19}\).

The implementation of Brasil Sorridente may have been an important booster of this number, once over only 13 years, a 118% increase has been noted in the municipalities with eSBs implemented. At the end of 2015, around 90% of the Brazilian municipalities presented eSBs, being 22,227 eSBs in modality 1 (dentist and oral health assistant) and 2,240 eSBs in modality 2 (dentist, oral health assistant and oral health technician). Concerning the population coverage estimated by the eSBs, a 10.46% increase was noted between 2007 and 2015 (Table 2).
Employment relationship of the dentists with the service

The CEOs are a reference for the basic healthcare, and also articulators of the oral health tertiary care at SUS. Brasil Sorridente has 1034 CEOs, being that 930 participated in PMAQ-CEO (62 in the Center-West, 355 in the Northeast, 59 in the North, 337 in the Southeast and 117 in the South). The implementation of the CEOs was also responsible for the expansion of job opportunities for dentists at SUS and the data reveals that the main hiring mechanism at CEO was the public service recruitment examination, however, around 33% did not occur through this way (Table 3).

According to PMAQ CEO data, concerning the contracting agent, it is noted that 20% of the analyzed dentists are cont hired from the direct administration, but by means of other hiring forms: public intermunicipal consortium, private intermunicipal consortium, public foundation, private foundation, social organization (SO), public interest civil society (OSCIP), philanthropic entity, company, cooperative and others which have not been typified (Table 3).

Concerning the professional growth opportunity, in the total of CEOs, 307 (33%) present-
ed contracts with career plan for the dentists. However, there were variations concerning the geographic regions, being 50% of the CEOs in the Center-West, 15% in the Northeast, 41% in the South region (Table 3).

Characterization of the public sector recruitment examination's schedule at SUS

Characterization of the public sector recruitment examination's schedule at SUS

Table 3. Hiring mechanism for dentists in the CEOs, contracting agent of the dentist in the CEOs and opportunity for professional growth.

<table>
<thead>
<tr>
<th>Region</th>
<th>Public Service Recruitment Examination</th>
<th>Others, not typified</th>
<th>Total</th>
<th>Direct administration</th>
<th>Others, not typified</th>
<th>Total</th>
<th>Professional growth</th>
<th>Yes</th>
<th>No</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Center-West</td>
<td>431 (70%)</td>
<td>186 (30%)</td>
<td>617</td>
<td>516 (84%)</td>
<td>99 (16%)</td>
<td>615</td>
<td></td>
<td>31 (50%)</td>
<td>31 (50%)</td>
<td>62</td>
</tr>
<tr>
<td>Northeast</td>
<td>1202 (44%)</td>
<td>1510 (56%)</td>
<td>2712</td>
<td>1,930 (70%)</td>
<td>809 (30%)</td>
<td>2739</td>
<td></td>
<td>53 (15%)</td>
<td>302 (85%)</td>
<td>355</td>
</tr>
<tr>
<td>North</td>
<td>411 (72%)</td>
<td>161 (28%)</td>
<td>572</td>
<td>524 (94%)</td>
<td>34 (6%)</td>
<td>558</td>
<td></td>
<td>24 (41%)</td>
<td>35 (59%)</td>
<td>59</td>
</tr>
<tr>
<td>Southeast</td>
<td>2678 (81%)</td>
<td>622 (19%)</td>
<td>3300</td>
<td>2,799 (86%)</td>
<td>454 (14%)</td>
<td>3253</td>
<td></td>
<td>136 (40%)</td>
<td>201 (60%)</td>
<td>337</td>
</tr>
<tr>
<td>South</td>
<td>791 (75%)</td>
<td>267 (25%)</td>
<td>1058</td>
<td>780 (76%)</td>
<td>244 (24%)</td>
<td>1024</td>
<td></td>
<td>63 (54%)</td>
<td>54 (46%)</td>
<td>117</td>
</tr>
<tr>
<td>Total</td>
<td>5513 (67%)</td>
<td>2746 (33%)</td>
<td>8259</td>
<td>6,549 (80%)</td>
<td>1,640 (20%)</td>
<td>8,189</td>
<td></td>
<td>307 (33%)</td>
<td>623 (66%)</td>
<td>930</td>
</tr>
</tbody>
</table>

Source: Elaborated by the author(s) using data from PMAQ-CEO, 2015.
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As the salary references were from a 10-year period, we established our analysis from the ratio of the schedule of conditions salary to the Brazilian minimum wage related to the year the public service recruitment examination was conducted²⁰.

