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The Regulation of Services in Secondary Oral Health Care in Brazil

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Abstract

Objective: To analyze the regulation of access to Centers for Dental Specialties (CEO) in the 1st cycle of Program for Improving Access and Quality of Centers for Dental Specialties (PMAQ-CEO), specifically the waiting time for the first consultation in association with socioeconomic and demographic factors of users and the characteristics of services. **Material and Methods:** The quantitative database of the 1st cycle PMAQ-CEO external evaluation was used, with question directed to the CEO user (Module III – 3.1 and 3.2), which sought to identify user characteristics and access to CEO. To obtain data, a field phase was carried out between months of February to June 2014 in 930 CEOs in all Brazilian states. **Results:** Users who obtained the first appointment within thirty days of waiting were those who had family incomes above 10 minimum wages; which showed higher schooling; appointment scheduling by telephone made directly to the CEO; and that the consultation was accomplished by "squeeze in" option. **Conclusion:** It was observed that aspects related to schooling, family income and primary health care coverage influence the waiting time to obtain the first consultation in CEO. There were several ways of referencing of users, and those who performed better were those who shared accountability for the appointments between service and user.

Keywords: Health Services Administration; Oral Health; Quality of Health Care.

Introduction

Centers for Dental Specialties (CEOs) have been part of the federal government's strategy since 2004. Until 2016, 1,033 units were implemented throughout Brazil. At the end of the first decade of this experience of structuring the integral network in oral health, the Program for Improving Access and Quality of Centers for Dental Specialties (PMAQ-CEO) was launched in 2013.

The PMAQ-CEO external evaluation component evaluated 929 CEOs in Brazil in 2014. One of the criteria evaluated was the regulation of access to services. This was necessary because the specialized service, when regulated, allows greater gains in efficiency, effectiveness and comprehensiveness of care.

In literature, regulation is a polysemic term. With the purpose of characterizing and reflecting on the management of oral health regulation, the following concept will be adopted:

> (...) it is a management function, which contemplates an action on health systems, on the direct production of health actions in the various levels of complexity (basic, medium and high) outpatient / hospital and on the access of users to assistance at these levels [1].

In Brazil, regulation has been discussed addressing the fragmentation of care and the difficulty of access to services and procedures. A more in-depth discussion of the concept, practices and purposes of health regulation, control, evaluation, and auditing began in 2001-2002 with the Health Care Operating Standards (NOAS) 01/2001 and 01/2002 [2].

The following regulation classification was formulated based on NOAS, still valid today.
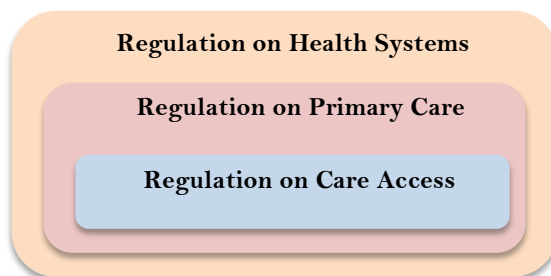
Figure 1. Health regulation classification in Brazil.

This new role of health system management was aimed at stimulating the incorporation of an evaluation culture and the focus of quality within systems and services [1]. In the current National Policy of Regulation of SUS, this classification is thus defined:

> I - Regulation on Health Systems: it aims at municipal, state and national health systems, and as subject their respective public managers, defining from the principles and directives of SUS, macro-guidelines for the Regulation on Health Care and performing monitoring, control, evaluation, auditing and monitoring actions of these systems;
> II - Regulation on Health Care: carried out by the State and Municipal Health Secretariats, according to the agreement established in the Term of Commitment of Management of Pact for Health; has as objective to guarantee the adequate provision of services to the population and its object is the production of direct and final health care actions, being therefore addressed to public and private providers,

and as subjects their respective public managers, defining strategies and macro-directives for the Regulation on Care Access and Health Care Control, also called Assistance Regulation and control of the provision of services, implementing actions for monitoring, control, evaluation, auditing and surveillance of health care and assistance within the scope of SUS; and

III - Regulation on Care Access: also called access regulation or assistance regulation, has as its objects the organization, control, management and prioritization of access and assistance flows within the scope of SUS, and as subjects its respective public managers, being established by the regulatory complex and its operational units and this dimension includes medical regulation, exercising sanitary authority to guarantee access based on protocols, risk classification and other prioritization criteria [3].

