

ORIGINAL ARTICLE

**ANALYSIS OF THE ACHIEVEMENT OF PRODUCTION TARGETS OF DENTAL  
SPECIALTY CENTERS IN THE STATE OF SANTA CATARINA / BRAZIL**

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**Highlights:** (1) 40.42% of CEOs achieved good performance in the Global target indicator. (2) The endodontics specialty performed worse in the months of December and January. (3) Five CEOs met the established monthly target, however, not consecutively.

PRE-PROOF

(as accepted)

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### ABSTRACT

Specialized Dental Centers (CEO) provide secondary oral health care and have monthly production targets to meet. Objective: To analyze the achievement of production targets by CEO in the state of Santa Catarina in 2018. This is a quantitative cross-sectional study using secondary data collected from the Outpatient Information System of the Department of Informatics of the Unified Health System (DATASUS). Forty-seven Specialized Dental Centers in Santa Catarina were analyzed, comprising 27 type I CEO, 17 type II CEO, and 3 type III CEO. The achievement of goals was evaluated according to the 4 established goals by specialty: basic, periodontal, endodontic, and surgical procedures, and according to the health macro-region, as per Attachment XL of Consolidation Ordinance of Ministry of Health n. 6/2017. Only 5 CEO met all 4 goals, with periodontics being the specialty that met the most goals in type I CEOs, and basic procedures for type II and III CEOs. The health macro-region with the highest number of goals met was Planalto Norte e Nordeste. Most CEO did not reach the production goals. The worst performance occurred in the Meio Oeste and Serra Catarinense health macro-region, and the best performance in the Planalto Norte e Nordeste health macro-region.

**Keywords:** Dental Health Services; Dental Specialties; Secondary Care.

### INTRODUCTION

In 2023, the National Oral Health Policy (NOHP) reached a new historical milestone with the enactment of Law No. 14,572/2023<sup>1</sup>, which consolidated oral health as a right guaranteed by the Unified Health System (UHS) and reinforced the need for a structured and qualified dental care network to ensure comprehensive care for the population. It defined guidelines and actions for the NOHP, broadened the perspective of oral health care from its insertion into the health care network, with integration between different levels of care, and articulation with other public health policies. The concept of oral health according to the NOHP is: "an articulated set of actions, at all levels of complexity, aimed at guaranteeing the promotion, prevention, recovery and rehabilitation of dental care, both individually and collectively, within the context of comprehensive health care".

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The dental care network in the UHS, like other health care networks, is organized starting from primary care, the entry point and coordinator of care. Secondary care is represented by the Dental Specialty Centers, which offer specialized care.

The Dental Specialty Centers (CEO) offer, at a minimum, the specialties of endodontics, care for people with special needs, minor oral surgery of soft and hard tissues, periodontics, and oral diagnosis with an emphasis on the diagnosis and detection of oral cancer<sup>2</sup>. CEO are divided into three types according to their capacity: CEO type I (with 3 dental chairs), CEO type II (from 4 to 6 dental chairs), and CEO type III (more than 7 dental chairs)<sup>2</sup>. The type of CEO defines the amount of federal financial incentive for implementation (for construction, renovation, and equipment acquisition) and monthly operating costs that will be transferred by the Ministry of Health<sup>3</sup>. To receive the federal financial incentive, the CEO must achieve a production target in each specialty defined for each type of CEO by Attachment XL of Consolidation Ordinance of Ministry of Health n. 6 of September 28, 2017. The transfer of monthly financial incentives may be suspended if the CEO remains two consecutive months or three alternate months without reaching the minimum production target<sup>3</sup>.

Twenty years after the first publication of the NOHP, in 2004, the literature shows that CEO do not reach production targets, mainly in the specialties of endodontics and surgery, and have difficulty organizing the regional and municipal referral flow<sup>4-9</sup>. Andrade et al<sup>4</sup> analyzed the time series of CEO production in the Brazilian macro-regions from 2008 to 2018 and identified a seasonal variation in the achievement of targets, with lower production in the end and beginning of the year. In the study, the endodontics specialty achieved the fewest number of targets in the period, in contrast to the production of basic procedures, which met the target more often. The southern region showed a statistically significant increase over the ten years in meeting all targets and a decrease in the proportion of CEO with poor performance<sup>4</sup>. Rios and Colussi<sup>8</sup> analyzed target achievement in Brazilian CEO in 2014 and found that approximately 75% of CEO met the target for basic procedures, 49.6% met the target for periodontics procedures, and just over 20% of CEOs met the targets for the specialties of surgery (24.2%) and endodontics (22%).

