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ORIGINAL ARTICLE

Situation of Endodontics in the Public Health Service in Brazil through the Access and Quality Improvement Program (PMAQ-CEO)

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Abstract

Objective: To describe and analyze the situation of endodontics in the Brazilian public service. **Material and Methods:** Data from questions about endodontics were divided by states and regions and organized in spreadsheets for descriptive statistical analysis, with absolute and relative data. **Results:** It was found that the northern region of Brazil concentrates the smaller number of services (6.4%). Pre-established protocols with basic attention to the endodontics specialty are applied in 73.3% of CEOs. Overall, 24% of services use rotating instruments and 38% use apical locators; 87.4% perform endodontic treatment in teeth with 3 or more roots. In these centers, 75.7% of dentists who perform endodontics are specialists, masters or PhD in dentistry. Endodontics has the highest absenteeism rate and the longer waiting time to initiate treatment compared to the other basic specialties. **Conclusion:** The endodontics situation of the resulting PMAQ-CEO revealed that the specialty is the most requested, but services lack more effective management mechanisms to minimize the observed absenteeism problem by reducing existing waiting lines. The situation also revealed that endodontics services at CEOs are provided by specialists, almost half of the services perform single session treatment on vital pulp teeth and that the same proportion of CEOs use apical locators and / or rotating instruments to perform endodontic treatment. Investments in the installed capacity, permanent management and education are still needed to improve the quality of services provided to the population.

Keywords: Public Health Dentistry; Endodontics; Health Care Evaluation Mechanisms.

Introduction

The National Oral Health Policy, called *Brasil Sorridente*, is one of the largest public health policies in the world [1]. According to SB Brazil 2010, data show that Brazil has achieved improvements in indicators of access to services and reduction in epidemiological indexes. The *Brasil Sorridente* program was implemented in 2004 and follows the same guidelines of integrality and equity of care proposed by the Unified Health System (SUS) [2,3].

The Centers for Dental Specialties (CEOs) were a great milestone in the implementation of the *Brasil Sorridente* program, in such a way that they became a synonym of this policy, since for the first time, an oral health policy included specialized dentistry treatments through secondary care [4]. The unique characteristics of this type of service have led to several surveys regarding the scope, type of services provided, management, regional differences, user satisfaction and service providers [5-7].

Each CEO must provide dental care at least in the following specialties: Oral Diagnosis, Periodontics, Minor Oral Surgery, Endodontics, Care of Persons with Special Needs, respecting the norms established by law.

> "The CEO must perform a minimum monthly production in each specialty, defined in Administrative Rule 1,464 / GM, of June 24, 2011. The transfer of resources related to the monthly incentives of the Centers for Dental Specialties - CEO can be suspended, when the minimum monthly production in any of the specialties is not reached for two consecutive months or three alternate months in a period of one year and shall be maintained until the regular minimum production is reached".

SUS is the largest universal health system in the world, funded by federal, state and municipal resources, serving a population of more than 200,000 million inhabitants [8]. Qualifying the service network and guaranteeing access to users is a daily challenge faced by SUS managers, who since 2011 have created the largest institutional evaluation program of its history, called the Access and Quality Improvement Program (PMAQ) [9]. Primary care has already had two assessment cycles in 2012 and 2013, and the latter was included in the evaluation the Centers of Dental Specialties, with the institution of PMAQ-CEO.

According to the PMAQ-CEO evaluation data, 932 CEOs were evaluated in 26 states plus the Federal District, visited by external evaluators. Data obtained through the PMAQ-CEO evaluation have very consistent information by performing a radiograph of Dentistry services provided in SUS and the results found in relation to the Endodontics specialty have led us to carry out this study.

