



Original article

Secondary care in stomatology in Brazilian dental specialty centers*

Atenção secundária em estomatologia nos centros de especialidades odontológicas do Brasil

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Resumo

Objetivo: descrever a organização da assistência em Estomatologia dos Centros de Especialidades Odontológicas (CEOs) do Brasil. **Materiais e Métodos:** realizou-se estudo transversal e descritivo utilizando dados do Programa de Melhoria do Acesso e Qualidade dos Centros de Especialidades Odontológicas (PMAQ-CEO). **Resultados:** foram avaliados um total de 930 CEOs. Deste montante, 65,5% das equipes eram habilitadas em estomatologia e se concentravam no Sudeste (37,8%). Houve diferenças regionais na organização dos serviços de referência, porém, observaram-se, na maioria dos CEOs, protocolos que orientavam os encaminhamentos para a especialidade (57,8%); usuários encaminhados com termo por escrito/meio eletrônico (61,7%); sem cotas pré-definidas para encaminhamento (86,9%) e atendimento agendado em até uma semana (78,3%). A biópsia era comumente realizada (82,4%), as equipes possuíam referência para casos de câncer (80%) e o tema câncer de boca, abordado por 54,5% das equipes no matriciamento. **Conclusão:** o PMAQ-CEO revelou vazios regionais em relação à assistência em estomatologia e diferenças na organização do trabalho nos diversos estabelecimentos. Há necessidade de se conhecer as desigualdades regionais na organização dos serviços para melhor planejamento das políticas públicas a fim de diminuir o desequilíbrio na oferta do cuidado e no acesso e utilização dos serviços.

Palavras-chave: Atenção secundária à saúde. Odontologia em saúde pública. Medicina bucal. Pesquisa sobre serviços de saúde.

Abstract

Objective: to describe the organization of Oral Medicine assistance in Brazilian Dental Specialty Centers (CEOs in Portuguese). **Materials and Methods:** cross-sectional and descriptive study was carried out using data from the Access and Quality Improvement Program for Dental Specialty Centers (PMAQ-CEO in Portuguese). **Results:** a total of 932 CEOs were evaluated. Of these CEOs, 65.5% of the teams were qualified in Oral Medicine and were concentrated in the Southeast Region (37.8%). There were regional differences in the organization of services references. However, protocols that guided referrals to the specialty were observed in most CEOs (57.8%); users referred with a written form/electronic records (61.7%); without pre-defined quotas for referral (86.9%) and appointment scheduled within one week (78.3%). Biopsies were commonly performed (82.4%). CEOs had references for cancer cases (80%) and oral cancer was addressed by 54.5% in matrix support. **Conclusion:** PMAQ-CEO revealed regional gaps in relation to assistance in Oral Medicine and differences in the organization of work in different establishments. There is a need to know the regional inequalities in the organization of services for better planning of public policies in order to reduce the imbalance in the provision of care and access and use of services.

Keywords: Secondary care. Public health dentistry. Oral medicine. Health services research.

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Introduction

The National Oral Health Policy, launched in 2004, encouraged the expansion of primary health care (PHC) and the increase in the supply of specialized dental services, mainly through the creation and implementation of dental specialty centers (CEOs in Portuguese). It also promoted the reorientation of the care model with the implementation of a care model that articulates the three levels of care and multidisciplinary and intersectoral actions, guided by the search for completeness in health care¹⁻³.

CEOs are establishments that provide specialized services in oral health in order to complement the actions of PHC. They work in the oral health care network (OHCN) through referral and counter-referral mechanisms, matrix support and permanent health education as instruments to ensure comprehensive care⁴. The Consolidation Ordinance n. 5, of September 28, 2017 (Origin: Ordinance n. 599/GM, of March 23, 2006), presents stomatology, with emphasis on the diagnosis and detection of oral cancer, as one of the five minimum specialties foreseen for the CEO⁵, whose operating guidelines are contained in the Manual of Specialties in Oral Health⁶.

The emphasis on the diagnosis and detection of oral cancer is justified because it is a public health problem with important morbidity and mortality. More than 50% of cases are diagnosed in advanced stages⁴. Estimates reveal 11,180 new cases of oral cancer in men and 4,010 in women for each year of the 2020-2022 triennium in the country, ranking fifth among all the most frequent cancers in men and 13th among women⁷.