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Lopes et al.<sup>5</sup> analyzed six CEO in a large municipality in northeastern Brazil, from January to December 2017, and reported the achievement of targets for basic procedures and periodontics. In the case of endodontic procedures, only one CEO, out of the six analyzed, met the target in 4 months of the year. Surgery procedures also showed a lower number of target achievements in the period in all CEO: three CEO met the monthly targets. Freitas et al.<sup>9</sup> analyzed 19 CEO in the state of Paraíba in 2010, where 63.2% presented only one specialty achieving the target, and two CEO presented all the production target achievement.

Considering the CEO as the main form of organization of secondary dental care in the UHS, the need to achieve the production targets for receiving federal funding, and the importance of monitoring the quantity of procedures performed in secondary care, the objective of this article is to analyze the achievement of the production targets of the CEO in the state of Santa Catarina, in 2018.

### METHODOLOGY

Descriptive quantitative cross-sectional study conducted in the state of Santa Catarina, Brazil, using secondary data, in the year of 2018.

The state of Santa Catarina has 295 municipalities distributed across seven health macro-regions: Alto Vale do Itajaí, Foz do Itajaí, Grande Florianópolis, Grande Oeste, Meio Oeste and Serra Catarinense, Planalto Norte and Nordeste, and Sul<sup>10</sup>. The majority of the state's municipalities are small, with up to 20,000 inhabitants; only eleven municipalities have more than 100,000 inhabitants, and of these, nine are in the eastern part of the state. The Human Development Index (HDI) in the state is 0.774, higher than that of Brazil (0.755), and the Gini Index in the state is 0.421, a value lower than the Brazilian average (0.546). The Planalto Norte and Serra Catarinense regions concentrate the municipalities with the lowest HDI, 50 municipalities in Santa Catarina have an HDI below the state average<sup>10</sup>.

The coverage of the primary health care with Family Health Strategy in Santa Catarina is 89.4%, and the coverage of dental care in the Family Health Strategy is 58.1%. Dental care coverage has values below the state average in the municipalities of the macro-regions of Alto

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Vale do Itajaí, Foz do Itajaí, Planalto Norte and Nordeste and Grande Florianópolis. In 2018, there were 48 CEO in Santa Catarina and 135 Regional Dental Prosthesis Laboratories<sup>10</sup>.

All existing CEO in the state were included in the study, the exclusion criterion was not being in operation in the year of analysis. Applying the exclusion criterion, one CEO was not in operation in 2018 and 47 CEO in the state of Santa Catarina were analyzed. The distribution of CEO included in the analysis, according to macro-regions, is presented in Table 1.

Table 1- Distribution of Dental Specialty Centers included in the analysis and estimated population according to health macro-region in the state of Santa Catarina, in the year 2018.

<b>Health macro-region</b>	<b>Population</b>	<b>CEO type I</b>	<b>CEO type II</b>	<b>CEO type III</b>	<b>Total</b>
Alto Vale do Itajaí	1,077,659	3	4	0	7
Foz do Itajaí	698,912	2	3	0	5
Grande Florianópolis	1,189,947	5	2*	0	8
Grande Oeste	792,895	5	2	1	8
Meio Oeste e Serra Catarinense	916,252	4	1	1	6
Planalto Norte e Nordeste	1,400,128	2	4	1	7
Sul	999,701	6	1	0	7
<b>Total</b>	<b>7,075,494</b>	<b>27</b>	<b>18</b>	<b>3</b>	<b>47</b>

Source: DataSUS, 2018

Data of outpatient production for the year 2018 were collected from the files for tabulation of the UHS Outpatient Information System available on the DATASUS website (<https://datasus.saude.gov.br/transferencia-de-arquivos/> accessed on June 21, 2020). Data of dental procedures performed at the Dental Specialty Centers in Santa Catarina during the twelve months of 2018 were collected. The Brazilian taxpayer identification number of each CEO was used for identification. The data collection was carried out by one of the authors, in 2020. The data was extracted using the TabWin/DATASUS software.