Endodontic therapy aims at the preservation of the dental element, collaborating with the success of public oral health policies that aim, among other actions, to avoid dental losses. The introduction and expansion of CEOs have allowed the increased insertion of endodontics into the public health system, avoiding early dental losses due to the lack of specialized care services and the

increase in the population of certain regions [10]. Endodontic treatments performed in CEOs are referenced by the Basic Health Units (UBS) and Family Health Units (USF), according to ordinance No. 600 / GM of March 23, 2006. According to the protocol of the Ministry of Health [4], users originating from emergency care should go to the UBS to meet the established criteria (priority for endodontic treatment in relation to re-treatment, evaluate the possibility of reconstruction / restoration after treatment, prior assessment of the pain origin and previous preparation of the tooth before being referred with carious tissue removal, disinfectant penetration, delay dressing and temporary restoration, preferably in permanent teeth). Considering the great demand for services in CEOs, the aim of this study was to describe and analyze the situation of endodontics in Centers for Dental Specialties throughout Brazil.

Material and Methods

This study used unpublished data from the 1st cycle PMAQ CEO external evaluation, which was conducted in 2014. This phase was divided into three modules: a first module of direct observation, a second module of interview with CEO manager and professionals and the third of user satisfaction. The information was locally recorded by previously selected and trained dental surgeons. Data were stored in a specific program tablet whose responses were immediately sent to the Ministry of Health after evaluation submission. In this study, questions from the first and second modules were selected from a database search of the PMAQ-CEO evaluation. Questions related to the selected endodontic specialty are described in Table 1.

Table 1. Questions selected from the PMAQ-CEO evaluation tool for endodontic specialty.

Questions
VII.3 - Identification of the type and professionals of CEO
VII.3.4 - Number of dentists working in the minimum specialties: VII.3.4.2 Endodontics
VII.3.4 - Weekly hours of dental surgeons who work in minimum specialties: Endodontics
VIII.3.2 - Training of Dental Surgeons in the areas of CEO practice - Endodontics: Dentistry degree only, Upgrade / Improvement, Specialization / Master's / Doctorate
VIII.9.5 - Which specialty has the highest percentage of users' absenteeism?
VIII.10.5 - Are there agreed clinical protocols that guide the referral of primary care patients to CEOs for the following specialties?
VIII.11 - What is the expected waiting time for the user to obtain an appointment at CEO?
VIII.14.1 - On average, how many sessions are required to complete an endodontic treatment on teeth with live pulp?
VIII.14.2 - On average, how many sessions are required to complete an endodontic treatment on non-vital pulp teeth?
VIII.14.3 - Are these equipment used for endodontic treatment? Rotation Instrument and Apical Locator
VIII.14.4 - Does CEO perform endodontic treatment on dental elements with 3 or more roots?

Data Analysis

The selected data were organized into Microsoft Excel spreadsheets and analyzed using descriptive statistics, with absolute and relative data, in the Statistical Package for Social Sciences (SPSS) software.

Ethical Aspects

This work was approved by the Ethics Research Committee of the Federal University of Pernambuco (Protocol No. 740.874). Users and professionals were invited to voluntarily participate

in the research and after all the clarifications made by evaluators, they signed the free and informed consent form.

Results

The PMAQ-CEO results reveal unpublished and relevant data for planning in public health. Firstly, it was observed that the northern region has the lowest number of services, totaling 60 CEOs (6.4%). The state with the largest number of CEOs is São Paulo, with 179 services. Regarding the type of CEO, the highest proportion was type II CEO (50.9%), which offer 4 to 6 dental specialties per service, and only 11.7% of services are type III, which provide above 7 specialties (Table 1).

Table 1. Distribution of Centers for Dental Specialties (CEO) according to the type of CEO.