In view of the important role they play in reducing inequalities in access to specialized dental services, CEOs require continuous evaluation in order to advance the quality of the services offered⁸. However, there is a lack of studies about specialized care in oral health. In Brazil, the current government initiative is the National Program for Improving Access and Quality of Dental Specialty Centers (PMAQ/CEO in Portuguese), implemented by the Ministry of Health, which brings together qualification strategies, monitoring and evaluation of CEOs from infrastructure and inputs to issues related to the work process. The objective is to contribute to improving the care provided by secondary care and to expand the access of specialized dental services to the Brazilian population¹⁰.

Considering the importance of the oral health care network in the detection and diagnosis of oral mucosal lesions, in particular, the early diagnosis/treatment of oral cancer, this study sought to describe elements involved in the network organization of the CEO's stomatology care in five macro-regions of the country, through the analysis of data from the PMAQ/CEO external evaluation.

Materials and Methods

This is a cross-sectional, quantitative and descriptive study that used secondary and public domain data from the external evaluation stage (EES) of the 1st cycle of the PMAQ-CEO, whose collection took place in 2014 by qualified evaluators in partnership with Educational and Research Institutions and are available in online format¹¹. There was evaluation of 930 CEOs participating in the program.

The PMAQ-CEO EES was organized into three modules, namely: module I – direct observation in order to evaluate infrastructure conditions of CEOs, equipment, instruments, medicines, materials and inputs; module II – interview with manager and dental surgeon to obtain information on team work processes and organization of care for the user; and module III – interview with users to verify their satisfaction and perception regarding health services. As a component of analysis, the data referring to the number of professionals working in the stomatology specialty extracted from module I and information on work process and organization of services, obtained from module II, were considered. Module II questions should preferably be related to the specialty under study. However, some general data were included, which complemented the understanding about the organization of the service. Analyses were performed by geographic macroregion and federal unit. The descriptive analysis was performed using the IBM SPSS® (Statistical Package for the Social Sciences), version 24.0, when the frequency distributions of the quantitative variables were made.

The study collected data from the public domain, thus not requiring approval by a Research Ethics Committee.

Results

The data were presented in three components of analysis: a) management of people in stomatology care; b) stomatology care in OHCN; c) biopsy and oral cancer care.

Management of people in stomatology care

The results of the PMAQ-CEO EES revealed 746 dental surgeons working in stomatology care, distributed in 611 CEOs in Brazil, that is, of the 930 CEOs evaluated, 319 (34.4%) were not qualified in stomatology. The Southeast macroregion concentrated the largest number of these services (n=228; 37.8%), followed by the Northeast (n=222; 36.1%) and the lowest national average in the North (n=35; 5.8%). In the states of Acre, Amazonas and Roraima, there was no report of CEO qualified in the specialty.

Less than half of the professionals (n=353; 47.3) did not have specialized training in the investigated area. Added to the percentage of those with update and/or improvement, this index reached 65.9%. The geographic distribution followed the same pattern previously mentioned: Southeast with the highest rates (41.3%) and North (3.8%) with the lowest concentration of specialists in the investigated area (Figure 1).

Figure 1. Number of professionals working in the dental field according to professional training in Brazil and its distribution by geographic macroregion (n=746)



Stomatology care in OHCN

Access to the CEO was mostly by referral (n=533; 57.3%). However, a significant percentage of the teams (n=397; 42.7%) received the user by spontaneous demand and referenced (mixed form) or totally spontaneous. PHC oral health teams adopted the order of arrival at the basic health unit for referral of users to the CEO (n=452; 48.6%). Unlike the other macroregions, in the Southeast, risk stratification was a priority criterion adopted by the PHC oral health team for referral to specialized care (n=411; 44.2%).

As for the organization of the flows of PHC users to stomatology, most respondents (n=538; 57.8%) proved the existence of agreed clinical protocols that guided the referrals. In fact, 61.7% of the CEO teams (n=574) received users referred from PHC to stomatology care, with a written term or by electronic means. There were no predefined quotas per PHC oral health team for referrals (n=808; 86.9%). Table 1 shows these results by macroregion, in which regional differences are observed in the investigated elements.