Extracted data were included in Excel® spreadsheets and analyzed using formulas to calculate monthly and annual targets. The monthly targets were calculated according to

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Attachment XL of Consolidation Ordinance of Ministry of Health n. 6 of September 28, 2017, which determines the minimum monthly production targets by area of specialization according to the type of CEO<sup>3</sup>. The annual target was calculated according to the Global Target Achievement indicator<sup>7</sup>.

Attachment XL determines that the minimum production numbers to receive the financial incentives of CEO type I, II and III, respectively, are 80, 90 and 170 surgical procedures; 60, 90 and 150 periodontics procedures; 35, 60 and 95 endodontics procedures; and 80, 110 and 190 basic procedures. In addition to the absolute number of procedures, it is required that 50% of the total basic procedures be restorative procedures. In endodontics, 20% of the total procedures must be of the following types: endodontic procedure of a permanent tooth with three or more roots (code 0307020053) and/or endodontic retreatment in a permanent tooth with three or more roots (code 0307020096)<sup>3</sup>. These percentages were calculated and added to the results to then evaluate the achievement of the goals.

The goals were calculated monthly, adding up the procedures for each specialty group in each CEO, and classified according to Attachment XL<sup>3</sup>.

For the calculation of the annual goal, the Global Target Achievement indicator was used<sup>7</sup>. The indicator is the quotient of the monthly average of procedures performed for each dental specialty and the number of procedures corresponding to the specialty's target, multiplied by 100<sup>7</sup>. The average for each specialty during the year 2018 was calculated, the value was divided by the number of targets assigned to each specialty and type of CEO in 12 months, and the result was multiplied by 100, obtaining the annual percentage. The calculation formula is: (specialty average for the year / specialty target value for the year) \* 100. Targets were achieved if all specialties met a percentage equal to or greater than 100% of the target assigned to each specialty. In this indicator, the achievement of monthly targets is disregarded.

The data were categorized as achieved or not achieved by each CEO, according to the number of CEO that met the 4 specialty targets (basic, periodontal, endodontic, and surgical procedures). Considering 4 goals to be achieved (basic, periodontal, endodontic and surgical procedures), the performance of the services was classified as: poor performance (CEO that did

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not achieve any production target), regular performance (CEO that achieved 1 or 2 production targets), good performance (CEOs that achieved 3 production targets), optimal performance (CEOs that achieved all 4 production targets)<sup>7</sup>.

The codes used for data collection followed the description in Consolidation Ordinance of Ministry of Health n. 6 of September 28, 2017<sup>3</sup>, and are presented below: Basic Procedures: 0101020058; 0101020066; 0101020074; 0101020082; 0101020090; 0307010015; 0307010023; 0307010031; Periodontal Procedures: 0307010040; 0307020070; 0307030016; 0307030024; 0414020120; 0414020138. Endodontic Procedures: 0307020037; 0307020045; 0307020053; 0307020061; 0307020088; 0307020096; 0307020100; 0307020118. Surgical Procedures: 0201010232; 0201010348; 0201010526; 0307010058; 0404020445; 0404020488; 0404020577; 0404020615; 0404020623; 0404020674; 0414010345; 0414010361; 0414010388; 0401010082; 0404010512; 0404020038; 0404020054; 0404020089; 0404020097; 0404020100; 0404020313; 0404020631; 0414010256; 0414020022; 0414020030; 0414020049; 0414020057; 0414020065; 0414020073; 0414020090; 0414020146; 0414020170; 0414020200; 0414020219; 0414020243; 0414020278; 0414020294; 0414020359; 0414020367; 0414020383; 0414020405.

## **RESULTS**

Forty-seven CEOs were analyzed, 27 type I (57.44%), 17 type II (36.17%), and 3 type III (6.38%). Only the macro-regions of health Grande Oeste, Meio Oeste e Serra Catarinense, Planalto Norte and Nordeste had type III CEOs. All 7 health macro-regions had type I and type II CEO (Table 1).

In 2018, in the state of Santa Catarina, a total of 151,193 (49.17%) basic procedures, 72,164 (23.47%) periodontal procedures, 22,907 (7.45%) endodontic procedures, and 61,172 (19.89%) surgical procedures were performed among the three types of CEO.