Regions / States	Type of CEO						Total	
	Type I		Type II		Type III			
	N	%	N	%	N	%	N	%
Northern	**24**	**40,0**	**26**	**43,3**	**10**	**16,7**	**60**	**6,5**
AC	1	50.0	1	50.0	0	0.0	2	
AM	2	18.2	8	72.7	1	9.1	11	
AP	1	33.3	0	0.0	2	66.7	3	
PA	16	55.2	8	27.6	5	17.2	29	
RO	0	0.0	6	85.7	1	14.3	7	
RR	0	0.0	1	100.0	0	0.0	1	
TO	4	57.1	2	28.6	1	14.3	7	
Northeastern	**144**	**40.3**	**164**	**45.9**	**49**	**13.7**	**357**	**38.4**
AL	11	50.0	10	45.5	1	4.5	22	
BA	29	38.7	38	50.7	8	10.7	75	
CE	37	46.3	16	20.0	27	33.8	80	
MA	3	11.5	22	84.6	1	3.8	26	
PB	33	62.3	16	30.2	4	7.5	53	
PE	17	42.5	21	52.5	2	5.0	40	
PI	14	50	13	46.4	1	3.6	28	
RN	0	0.0	21	91.3	2	8.7	23	
SE	0	0.0	7	70.0	3	30.0	10	
Southeastern	**112**	**33.2**	**199**	**59.1**	**26**	**7.7**	**337**	**36.2**
ES	6	66.7	2	22.2	1	11.1	9	
MG	27	32.5	54	65.1	2	2.4	83	
RJ	16	24.2	44	66.7	6	9.1	66	
SP	63	35.2	99	55.3	17	9.5	179	
Southern	**55**	**47.4**	**45**	**38.8**	**16**	**13.8**	**116**	**12.5**
PR	14	29.2	22	45.8	12	25.0	48	
RS	16	64.0	8	32.0	1	4.0	25	
SC	25	58.1	15	34.9	3	7.0	43	
Mid-western	**14**	**22.6**	**40**	**64.5**	**8**	**12.9**	**62**	**6.7**
DF	2	22.2	7	77.8	0	0.0	9	
GO	7	25.0	15	53.6	6	21.4	28	
MS	4	26.7	10	66.7	1	6.7	15	
MT	1	10.0	8	80.0	1	10.0	10	
Brazil	**349**	**37.4**	**474**	**50.9**	**109**	**11.7**	**932**	**100**

Regarding the endodontics specialty, 73.4% of Brazilian CEOs have a protocol agreed upon with primary care, with the lowest indicators are in the Northern (49.2%) and Northeastern regions

(61.5%); in the other regions, the agreed protocols are above 80%. The regions that most use the rotating instrument are the Southeastern (24.9), Southern (34.2) and Mid-western regions (24.2). Amapá, Roraima and the Federal District do not have services that use rotating instruments. On the other hand, the states of Piauí (46.4%) and Goiás (39.3%) are those states that rely on these instruments. In Brazil, 24% of the evaluated services use rotating instruments, and in the Southern region, 34% of services use this type of resource.

Table 2. Working process in Endodontics in Centers for Dental Specialties (CEO).