**Discussion**

It is noted that in little more than one decade, there was an expressive increase of the availability of job opportunities and that approximately half of the workforce in dentistry presents a relationship with SUS. The increase of the eSBs can be noted not only in major urban centers, but in the whole country, what is certainly cooperating to correct part of the iniquities and reduce, to some extent, the inequalities in the use of the services²¹. However, the population coverage is still insufficient and places the principle of the universal healthcare at risk, as stated by SUS. Concerning the employment relationship in the CEOs, it was identified that 20% of the dentists are hired by management modalities which are not subject to the direct administration of the State. This subject is very controversial among the main political actors of the SUS, with opposite and

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**Table 4.** Job vacancies offered in the schedule of conditions analyzed according to the five Brazilian regions.

<table>
<thead>
<tr>
<th>Region</th>
<th>Schedule of Conditions</th>
<th>Job vacancies</th>
<th>Job vacancies per care level – n (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td>Primary care</td>
</tr>
<tr>
<td>Center-West</td>
<td>15</td>
<td>55 (8%)</td>
<td>8 (15%)</td>
</tr>
<tr>
<td>Northeast</td>
<td>45</td>
<td>201 (28%)</td>
<td>87 (43%)</td>
</tr>
<tr>
<td>North</td>
<td>35</td>
<td>186 (26%)</td>
<td>6 (3%)</td>
</tr>
<tr>
<td>Southeast</td>
<td>20</td>
<td>251 (35%)</td>
<td>139 (55%)</td>
</tr>
<tr>
<td>South</td>
<td>15</td>
<td>22 (3%)</td>
<td>7 (32%)</td>
</tr>
<tr>
<td>Total</td>
<td>130</td>
<td>715 (100%)</td>
<td>247 (35%)</td>
</tr>
</tbody>
</table>

Source: Elaborated by the author(s) with data from the analyzed schedule of conditions.

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**Table 5.** Remuneration related to the job vacancies and the region characteristics*.

<table>
<thead>
<tr>
<th>Region</th>
<th>Level of Attention</th>
<th>Primary Care</th>
<th>CEO</th>
<th>Not Informed</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Workload</td>
<td>20 h/w</td>
<td>40 h/w</td>
<td>20 h/w</td>
</tr>
<tr>
<td>Center-West</td>
<td>Minimum</td>
<td>7,11</td>
<td>4,79</td>
<td>-</td>
</tr>
<tr>
<td></td>
<td>Maximum</td>
<td>7,11</td>
<td>5,78</td>
<td>-</td>
</tr>
<tr>
<td>Northeast</td>
<td>Minimum</td>
<td>-</td>
<td>1,05</td>
<td>2,73</td>
</tr>
<tr>
<td></td>
<td>Maximum</td>
<td>-</td>
<td>8,95</td>
<td>2,73</td>
</tr>
<tr>
<td>North</td>
<td>Minimum</td>
<td>-</td>
<td>4,13</td>
<td>-</td>
</tr>
<tr>
<td></td>
<td>Maximum</td>
<td>-</td>
<td>7,06</td>
<td>-</td>
</tr>
<tr>
<td>Southeast</td>
<td>Minimum</td>
<td>2,87</td>
<td>2,86</td>
<td>3,38</td>
</tr>
<tr>
<td></td>
<td>Maximum</td>
<td>2,87</td>
<td>12,67</td>
<td>3,38</td>
</tr>
<tr>
<td>South</td>
<td>Minimum</td>
<td>2,41</td>
<td>3,79</td>
<td>4,17</td>
</tr>
<tr>
<td></td>
<td>Maximum</td>
<td>3,37</td>
<td>5,63</td>
<td>4,17</td>
</tr>
</tbody>
</table>