Table 1. Elements related to the organization of user flows for the Stomatology specialty at Dental Specialty Centers (CEO) in Brazil

Element	Yes		No	
	n	%	n	%
Are there clinical protocols to guide Stomatology referral?				
Northeast	152	42.8	203	57.2
Midwest	40	64.5	22	35.5
Southeast	246	73.0	91	27.0
South	79	67.5	38	32.5
North	21	35.6	38	64.4
Brazil	538	57.8	392	42.2
Does the specialty receives the user referred by the Basic Health Unit with (written or electronic) term?				
Northeast	179	50.4	176	49.6
Midwest	47	75.8	15	24.2
Southeast	247	73.4	90	26.7
South	81	69.2	36	30.8
North	20	33.9	39	66.1
Brazil	574	61.7	356	38.3
Are there predefined quotas for the referral of users to Stomatology?				
Northeast	46	13.0	309	87.0
Midwest	5	8.1	57	91.9
Southeast	45	13.4	292	86.6
South	23	19.7	94	80.3
North	3	5.1	56	94.9
Brazil	122	13.1	808	86.9

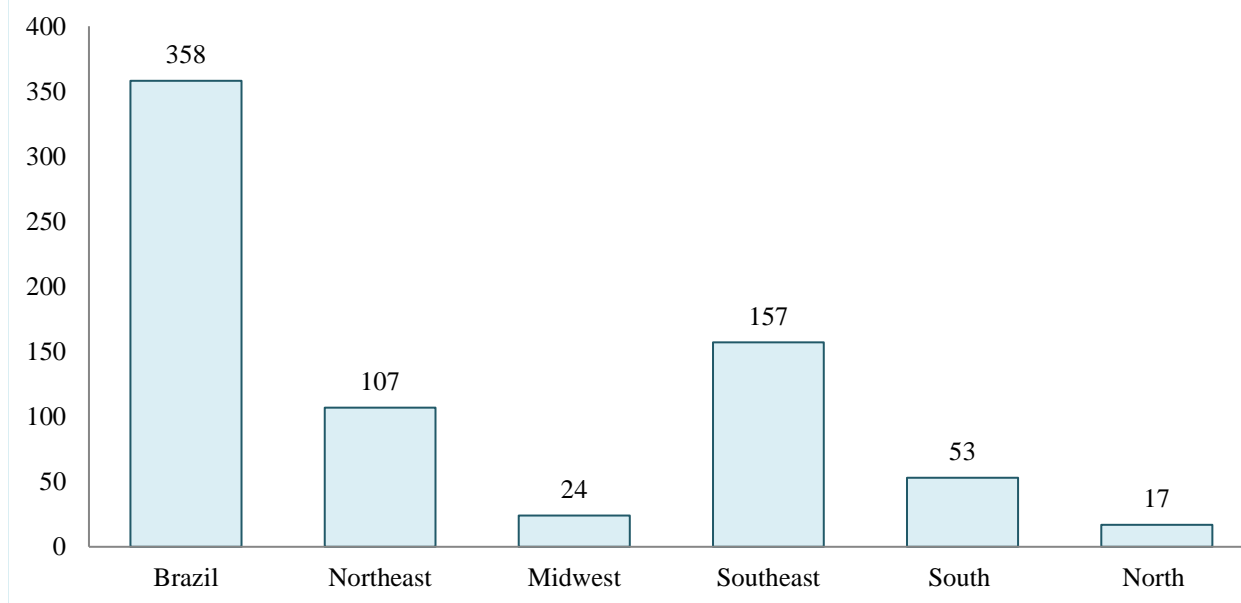
Stomatology care was performed on the same day or up to one week (n=478, 78.3%), followed by care within 30 days (n=123; 20.2%). Only (n=09) 1.5% of the teams stated waiting time for care of up to six months. Counter-referral was performed by means of a specific form in most CEOs (n=527; 86.2%). Less than 1% (n=06) did so through a computerized system or electronic medical record and 6.6% (n=39) reported having no systematic action to return the user to the unit that referred them.

There was a significant demand from CEO professionals for matrix support in solving cases considered complex (n=591; 63.7%), and this demand was met in most teams (n=742; 79.9%). Of the specialties investigated by the program, 60.8% (n=564) of the interviewees stated that stomatology demands matrix support.