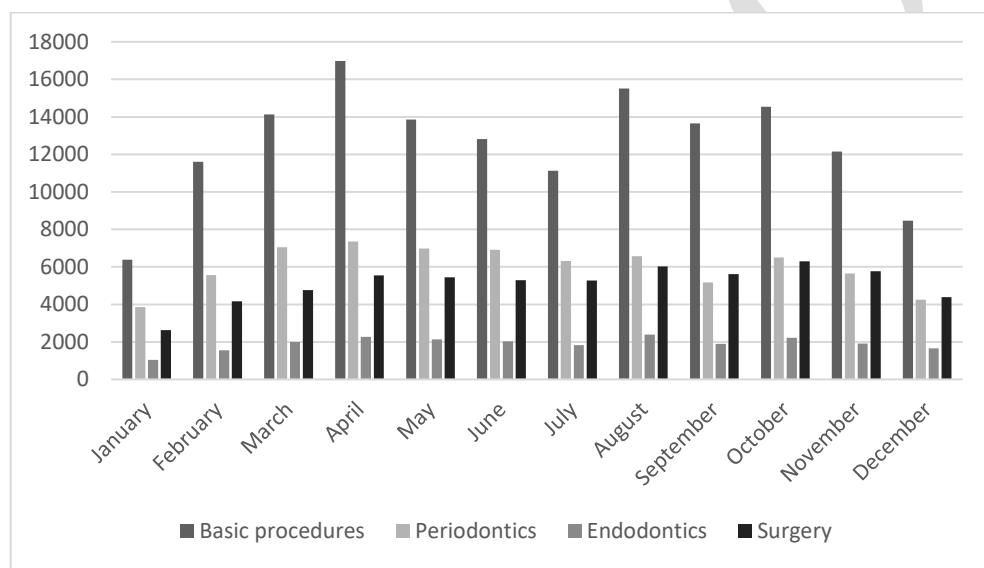
The total number of procedures performed in 2018 was 307,436. Of these, Type I CEO performed 58,881 (45.31%) basic procedures, 33,184 (25.53%) periodontal procedures, 10,281 (7.91%) endodontic procedures, and 27,598 (21.23%) surgical procedures, total of 129,944 procedures performed. Type II CEO performed 59,465 (48.54%) basic procedures, 29,167

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(23.81%) periodontal procedures, 9,108 (7.43%) endodontic procedures, and 24,742 (20.19%) surgical procedures, total of 122,492 procedures performed. The Type III CEO performed 32,847 (59.72%) basic procedures, 9,813 (17.84%) periodontal procedures, 3,518 (6.39%) endodontic procedures, and 8,822 (16.04%) surgical procedures, total of 55,000 procedures performed in 2018 in Santa Catarina.

Regarding the distribution of procedures over the one-year period, the month with the highest number of basic, periodontal, and endodontic procedures was April. The month with the highest number of surgical procedures was October. The month with the lowest number of procedures, whether basic, periodontal, endodontic, or surgical, was January (Chart 1).

Chart 1 - Number of basic, periodontal, endodontic and surgical procedures, by month, Santa Catarina, 2018.



Source: Outpatient Information System, 2018.

Considering that in basic procedures, 50% should be restorative procedures, and in endodontic procedures 20% should be endodontic procedure or endodontic retreatment procedure of permanent teeth with 3 or more roots, Table 2 presents the results for monthly target achievement for CEO type I. February was the month in which the number of basic procedures most frequently achieve the monthly production target; for the periodontics specialty, the months with the most monthly production target achieved were March, May, and July; April, May, and

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August had the most monthly production target achieved in the endodontics specialty; surgery achieved the most monthly production target in October.

For CEO type II, the following results were obtained: basic procedures most frequently met the monthly production target in August; periodontics achieved the most monthly production target in October; April, August, and October were the months in which the endodontics specialty achieved the most monthly production target; surgery achieved the monthly production target most frequently in March and May (Table 2). For CEO type III, the results are: no targets were met for basic procedures in 2018; for the periodontics specialty, there was greater achievement of monthly targets from May to November; from June and August to December, there was greater achievement of targets in endodontics; surgery reached the monthly production target more often from July to October (Table 2).

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Table 2 - Number of CEO with monthly production target achieved by specialty, month and type of CEO, in the state of Santa Catarina in 2018.