Regions / States	Working Process in Endodontics			
	Uses Rotating Instruments N (%)	Uses Apical Locator N (%)	Treats Teeth with 3 or more Roots N (%)	Existence of Agreed Protocol N (%)
Northern	**14 (23.7)**	**15 (25.4)**	**52 (88.1)**	**29 (49.2)**
RO	2 (28.6)	2 (28.6)	7 (100.0)	4 (57.2)
AC	0 (0.0)	0 (0.0)	1 (50.0)	2 (100.0)
AM	5 (45.4)	3 (27.3)	9 (81.8)	5 (45.5)
RR	0 (0.0)	0 (0.0)	0 (0.0)	1 (100.0)
PA	5 (17.9)	4 (14.3)	25 (89.3)	9 (32.2)
AP	0 (0.0)	2 (66.7)	3 (100.0)	1 (33.4)
TO	2 (28.6)	4 (57.1)	7 (100.0)	7 (100.0)
Northeastern	**70 (19.7)**	**91(25.6)**	**278(78.3)**	**218 (61.4)**
MA	1 (3.8)	2 (7.7)	17 (65.4)	12 (46.2)
PI	13 (46.4)	14 (50)	25 (89.3)	21 (75.0)
CE	18 (22.8)	35 (44.3)	60 (75.9)	51 (64.5)
RN	5 (21.7)	3 (13.0)	19 (82.6)	16 (68.5)
PB	8 (15.1)	5 (9.4)	42 (79.2)	29 (54.7)
PE	7 (17.5)	10 (25)	33 (82.5)	33 (82.5)
AL	4 (18.2)	7 (31.8)	15 (68.2)	13 (59.1)
SE	1 (10.0)	0 (0.0)	10 (100.0)	6 (60.0)
BA	13 (17.6)	15 (2.3)	57 (77.0)	37 (50.0)
Southeastern	**84 (24.9)**	**155 (46.0)**	**309 (91.7)**	**284 (84.3)**
MG	20 (24.1)	41 (49.4)	75 (90.4)	65 (78.3)
ES	2 (22.2)	2 (22.2)	4 (44.4)	5 (55.6)
RJ	13 (19.7)	40 (60.6)	61 (92.4)	57 (86.4)
SP	49 (27.4)	72 (40.2)	169 (94.4)	157 (87.7)
Southern	**40 (34.2)**	**68 (58.1)**	**113 (96.6)**	**99 (84.6)**
PR	18 (36.7)	31 (63.3)	49 (100.0)	39 (79.6)
SC	16 (37.2)	30 (69.8)	43 (100.0)	40 (93.0)
RS	6 (24.0)	7 (28.0)	21 (84.0)	20 (80.0)
Mid-western	**15 (24.2)**	**24 (38.7)**	**61 (98.4)**	**52 (83.9)**
MS	3 (20.0)	9 (60.0)	15 (100.0)	13 (86.7)
MT	1 (10.0)	4 (40.0)	10 (100.0)	6 (60.0)
GO	11 (39.3)	11 (39.3)	28 (100.0)	26 (92.8)
DF	0 (0.0)	0 (0.0)	8 (88.9)	7 (77.8)
Brazil	**223 (24.0)**	**353 (38.0)**	**813 (87.4)**	**682 (73.4)**

Regarding the use of the apical locator, 38% of services use this type of equipment throughout Brazil, and in the Southern region, 58% of services use apical locator, whereas in the northern and northeastern regions, about 25% of services use this type of equipment. It is noteworthy that 87.4% of CEOs perform endodontic treatment of teeth with 3 or more roots, reaching 98.4% in the Mid-western region. Among states, Roraima does not have this type of

treatment, whereas in the states of Rondônia, Amapá, Tocantins, Sergipe, Paraná, Santa Catarina, Mato Grosso, Mato Grosso do Sul and Goiás, all CEOs perform endodontic treatment of teeth with 3 or more roots (Table 2).

The average number of sessions used to perform endodontic treatment on teeth with vital pulp is 2 sessions in 42.7% of CEOS. In the Southeastern states, 50% performed this treatment in a single session (Table 3), while only 6.6% of services in Brazil performed a single session in cases of non-vital pulp teeth (Table 4).

Table 3. Frequency of number of endodontic treatment sessions for teeth with pulp with vitality by region

Regions / States	Endodontics –Pulp with Vitality				
	1 Sessions N (%)	2 Sessions N (%)	3 Sessions N (%)	4 Sessions N (%)	5 Sessions N (%)
Northern	21 (37.5)	25 (44.7)	8 (14.3)	1 (1.8)	1 (1.8)
Northeastern	91 (26.5)	158 (48.1)	82 (23.9)	10 (2.9)	2 (0.6)
Southeastern	109 (50.0)	25 (11.5)	72 (33)	10 (4.6)	2 (0.9)
Southern	36 (19.4)	128 (68.8)	17 (9.1)	5 (2.7)	0 (0.0)
Mid-western	14 (23.3)	32 (53.3)	11 (18.3)	3 (5.0)	0 (0.0)
Brazil	**271 (31.4)**	**368 (42.7)**	**190 (22)**	**29 (3.4)**	**5 (0.6)**

Table 4. Frequency of number of endodontic treatment sessions for teeth with pulp without vitality by region.