*The values are related to the ratio of the schedule of conditions salary (for the different programs and workloads) to the Brazilian minimum wage related to the public service recruitment examination according to the Departamento Intersindical de Estatística e Estudos Socioeconômicos (DIEESE)²⁰. Source: Elaborated by the author(s) with data from the analyzed schedule of conditions.
favorable opinions. Girardi and Carvalho points out that identifying the contracting agents is crucial to outline management strategies and instruments directed towards the HRHs. There are evidences that differences in the employment relationship among the professionals of the same service may present negative consequences to the team work process.

In the analyses of the public service recruitment examinations’ schedule of conditions, it was noted that although the hiring via public service recruitment examination provides stability for the professional, for not being bond to possible political changes and guaranteeing the labor rights, the low salaries found in some schedule of conditions, the remuneration and workload variations to perform the same job may discourage the professional and affect the initiatives of the program for fighting against the work precariousness at SUS. The literature indicates that in order to reach the universal healthcare coverage availability, accessibility, acceptability and quality of the healthcare workforce are required. Thus, it’s equally that in addition to the professionals’ availability, the monitoring and evaluation of the entire set of interventions being conducted in the health sector are conducted so as to identify the results of the implemented strategy and allow the investigation of the contextual factors which influence its success or failure.

This study sought to approach the expansion of dentists in the SUS and analyze it under the view of the employment relationships, considering that the professional stability is crucial to motivate and improve the development of the professionals in the health sector. With the management decentralization, established from the 1988 Federal Constitution and regulated by Laws 8.080/90 (Health Organic Law) and 8.142/90 the municipality became the major employer of health professionals, including the dentists. Currently, the country has 5,570 municipalities, being important to emphasize that each of them present different socioeconomic realities and, many times precarious, placing Brazil among the countries presenting the highest inequality rate in the world. The Brazilian reality, characterized by the regional diversities, poses important details to be analyzed, among them, Campos et al. question: What compensation does SUS offers to the municipalities concerning the structure and infrastructure, instruments and public management models in order to guarantee a constitutional mission? In case of Brasil Sorridente, the political directives point out the need to: “undertake the commitment for the qualification of the basic care, guaranteeing quality and problem-solving, regardless of the strategy adopted by the municipality for its organization” (p.4). If, on the one hand the politics recommend that the eSBs provide quality in care, on the other hand, it may fail in case it does not present the organizational mechanisms required to do it. Politics must have an inducing role in the work qualification; currently, to register an eSB, implement a CEO or any other Brasil Sorridente network component, the municipal Manager is required to submit a proposal to the Municipal Council of Health and, if approved, it must submit it to the State Bipartite Intermanagers Commission (BIC). In case of accreditation of the eSBs, such proposal must include, among other information, the description of the recruiting, selection and hiring process of the team professionals. In case the proposal is approved, the municipality receives the transfer of resources for the implementation of the requested component, however, the process is not monitored. The importance of some initiatives by the Ministry of Health is remarkable concerning the employment relationships as, for example, the Career Policy for SUS and the Negotiating Table, but it’s also required that the HRH hiring practices are part of Brasil Sorridente policy agenda, because in addition to being considered as a powerful tool for more efficient management, they can be crucial to improve the quality of the HRH provision measures. Recognizing the evidence that the incentives considered as being efficient for the health workers must present: clear objectives; being realistic; reflecting the health professionals’ needs and preferences; being well designed and strategically able for their purposes; being appropriate for the local context; being fair; equitable and clear; being measured and followed; incorporating financial and non-financial elements. It’s clear that only expanding the number of health professionals without establishing a national regulatory HRH picture, which contemplates such evidence, may affect the sustainability of the policies and affect the access to health, particularly in remote and vulnerable communities.