<b>CEO type I (n=27)</b>							
	<b>Basic proc.</b> (n/%)	<b>Periodontics</b> (n/%)	<b>Endodontics</b> (n/%)	<b>Surgery</b> (n/%)			
<b>January</b>	1	3.70	12	44.44	5	18.51	5
<b>February</b>	3	11.11	19	70.37	8	29.62	10
<b>March</b>	2	7.40	23	85.18	15	55.55	16
<b>April</b>	1	3.70	22	81.48	16	59.25	18
<b>May</b>	2	7.40	23	85.18	16	59.25	18
<b>June</b>	1	3.70	22	81.48	14	51.85	15
<b>July</b>	2	7.40	23	85.18	15	55.55	17
<b>August</b>	2	7.40	21	77.77	16	59.25	17
<b>September</b>	1	3.70	20	74.07	10	37.03	17
<b>October</b>	2	7.40	20	74.07	14	51.85	21
<b>November</b>	2	7.40	17	62.96	9	33.33	18
<b>December</b>	1	3.70	15	55.55	8	29.62	10
<b>CEO type II (n=17)</b>							
	<b>Basic proc.</b> (n/%)	<b>Periodontics</b> (n/%)	<b>Endodontics</b> (n/%)	<b>Surgery</b> (n/%)			
<b>January</b>	0	0	8	47.05	2	11.76	4
<b>February</b>	0	0	9	52.94	2	11.76	10
<b>March</b>	1	5.88	12	70.58	6	35.29	14
<b>April</b>	0	0	13	76.47	8	47.05	11
<b>May</b>	0	0	13	76.47	7	41.17	14
<b>June</b>	1	5.88	13	76.47	5	29.41	13
<b>July</b>	1	5.88	12	70.58	5	29.41	12
<b>August</b>	2	11.76	13	76.47	8	47.05	13
<b>September</b>	0	0	10	58.82	6	35.29	12
<b>October</b>	0	0	15	88.23	8	47.05	11
<b>November</b>	0	0	11	64.70	6	35.29	10
<b>December</b>	0	0	7	41.17	4	23.52	10
<b>CEO type III (n=3)</b>							
	<b>Basic proc.</b> (n/%)	<b>Periodontics</b> (n/%)	<b>Endodontics</b> (n/%)	<b>Surgery</b> (n/%)			
<b>January</b>	0	0	1	5.88	0	0	0
<b>February</b>	0	0	2	66.66	1	33.33	1
<b>March</b>	0	0	2	66.66	1	33.33	1
<b>April</b>	0	0	2	66.66	1	33.33	1
<b>May</b>	0	0	3	100	1	33.33	2
<b>June</b>	0	0	3	100	2	66.66	2
<b>July</b>	0	0	3	100	1	33.33	3
<b>August</b>	0	0	3	100	2	66.66	3
<b>September</b>	0	0	3	100	2	66.66	3
<b>October</b>	0	0	3	100	2	66.66	3
<b>November</b>	0	0	3	100	2	66.66	2
<b>December</b>	0	0	2	66.66	2	66.66	2

Source: Outpatient Information System, 2018.

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Disregarding the 50% of restorative procedures among basic procedures, and the 20% of endodontics procedures or retreatment procedures for permanent teeth with 3 or more roots among all endodontic procedures, and considering only the number of minimum procedures presented in Attachment XL<sup>3</sup>, it is found that: the specialty of CEO type I with the highest compliance with minimum monthly procedures was periodontics, which reached the target 237 times in 12 months. And the specialty that least complied with the number of minimum monthly procedures was endodontics, reaching the target 163 times in 12 months. For CEO type II, basic procedures reached the minimum monthly number of procedures more often, 150 times in 12 months. The endodontics specialty, however, reached it only 67 times in 12 months. Finally, in the Type III CEO, basic procedures and the periodontics specialty achieved the minimum monthly procedure target 30 times in 12 months, while the endodontics specialty was the one that least met this number, reaching the target only 18 times in 12 months.

The analysis of the Global Target Achievement indicator showed that, among the CEO, 5 (10.63%) achieved optimal performance, 19 (40.42%) achieved good performance, 14 (29.78%) CEO achieved regular performance, and 9 achieved poor performance (19.14%). The health macro-region with the highest number of CEO with poor performance and no optimal performance was the Meio Oeste and Serra Catarinense. The health macro-region with the highest number of CEO with optimal performance was Planalto Norte e Nordeste (Table 3).

Analyzing only whether or not the target was achieved (CEO who met all 4 targets of the Global Target Achievement indicator), in 2018, in the state of Santa Catarina, 5 CEO achieved the established target, however, not consecutively, and 42 CEOs did not achieve the target.