There are a number of studies on care regulation, and those of the oral health area have been approached in this study, with the focus on "access to service", "regulation", "absenteeism" and "reference and counter-reference" [4-6]. The analysis of oral health practices, from a network modeling perspective, points to the need for services to implement regulatory protocols, which lead to improved access and quality of care [4].

In the scope of regulation, access can be studied by analyzing the factors associated with the waiting time for the first consultation, and the profiles of these users and the service are important elements to indicate alternatives to reduce the waiting time. Reducing the waiting time is necessary to avoid the prolongation of suffering, dental loss and unnecessary expenses. The regulatory state, as well as health care regulation as a part of it, and presents as main characteristics the definition of guidelines and goals to be achieved in the establishment of public policies, and it is necessary to go beyond a monitoring and evaluation system to analyze the expected results [7].

Another problem faced by regulation is absenteeism (no show in scheduled appointments). In two studies, these absences in scheduled consultations in CEOs reached 18% and 32.9% [6,8]. Part of absenteeism may be inversely related to the frequency of visits of community health agents to enrolled families [9].

One of the main instruments for integrating primary care into secondary care is the establishment of computerized centers for regulation and scheduling of specialized procedures in the Family Health Units (USF). Even though at different stages of implantation between advanced and early cases, computerized systems have allowed managers to know the actual size of waiting queues, monitor them, define clinical priorities, know the absenteeism index of appointments and exams, and ensure greater impartiality in the control of schedules [10].

Although the health care regulation presents a shortage of mechanisms that ensure an effective connection between the supply and demand of services, contributing to the maintenance of the low effectiveness of the Brazilian health system, normative advances have occurred in the sector policy with the publication of the National Policy of Regulation (SUS PNR) and the National Primary of Care Policy (PNAB) [3,11,12], the latter giving new meaning to networks and regionalization, establishing new regulations for its effectiveness, directly interfering with regulation:

- Attribution of responsibility for the primary care in three levels of the federation for the regulation of the results achieved.
- Diversification of service provision in primary care with an increase in the number of municipalities that may have a Family Health Center (NASF), simplifying and facilitating the conditions for the creation of Fluvial UBS and ESF for riverside Populations, and the inclusion of primary care team for the street population (Street Offices).
- Attributions of primary care functions to contribute to the functioning of Health Care Networks (RAS), such as:

> *- Coordinate care: develop, monitor and manage unique therapeutic projects, as well as monitor and organize the flow of users between the attention points of RAS. Regulatory practices performed in primary care should be articulated with regulatory processes carried out in other areas of the network, so as to allow, at the same time, the quality of micro-regulation performed by primary care professionals and access to other attention points under appropriate conditions and time, with equity; and*
> *- Organize the networks: recognize the health needs of the population under their responsibility, organizing them in relation to other attention points, contributing so that the programming of health services is based on the health needs of users.*

A survey found absenteeism of 18%, which made the service to adopt the overbooking as strategy, with the possibility of reaching twice as many users scheduled in relation to the service offer. Overbooking consists of scheduling a number of users above the capacity offered on that day, since it is already known by the historical average that a certain number of users will be absent at the time of scheduled appointment.

Another aspect to be highlighted in the study of regulation is the waiting time for access to the first specialized consultation. The specialty with longer waiting time was molar endodontics: 170 days, on average, followed by periodontal specialties and surgery with similar waiting times (about 70 days) [6]. The use of the overbooking technique (excess scheduling) has already been tested in private services in the search for financial compensation due absenteeism and evaluated by simulation in the SUS service, pointing to significant gains in efficiency and service [13,14].

The aim of this paper was to analyze the regulation of the CEO access within the PMAQ scope, specifically the waiting time for the first consultation in association with socioeconomic and demographic factors of users and the characteristics of services.

Material and Methods

Study Design

The research was multicenter and had a general coordination, five macro-regional coordinators (regions of Brazil), eighteen state coordinators and seventy-three field researchers. All field researchers were calibrated in seminars held in each macro-region. The field phase occurred between the months of February and June of 2014. For the data collection in the field, a previous appointment with the oral health coordinator or CEO manager was made.

In each service, the structure was observed (Module 1), management segments of worker (Module 2) and users (Module 3), one manager, one dentist and ten users were interviewed. In this article, the results of Module 3 in its items 3.1) User profile regarding the waiting time for obtaining specialized consultation and 3.2) Parameters for setting the waiting time for the first service, were presented.