Although the job opportunities at SUS have increased, surveys still point out a growing trend to the poor distribution of dentists in the country, particularly for considering that the concentration of educational institutions and the better purchasing power of the population in the major urban centers influence the decision on where the dentists will work, once this professional class
seeks a double public/private practice\textsuperscript{36}. This is a crucial subject, however poorly explored in the health systems\textsuperscript{37}. The lack of a position and salary plan may collaborate with this behavior and favor the SUS professionals turnover\textsuperscript{38}. Brasil Sorridente organizes the oral healthcare based on the ESF precepts, which recommends a workload of 40 hours/week. This strategy recognizes and values the need of the employment relationship and the distribution of professionals, in addition to the commitment and partnership between the professionals and the community\textsuperscript{39}, however, some inconsistencies are reported such as, for example, the flexibility of the workload in detriment of precarious hiring forms\textsuperscript{40}. The presented results point out that this can be the reality also in dentistry, once public service recruitment examinations' schedule of conditions intended to the eSBs with a workload of 20 hours/week were identified. This reality may cooperate for the distance of the professional from the service and for possible ethical conflicts related to the public/private market, such as, for example, the achievement of the \textit{status} and financial gain in the private service and the guarantee of stability and labor advantages in the public service\textsuperscript{19}. The professional valuation must be strengthened; for that purpose, Nogueira\textsuperscript{41} points out the importance of a legal situation of the relationships by means of professionals duly approved in the public service recruitment examination. A study conducted in a macro-region of the State of Minas Gerais verified the selection criteria used to hire health worker and identified that the municipal secretaries used a number of selection criteria and that only 20% of them were by means of public service recruitment examination. The study also calls the attention to some selection forms adopted by the secretaries, such as, for example, the political appointment which, according to the author are: “alternatives for the archaic incorporation of employment, customer and heritage favoring”\textsuperscript{42}(p.925).

This study presents limitations inherent to the method because it is based on secondary data. These sources may present biases once they depend on the continuous update of the bodies responsible for the information. In order to reduce such bias, several data sources were found. In addition, the OBervARHODONTO is developing qualitative surveys intended to deepen such analyses.

Finally, it is understood that recognizing the facilitators and the contextual barriers related to the health professionals distribution becomes crucial to plan the future actions. Concerning the facilitator, a number of policies directed to the HRS can be highlighted in different sectors in Brazil\textsuperscript{43}, specific policies on the problem, such as PROVAB and Mais Médicos, as well as others which did not present only this objective provided the expansion of services in national territory, such as, for example, Brasil Sorridente.

Concerning the obstacles, this study contributed to identify weaknesses existing in the dentists' work relationship with the services, particularly concerning the lack of regulation in the employment contracts. The State impartiality concerning the municipal decisions must be reviewed; not in the retrograde and arbitrary sense of the centralized and inflexible management, but in the search of co-responsibility and clarity. In 10 years with Brasil Sorridente, US$ 2.6 billion were invested in the oral health, a necessary expenditure and with several benefits to the population\textsuperscript{13}. Now, it is necessary to analyze the impact indicators of it and of other policies and adjust the next steps with view to the intersectoral approach or the actions and in the commitment with decreasing the social inequalities. The countries planning to qualify the health workforce, with view to reach the universal coverage, must propose regulation measures in different context, in the health professionals' qualification, management at all the system levels and also the regulation of the human resources for health, which must be directed by the population needs and expectations, taking the socioeconomic and cultural diversity into consideration. Therefore, it's necessary, among other measured, to plan strategies directed to the HRH.

The challenges posed to Brazil to overcome the health inequalities and improve the provision, require the continuous expansion of job opportunities in dentistry, so as to strengthen the network and allow the completeness of care at SUS, however, the continuity of the successes achieved requires that the regulatory measured of the employment works and support to the local managers are part of the priority actions agenda of Brasil Sorridente policy.
Collaborations

M Gabriel worked in the study design, methodology, data collection and analysis, article structuring and writing, and wording review in all versions, including the final one. MH Cayetano and MM Chagas worked in the data collection and analysis, article structuring and writing in all the versions, and in the final wording review. ME Araujo, G Dussault, GA Pucca Junior and FCS Carrer worked in the study design and in the article wording review in all the versions, including the final one.

References


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