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Table 3 - Number of CEO according to performance category, health macro-region and CEO type. Santa Catarina, 2018.

Health macro-regions / CEO type	Performance category			
	Poor	Regular	Good	Optimal
<b>Alto Vale do Itajaí (n=7)</b>	<b>1</b>	<b>3</b>	<b>3</b>	<b>0</b>
CEO type I (n=3)	0	0	3	0
CEO type II (n=4)	1	3	0	0
CEO type III (n=0)	-	-	-	-
<b>Foz do Itajaí (n=5)</b>	<b>0</b>	<b>1</b>	<b>3</b>	<b>1</b>
CEO type I (n=2)	0	0	2	0
CEO type II (n=3)	0	1	1	1
CEO type III (n=0)	-	-	-	-
<b>Grande Florianópolis (n=7)</b>	<b>2</b>	<b>2</b>	<b>2</b>	<b>1</b>
CEO type I (n=5)	1	2	1	1
CEO type II (n=2)	1	0	1	0
CEO type III (n=0)	-	-	-	-
<b>Grande Oeste (n=8)</b>	<b>2</b>	<b>2</b>	<b>3</b>	<b>1</b>
CEO type I (n=5)	2	1	2	0
CEO type II (n=2)	0	1	1	0
CEO type III (n=1)	0	0	0	1
<b>Meio Oeste e Serra Catarinense (n=6)</b>	<b>2</b>	<b>1</b>	<b>3</b>	<b>0</b>
CEO type I (n=4)	2	0	2	0
CEO type II (n=1)	0	0	1	0
CEO type III (n=1)	0	1	0	0
<b>Planalto Norte e Nordeste (n=7)</b>	<b>2</b>	<b>2</b>	<b>1</b>	<b>2</b>
CEO type I (n=2)	0	0	1	1
CEO type II (n=4)	2	2	0	0
CEO type III (n=1)	0	0	0	1
<b>Sul (n=7)</b>	<b>0</b>	<b>6</b>	<b>1</b>	<b>0</b>
CEO type I (n=6)	0	5	1	0
CEO type II (n=1)	0	1	0	0
CEO type III (n=0)	-	-	-	-

Fonte: Sistema de Informação Ambulatorial, SIA, 2018.

## DISCUSSION

This study analyzed the achievement of minimum production targets by CEO in Santa Catarina in 2018. Of the 47 CEOs analyzed, 51% achieved optimal and good performance according to the Global Target Achievement Indicator. Among the studies that analyzed the Global Target Achievement Indicator, Cabral et al.<sup>11</sup> found a higher percentage of CEO with poor performance when analyzing 151 CEO from the southeastern region of Brazil, with 40% of type I and II CEO and 57% of type III CEO showing very poor and poor performance. On the other hand, Figueiredo and Goes<sup>12</sup> evaluated 22 CEOs from the state of Pernambuco, and 40.9% obtained good

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performance, that is, achieve targets in three specialties, and 31.8% obtained poor performance, that is, achieve only one specialty target, a result similar to this study. In the state of Sergipe, of the 11 CEOs analyzed, 55% achieved the Periodontics target and 46% achieved the surgery target; however, none of them achieved the endodontics target. All CEO achieved the basic procedures target<sup>12</sup>.

Studies that evaluated CEO and the achievement of targets by specialty in Brazil have found unsatisfactory results in all Brazilian regions<sup>4,8,11,12</sup>, with particular emphasis on the achievement of targets in the specialties of surgery and endodontics below 25% of Brazilian CEO<sup>8</sup>. The temporal analysis of production targets over the ten-year period (2008 to 2018) demonstrated that the southern and southeastern regions managed to improve their performance, mainly in the specialty of surgery. The specialty of endodontics showed a stationary trend in the period for the southern and southeastern regions and a decreasing trend in the other regions and in Brazil, that is, a greater number of CEO failed to achieve their production targets for the specialty<sup>4</sup>.

While the specialties of endodontics and periodontics have not achieved their production targets in Brazil over the years, the target for basic procedures is met by a greater proportion of CEO<sup>7,8</sup>. In this study, CEO more frequently achieved the targets for basic procedures. However, this type of procedure should be restricted to the care of patients with special needs<sup>3</sup>, since primary health care have a well-defined role in providing low-technology services, such as non-complex restorations and extractions, and basic periodontics. Performing basic care procedures in secondary care services disrupts the ordering of roles at each level of care and increases the cost of the service. Some of the CEO investigated by Freitas et al.<sup>9</sup> did not achieve the targets for the specialties but did meet the target for basic procedures, including dental procedures not regulated by the Ordinance in force at the time of the study.