This article addresses the following PMAQ variables: waiting time between scheduling and consulting at the CEO: "up to one month", "one month to six months", and "more than six months"; sex; residence in which macro-region of the country; color or race; residence in the CEO municipality (yes / no); residence in urban or rural areas of the municipality; residence in an area covered by FHS (yes / no); schooling; perform paid work (yes / no); family income value; beneficiary of the Family Allowance Government Program (yes / no).

The responses were recorded in electronic forms on tablet, whose data were automatically downloaded via Internet and systematized in electronic spreadsheets, located in computers of the Ministry of Health, previously programmed to download data.

Data Analysis

In the statistical analysis, associations were made by Chi-square and Spearman's correlation. Tables present absolute and relative frequencies and p-values.

Ethical Aspects

All the ethical precepts recommended by Resolution CNS 416/2012 were followed, and the research was approved by the Research Ethics Committee of the Center for Health Sciences of the Federal University of Pernambuco under CAAE No. 23458213.0.0000.5208.

Results

The researchers visited 929 services and interviewed 8,897 users. The data obtained are presented in the following Tables 1 and 2.

Table 1. User profile regarding the waiting time in relation to the first consultation at the CEO.

Variables		Waiting Time for the First Appointment (Months)						p-value
		Up to One		One to Six		More than Six		
		N	%	N	%	N	%	
Sex	Male	1.950	72.7	537	20.0	197	7.3	0.132
	Female	4.364	70.3	1336	21.5	513	8.3	
Macro-region	Northern	391	79.5	83	16.9	18	3.6	
	Northeastern	2735	80.3	579	17.0	91	2.7	
	Mid-western	377	66.9	122	21.7	64	11.4	<0.001
	Southeastern	2135	64.8	764	23.1	397	12.1	
	Southern	676	59.3	325	28.5	140	12.3	
Color or Race	White	2.439	68.4	767	21.6	357	10.0	
	Black	733	71.0	213	20.6	86	8.4	
	Yellow	119	69.5	41	24.0	11	6.5	
	Brown/Mixed	2.921	73.4	820	20.5	241	6.0	<0.001
	Indigenous	50	61.0	21	25.6	11	13.5	
	Not informed	52	77.6	11	16.4	4	6.0	
Resides in the area of CEO coverage	Yes	5.929	71.6%	1.695	20.5	660	8.0	<0.001
	No	385	62.8%	178	29.0	50	8.2	

		N	%	N	%	N	%	p-value
Type of House	Urbana Zone	5.323	71.3%	1.536	20.6	606	8.1	<0.001
	Rural Zone	991	69.2%	337	23.5	104	7.2	
Lives in area covered by FHS	Yes	4.842	72.5%	1.370	20.5	470	7.1	
	No	1.252	66.7%	427	22.8	198	10.6	<0.001
	Not informed	220	65.1%	76	22.5	42	12.4	
Schooling	Illiterate	256	70.6%	82	22.6	25	6.9	
	Literate	205	67.3%	71	23.3	29	9.5	
	Incomplete elementary school	1807	67.6%	604	22.6	262	9.8	
	Complete elementary school	680	68.9%	218	22.1	90	9.2	
	Incomplete high school	671	73.1%	173	18.8	74	8.1	<0.001
	Complete high school	1.856	73.1%	516	20.3	167	6.6	
	Incomplete higher education	390	73.6%	106	20.0	34	6.4	
	Complete higher education	367	76.2%	91	18.9	4	5.0	
	Post-Graduation	82	82.8%	12	12.1	5	5.0	
Performs paid work	Yes	3.210	72.5%	917	20.7	299	6.7	
	No	3.104	69.4%	956	21.4	411	9.2	0.001
Family income	No income	112	65.1%	39	22.7	21	12.2	
	Less than 1 MW	878	71.9%	261	21.4	83	6.8	
	From 1 to 2 MW	2955	70.8%	890	21.4	325	7.8	
	From 2 to 3 MW	1257	69.8%	385	21.4	158	8.8	0.351
	From 3 to 5 MW	724	72.1%	194	19.3	86	8.6	
	5 to 10 MW	201	75.8%	54	20.4	10	3.8	
	More than 10 MW	27	77.1%	7	20.0	1	2.9	
	Do not know/Not informed	160	69.9%	43	18.7	26	11.4	
Beneficiary of the Family Allowance Government Program	Yes	2.020	74.5%	528	19.5	163	6.0	
	No	4.268	69.5%	1.327	21.6	542	8.8	<0.001
	Not informed	26	53.1%	18	36.7	5	10.2	

MW = Minimum Wage.

Table 2. Parameters for setting the waiting time for the first appointment.