Regions / States	Endodontics - Pulp without Vitality						
	1 Sessions N (%)	2 Sessions N (%)	3 Sessions N (%)	4 Sessions N (%)	5 Sessions N (%)	6 Sessions N (%)	7 Sessions N (%)
Northern	2 (3.6)	18 (32.2)	29 (51.8)	3 (5.4)	3 (5.4)	0 (0.0)	1 (1.8)
Northeastern	19 (5.5)	100 (29.2)	143 (41.7)	64 (18.6)	13 (3.8)	3 (0.9)	1 (0.3)
Southeastern	26 (7.9)	111 (33.3)	141 (42.3)	42 (12.6)	8 (2.4)	5 (1.5)	0 (0.0)
Southern	11 (9.6)	52 (45.2)	40 (34.8)	6 (5.2)	6 (5.2)	0 (0.0)	0 (0.0)
Mid-western	2 (3.2)	24 (38.7)	21 (33.8)	12 (19.4)	2 (3.2)	1 (1.6)	0 (0.0)
Brazil	**60 (6.6)**	**305 (33.6)**	**374 (41.1)**	**127 (14)**	**32 (3.5)**	**9 (1)**	**2 (0.2)**

It can be seen in Table 5 that 75.7% of dental surgeons who perform endodontic treatment in CEOs have specialist, master or PhD degree in endodontics.

Table 5. Weekly workload and professional degree of dentists performing endodontics in CEOs.

Regions / States	Endodontics			
	Weekly Workload	Number of Dentists	Number of Specialists	% of Specialists
Northern		**144**	**118**	**81.9**
RO	13	21	13	61.9
AC	3	3	3	100.0
AM	19	24	19	79.2
RR	1	1	1	100.0
PA	54	64	54	84.4
AP	12	12	12	100.0
TO	16	19	16	84.2
Northeastern		**767**	**593**	**77.3**
MA	38	46	38	82.6
PI	43	66	43	65.1

CE	138	167	138	82.6
RN	48	53	48	90.6
PB	75	112	75	67.0
PE	83	102	83	81.4
AL	38	46	38	82.6
SE	22	27	22	81.5
BA	108	148	108	73.0
Southeastern		**955**	**699**	**73.2**
MG	180	251	180	71.7
ES	20	26	20	76.9
RJ	157	185	157	84.9
SP	342	493	342	69.4
Southern		**335**	**235**	**70.1**
PR	113	145	113	77.9
SC	87	103	87	84.5
RS	35	87	35	40.2
Mid-western		**156**	**139**	**89.1**
MS	37	44	37	84.1
MT	21	23	21	91.3
GO	60	68	60	88.2
DF	21	21	21	100
Brazil	**1784**	**2357**	**1784**	**75.7**

The specialty that presented the highest national percentage of absenteeism in consultations was endodontics (Table 6), and in most states, this was a frequent problem. It is noteworthy that data in Table 7 show that the average waiting time is 60 days for care in this specialty, and may reach almost a year in some services. As the analyzed data did not follow normal distribution, median was applied for better presentation of results.

Another aspect worth mentioning is that about 40% of responses in this item were classified as "not applicable", which means that some of the services did not present absenteeism or the manager was not aware of this fact. In the interview module with the manager, there were also some actions that CEOs perform to reduce absenteeism, but these data did not allow analysis of efficiency or effectiveness of strategies. Among the measures adopted, it is worth mentioning the appointment scheduling by overbooking, confirmation of consultation via telephone, in order of arrival, without prior scheduling, among others.

Table 6. Percentage of absenteeism of users by specialty in Centers for Dental Specialties (CEO).