In the matrix-based actions of the CEO’s professionals with the PHC health teams, the theme “training with the PHC professionals for the detection of oral cancer”, an approach more directly related to stomatology, was contemplated by just under half of all CEOs (n=358, 38.5%). Regional differences were observed in the development of matrix support with the Southeast and Northeast macroregions with a greater number of teams addressing oral cancer, 46.6% (n=157) and

30.1% (n=107), respectively. In the other regions, less than half of the teams dealt with the subject (Figure 2).

Figure 2. Approach to oral cancer in the matrix actions of professionals from dental specialty centers together with primary health care teams (n=930)



The permanent education performed by the cities was not a common practice for the CEO teams (49.5%). In addition, of those who said that there was a permanent education offer to professionals, only 28% reported that the action fully contemplated the demands and needs of the team.

Biopsy and oral cancer care

The biopsy procedure was performed by 82.4% of the CEO teams (n=765), with the highest production in the Midwest (95.2%) and the lowest in the North (66.1%). The registry of users diagnosed with oral cancer was maintained by 53.8% (n=509) of the teams with regional differences, especially between Southeast and North, where, respectively, 67.4% and 27.1% of the teams had documents with case records.

Most teams (n=707; 92.5%) had laboratory reference for the referral of specimens for histopathological analysis, with a percentage greater than 80% in all macroregions, and 80% of these teams had reference for the referral of confirmed cases of oral cancer. The transport of the surgical specimen to the laboratory was made available by the health department (n=380; 53.6%), most of the time. The period for biopsy, counted from the identification of the need for the procedure, was up to one week (n = 662; 86.5%).

Discussion

The study revealed unequal geographic distribution of CEOs across the country and about one third of these establishments without qualification in stomatology, contrary to the Consolidation Ordinance n. 5, of September 28, 2017 (Origin: Ordinance 599/GM, of March 23, 2006) which establishes the mandatory provision of stomatology care, with emphasis on the diagnosis of oral cancer, across CEO⁵.

Less than half of the professionals had specialization in the area and, in fact, there is no specific qualification requirement to work in the CEO⁵, although complementary training influences the practice and quality of work⁹. There was also disproportionality in the distribution of these specialists, with concentration in the Southeast region. Similar data were found by Arouca *et al.*¹², in which half of all specialized dentists were concentrated in 21 cities, which represented 0.4% of the total cities of the country, being the concentration of stomatologists in the Southeast macroregion, and North represented the neediest of these profession¹².

In fact, in Brazil, there is an imbalance in the provision of higher education, concentrated in the Southeast region. São Paulo is the federal unit with the highest number of enrollments in higher education, considering face-to-face courses and distance learning (DL)¹³. This disparity is also reflected with dentistry courses that are concentrated especially in this region. These professionals tend to remain in the same place after graduation, especially seeking continuing education, since the Southeast has a greater offer of postgraduate courses (masters, doctorate or specialization courses)¹⁴.

When it comes to the distribution of CEOs across the country, this situation is challenging and requires policies that encourage dental surgeons to regions where there is a greater lack of professionals¹⁴, in order to reduce health inequalities, especially with regard to access and use of services¹⁵. Therefore, this is an important indicator to be considered by management in health planning.

As for the organization of services, CEOs, key elements in the configuration of the OHCN, must have a good integration and articulation with the other care points. This depends on an effective referral and counter-referral system that operates with agreed flows and protocols and specific forms to formalize the referral, assisting in the continuous and integral service of users^{4,16}. Even in view of the existence of the Manual of specialties in oral health⁶ prepared by the Ministry of Health with referral criteria between PHC and specialized care, the study showed asymmetry between regions regarding the organization of user flows in OHCN.

It is understood, therefore, that the existence of the manual is not enough, the use of this document demands discussion among the professionals involved in the places where they implement their practices and professional training that can be given through permanent education¹⁷. The system of referral and counter-referral operating with limitation may allow secondary care to function as a gateway to users, making it difficult to continue care⁹, since referral by the PHC health team increases the chance of returning to this level of care¹⁷. Moreover, the lack of knowledge of PHC regarding user flows can generate unnecessary displacements and reveal a lack of communication between the services that should work organized in a local-regional support network¹⁸.

In this sense, the incentive to matrix support and permanent education is important, since they are tools that favor the organization of services and comprehensive care by contributing to the development of guidelines and protocols that help in the referral and counter-referral, defining the role to be played by both basic health care unit professionals and CEO professionals in the construction of care¹⁹.