CEO performance appears to be related to their presence in large municipalities, with populations over 100,000, and higher HDI<sup>7,13,14</sup>. This study did not analyze associations with these variables; it is worth noting that the state of Santa Catarina has only eight municipalities with populations over 100,000, and of these, two have populations over 500,000. Regarding HDI, the state has homogeneous characteristics, with most municipalities having medium to high HDI and

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no municipality with low or very low HDI. The region with the largest number of municipalities with medium HDI is Serra Catarinense, where no CEO with optimal performance was found. Two other macro-regions without the presence of CEO with optimal performance are: Alto Vale do Itajaí and Sul. The macro-region with the highest proportion of CEO with optimal performance is the Norte e Nordeste, where the state's largest municipality is located, with a population of approximately 600,000.

The seasonality observed in the target achievement graph was also reported by Andrade et al.<sup>4</sup> in their time series. The reduction in the number of procedures during December and January reflects the end-of-year holiday period, school vacations, and may also be related to the summer vacations of healthcare professionals.

Despite the potential for high demand for the endodontics specialty in the public sector, given that the cost of treatment in the private sector is high, it is the specialty with the greatest difficulty in achieving production targets. Several hypotheses are raised, such as the need for specific supplies for treatment and their cost, which is negatively impacted during periods of economic crisis and reduced funding for public policies<sup>4</sup>; the long waiting list for consultations, leading to patient absenteeism, either due to forgetfulness or resolution of the case via private service or extraction of the tooth; and patient abandonment of treatment due to the need for multiple consultations to resolve the case.

The low utilization of the service by the population and, consequently, the reduction in the achievement of production targets, may be caused by organizational aspects of the service, such as the lack of an automatic waiting list system to replace patients who do not attend their scheduled appointments, the absence of municipal and/or state referral and counter-referral protocols for secondary care services, the lack of standardization in the operative techniques used by dentists or the failure to update operative techniques that reduce treatment time, and the non-compliance with working hours by health professionals<sup>16</sup>. A significant portion of CEO in Brazil still have difficulty operating as a referral service, with approximately 40% lacking access through a referral system and 25% lacking a referral and counter-referral agreement<sup>8</sup>.

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Defining national targets for health services that present different types of organization, demand, and epidemiological profiles in a country marked by inequality in the supply and access to health services is insufficient to monitor the health system's output because it does not consider factors such as installed capacity or work processes. However, the production targets established for Brazilian CEO are feasible, considering the presence of a specialized professional working 40 hours per week.

It is worth mentioning other factors presented in the literature and linked to health management and dental care management, such as hiring through public competitive examinations and the existence of a job, career, and salary plan for health professionals, hiring a sufficient number of professionals in line with the number of dental chairs available at the CEO, establishing agreements for the regionalization of the dental care network, exclusive care via the regulation system, guaranteeing equitable access based on clinical criteria of higher risk and need for treatment, continuing education actions for professionals with a view to improving the work process and establishing protocols and care flows, and strengthening primary care as the organizer of the network, which may interfere with the productivity of the CEO and consequently with the achievement of the production targets<sup>4,8,13,16</sup>.

The limitation of the study refers to the use of secondary data to measure production targets. The data may not reflect the reality of the CEO due to errors in data collection or processing in the outpatient information systems. The study results are descriptive; it is suggested that future studies address statistical analyses to explore the association between CEO goal achievement and municipal demographic characteristics, socioeconomic characteristics, and characteristics of the oral health care network, such as regionalization, regulatory flow, quantity and form of hiring of health professionals.

## CONCLUSION

Considering the total number of CEO analyzed in this study (n=47), only five achieved all four goals of the Global Target Achievement Indicator, and 51% achieved at least three of the four monthly goals. The endodontics specialty was less successful, mainly in the months of December

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and January, with the hypothesis of a reduction in appointments due to a holiday period and end-of-year recess.

The use of access protocols is suggested to organize demand, reduce possible underutilization of services, and increase the number of procedures performed. Activity monitoring strategies are important for tracking monthly goals and for agreements between professionals and management to improve secondary dental care services and adapt them to the epidemiological and population profile.

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