Specialty	%
Endodontics	**23.0**
Oral Surgery	13.4
Periodontics	9.4
Patients with special needs	9.0
Pediatric dentistry	2.3
Radiology	1.1
Stomatology	0.6
Orthodontics	0.5
Implants	0.1
Not applicable	40.6
Total	100.0

Table 7. Estimated waiting time (days) for the user to receive endodontic treatment at Centers for Dental Specialties (CEO).

	Endodontics	
Regions / States	$\bar{x}$	**SD**
Northern	**36**	**50.5**
RO	50	38.0
AC	315	-
AM	29	29.7
RR	5	-
PA	23	21.6
AP	30	2.0
TO	49	65.6
Northeastern	**37**	**83.6**
MA	27	34.3
PI	24	18.8
CE	34	51.8
RN	45	57.4
PB	28	31.4
PE	29	25.1
AL	32	25.9
SE	60	51.5
BA	27	27.3
Southeastern	**97**	**110.6**
MG	136	147.9
ES	58	54.9
RJ	47	47.4
SP	100	101.5
Southern	**96**	**103.3**
PR	76	86.9
SC	111	112.9
RS	107	113.6
Mid-western	**82**	**112.1**
MS	27	21.4
MT	85	130.0
GO	120	132.3
DF	47	65.9
Brazil	**67**	**91.1**

Discussion

We have observed that in recent years, there has been an increase in the number of CEOs, currently 1034 units. Although the expansion of the services provided by CEOs (in terms of number of services and specialty coverage) is necessary, evaluations such as the PMAQ-CEO and PMAQ-AB are important for mapping the specific needs of regions and adjust service, respecting their characteristics.

The PMAQ-CEO data expressed in Table 1 show that the majority of CEOs are type II, and the highest concentration is in the state of São Paulo. There is an uneven distribution across the country, considering that states with great territorial extension and with difficulty of displacement have fewer units. This problem is already known through the scientific literature and points to an inequity in access to oral health services [11], aggravating inequalities and imposing barriers to comprehensive and longitudinal care. The confrontations of these problems will certainly depend on

planning for the expansion of services, taking into account aspects such as: demand, territorial extension, installed capacity, among others [12].

Although the guidelines of the Ministry of Health recommend that the procedures performed in the medium complexity are referenced by primary care, it was observed that almost 1/3 of services in Brazil still do not have protocols agreed with primary care, and in the northern region, less of half of CEOS receive their referenced patients from Basic Health Units. These data, added to data in Table 2, reveal that despite the observed advances in the installed capacity of services of average complexity, the oral health network needs to be more articulated, so that the reference and counter-reference of users is performed in order to guarantee greater resolution in the oral health network, with a view to completeness of care. Investments in management tools, such as the implementation of electronic medical records, information systems and regulation, may be important in structuring the oral health network, resulting in improved access and quality in SUS [13]. However, management procedures related to Human Resources in Health are also needed in order to qualify the service [14].

Regarding the endodontic work process performed in CEOs, currently, 1/4 of evaluated services use rotating instrument (Table 2). The complexity of endodontic treatment requires scientific and technical knowledge, requiring numerous resources for its accomplishment in order to avoid iatrogenic accidents. Several techniques and instruments have been introduced in endodontics in the last decades in order to reduce the time spent in the canal preparation, which is the most important and time consuming stage of treatment, and rotational instruments are the most used with this purpose [6,15]. Table 2 demonstrates that only 1/3 of CEOs have apical locator, which decreases the number of radiographs used during treatment. The use of fewer radiographs provides protection to the health of patients and workers (dentists, technicians and surgeons), reducing exposure to ionizing radiation, as well as saving financial resources by reducing films and chemicals used in the processing of radiographs [16].

Endodontic treatment in a single session, both in cases of pulp with vitality and in cases of pulp without vitality, have been extensively described in literature with high success rates, and to be performed, it is necessary to have a qualified professional and technological resources that aid in the reduction of the time consumed for its accomplishment [17].

In CEOs, 75.7% of professionals who perform endodontic treatment are specialists, have master or PhD degree in endodontics, which shows that the services have human resources qualified to perform procedures (Table 5).