Still in this scenario, the study revealed a demand of stomatology care for matrix support that may result from the fact that many mouth lesions are manifestations of diseases/systemic conditions²⁰, requiring information with other professionals for the decision in the conduct. Moreover, there is the fact that the dental surgeon is also responsible for the diagnosis and support of lesions with suspected malignancy due to the knowledge about the structures of the mouth and ability to meet oral demands in the pre, trans and post-cancer treatment⁶.

It is noteworthy that the PHC and CEO teams are responsible for the diagnosis and treatment of prevalent lesions of the oral mucosa and both should value the surveillance and recognition of patients who have risk factors for mouth cancer⁶. Thus, the teams of CEOs, as matrix support actions, should usually contemplate the detection of oral cancer in matrix support actions. However, it is a content still little addressed in the matrix actions.

In the context of structuring health services, training workers is another essential element in order to transform professional practices and contribute to the organization of work⁴. Permanent education is an auxiliary tool that should be stimulated, especially in smaller cities, far from traditional educational institutions²¹, since it can occur in person or distance¹⁹.

In contrast, the present study revealed that continuing education is not a common practice and there are failures in the planning of the activity that should start from the collective analysis of the team's work processes for the identification of critical nodes. This upward planning encourages the construction of contextualized strategies for coping with difficulties and demonstrates more impact on the transformation of professional practices^{22,4}. In stomatology care, permanent education

could bring benefits, especially in terms of oral cancer, since it is a public health problem with an important cause of morbidity and mortality, in which more than 50% of cases still have late diagnosis^{4,7}.

Studies have highlighted the need for training health professionals to advance in the early diagnosis of cancer and attributed the late identification of the disease, in part, to the lack of complete clinical examination by the professional and the lack of familiarity with the pathology^{23,24}. Other reasons may also be related to the patient or even to the health system, such as: lack of knowledge and lack of perception of signs and symptoms; ignorance about its risk factors; and lack and/or precariousness of medical and dental care²⁵. In fact, these factors deserve to be considered, since, in this study, the estimated time for the user to be assisted in stomatology, from the identification of the need to referral to the specialty, in most teams, was brief (up to one week).

The execution of incisional or excisional biopsy is almost confused with the stomatology practice⁴, not by chance, the study showed that it is a procedure performed by most CEOs. However, the pattern of regional inequality is repeated, in which the North stands out with the lowest production. It is also the macroregion that has a smaller number of professionals to respond to the demands of the specialty. Overall, there seems to be a good management of the other flows that the biopsy procedure demands, from the laboratory reference to the referral of specimens to the return of the report by the pathologist.

It is emphasized, however, that the impact of biopsy in the current epidemiological scenario of oral cancer depends on effective planning and continuous monitoring of prevention, diagnosis and aiming at a better use of health services²⁶.

While some data revealed organizational arrangements that collaborate with a networked service, others pointed to fragmented attention. The results on referral criteria, clinical protocols that guide the flows, planning of matrix support actions especially regarding the approach to oral cancer and planning of permanent education revealed regional differences in the work process and highlighted the weaknesses in the network organization in some locations. These deficiencies can impact continuity of care, comprehensiveness, and information exchange among professions^{6,25-27}, with consequences on the quality of care offered. Moreover, it is assumed that these results reflect the difficulty of returning the user of stomatology care to the unit that referred them with updated information about their health condition and treatments performed.

Scientific studies using secondary data have limitations, such as information bias or inability to control and/or ensure data quality. Nevertheless, the importance of the public availability of this information for researchers is emphasized, contributing to low-cost studies.

Conclusion

The PMAQ-CEO revealed regional gaps in relation to stomatology care and disproportionality in the distribution of dental surgeons across the country. It also showed regional differences in the work process, highlighting the complexity of the management of a network health system. There is a need to encourage permanent education as well as the approach to oral cancer in matrix support actions. The study also highlights the importance of knowing the geographical differences in the network and provision of stomatology assistance for better planning of public policies, in order to reduce inequalities in the provision of care and in the access and use of services. This was a study that presented, at the national level, the role of stomatology in the OHCN of the UHS.

Authors' contributions

The authors approved the final version of the manuscript and declared themselves responsible for all aspects of the work, including ensuring its accuracy and completeness.

Conflict of interest

The authors declare no conflicts of interest

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