The strategies of equipping CEOs with apical locators and rotating instruments allow professionals to perform the endodontic treatments with speed and quality. This efficiency allows cases to have better resolution and is counter-referenced for the primary care, so that they can receive the definitive restorations with greater speed, avoiding possible complications.

The discreet introduction of these technologies has not yet had an impact on the endodontic treatment queues of CEOs, which vary greatly from the evaluated state, and can reach more than 300

days of waiting (Table 7). On the other hand, endodontics is the specialty that presented the highest index of patient absenteeism in scheduled consultations (Table 6). This fact is very contradictory and the understanding and knowledge on the part of managers of the phenomena that can be related to the great queues and the high absenteeism in endodontics are fundamental in the correction of distortions and guarantee of access to the population. This is an issue that the PMAQ-CEO should explore in greater depth in the coming cycles, perhaps with the inclusion of some questions, with qualitative approach. An interesting and current data that reveals the importance of guaranteeing quality and sufficient services for endodontic treatment was revealed by the Oral Health Project São Paulo 2015, which pointed out that the endodontic treatment needs in the evaluated population was lower than the need for dental extraction [18]. This information may suggest that although there has been improvement in oral health conditions, many teeth are still lost or are indicated to be extracted, perhaps due to the lack of access to specialized treatment, including endodontics.

The emergence of CEOs has added unquestionable value to the National Oral Health Policy, and evaluations such as PMAQ-CEO and PMAQ-AB, while laborious and costly, provide important information regarding the needs for expansion and organization of these services. The PMAQ-CEO external evaluation, unlike the primary care assessment, was exclusively conducted by dental surgeons, which gave unique characteristics to this type of program. This particularity can be better explored in the coming cycles, as the evaluator can play a fundamental role of interlocution between the Ministry of Health and services in a more pedagogical process that goes beyond simple evaluation [19].

The use of financial resources and the rationalization of human resources are the great challenge to the management of CEOs and evaluations bring important contributions [20]. The situation of CEO's endodontics has shown that advances in the introduction of hard technology, with the use of equipment capable of delivering quality and speed to endodontic services, where professionals who perform it are qualified; however, endodontics is still the specialty with the highest queue in services, a fact that can have a decisive impact on the evolution of caries disease and dental loss.

During the PMAQ-CEO, a serious problem related to the coexistence of queues by specialty and absenteeism was observed, which has a great impact on the rationalization of human and financial resources and on the efficiency of services, resulting in possible idleness of professionals and reinforcing the vicious cycle of unacceptable injustices that need to be addressed through greater planning and management of the work process [21]. Studies have already pointed out that CEOs will need to invest in human resource management if they want to interfere with the problems raised in this study [19]. This study also reveals unpublished data from one of the largest public oral health networks in the world, which had a pioneering evaluation strategy to monitor the functioning of its units. With data collected in this first evaluation, it is hoped to contribute to the future evaluation cycles of PMAQ-CEO, in order to point out the current situation of endodontics in CEOs, highlighting the strengths and fragilities still complex and comprehensive. The interference in the

factors mentioned here can be decisive in guaranteeing the quality and access of users. Investment in local management training, respecting the characteristics and needs of each territory, and control of existing resources are necessary, as it becomes increasingly clear the urgency of an efficient management committed with the guidelines of the national policy of oral health and SUS.

Conclusion

The situation of Endodontics resulting from the PMAQ-CEO evaluation revealed that the specialty is the most sought by users, but the services lack more effective management mechanisms to minimize the absenteeism problem, reducing the existing queues. The situation also revealed that CEO endodontic services are mostly provided by specialists, and that almost half of services perform single session treatment on vital pulp teeth and that the same proportion of CEOs use apical locators and / or rotating instruments to perform endodontic treatment. In addition, investments in installed capacity, permanent management and education are necessary to improve the quality of services provided to the population.

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