Variables		Waiting Time for the First Appointment (Months)						p-value
		Up to One		One to Six		More than Six		
		N	%	N	%	N	%	
Means of commuting to the CEO	Own Car	1.034	70.1	315	21.3	125	8.5	<0.001
	Bus / Public Transport	1.227	59.7	539	26.2	287	14.0	
	Taxis / Vans	330	75.2	82	18.7	27	6.1	
	Bicycle	317	72.0	98	22.2	25	5.7	
	On foot	1.970	73.6	513	19.2	194	7.2	
	Others	93	69.4	35	26.1	6	4.5	
	Motorcycle	1.343	79.9	291	17.3	46	2.8	
	Boat	0	0.0	0	0.0	0	0.0	
Schedule meets needs (user)?	Yes	6.082	71.7	1.725	20.4	667	7.9	<0.001
	No	232	54.9	148	35.0	43	8.9	
How to proceed to make an appointment?	User called the CEO	301	79.8	54	14.3	22	5.9	<0.001
	UBS made the scheduling	1.179	56.6	602	28.9	302	14.5	
	User made the scheduling at SMS	138	64.5	57	26.6	19	8.9	
	User made the scheduling at the scheduling sector	632	77.5	136	16.7	48	5.9	
	User received the UBS sheet and scheduled at CEO	2855	72.0	848	21.3	262	6.6	
	Others	1.209	83.9	176	12.2	57	3.9	
Type of appointment	Fixed time	2.725	64.7	1008	23.9	476	11.3	*
	At defined times or shifts of the day	1.146	75.8	288	19.1	77	5.1	
	By order of arrival	2.263	76.1	558	18.8	153	5.1	
	"Squeeze in" appointment	168	88.9	17	9.0	4	2.2	
	Others	12	85.7	2	14.3	0	0.0	
Was consulted on the best time of appointment?	Yes	4.066	73.5	1.050	19.0	414	7.5	<0.001
	No	2.248	66.7	823	24.4	296	8.8	

Discussion

Table 1 shows that users who presented family income above 10 minimum wages and between 5 and 10 minimum wages obtained appointment in up to one month, respectively 77.1% and 75.8%; those with post-graduation degree (n = 82, 1.29%) and with complete higher education (n = 367, 5.81%), obtained better response times and obtained appointment within the first month, respectively, 82.8% and 76.2%. The higher the instruction level of users, the shorter the waiting time. An evaluation of the CEO's performance regarding the sociodemographic situation of the Amazon municipalities identified that municipalities with lower illiteracy rates presented services with better performance [15].

Considering that the *per-capita* income and education factors are components of the Human Development Index (HDI), in a study that evaluated the performance of CEO's in the state of Pernambuco, it was observed that the higher the municipal HDI, the better the performance of Dental Specialties, and studies on socioeconomic and demographic factors are widely described in the context of the evaluation of oral health services currently in literature [16-19].

A study that explored the panorama of scientific works that evaluated CEOs concluded that their performance is influenced by ways of organizing and managing work processes and by contextual characteristics of places where they are implemented.

Table 1 shows that the majority of CEOs' users were women and that there were gender differences in waiting time in relation to men (72.7% of men obtained appointment in up to one month). Regarding the coverage of users treated at the CEO by the Family Health Strategy, it was observed that the higher the coverage of users by Family Health Teams (FHS), the shorter the waiting time. For 72.5%, appointment was obtained in up to one month; for users of areas not covered by FHS, 66.7% obtained positive response for the same period.

Although some studies verified the non-influence of primary care coverage and the CEO's performance, for this research, regarding the waiting time to specialized oral health care, an important element to qualify service performance, it was found that the coverage of primary health care is effective [15,16].

Although we emphasize the importance of advancing in the permanent implementation of oral health care needs in primary care, mainly having as a basic strategy the expansion of the number of teams, it was observed that several users treated in CEOs are not covered [4]. The high primary care coverage in the territory where the specialized service is located is a relevant factor for the guarantee of integrality in oral health care in the CEO [21].

Table 2 shows that users who commute to the CEO by motorcycle, on foot and by bicycle, obtained better response time, considering appointment in up to one month, respectively 79.9%, 73.6% and 72%. Users who traveled by bus / public transportation had a worse response time (59.7%) for appointment in up to one month.

Access and accessibility to health services and actions have similar meanings. One of the dimensions that stand out is the geographic dimension involving distance, means and time of commuting of users to reach the services, including the costs of the trip [22].

The results showed that the higher the autonomy of users in relation to their means of commuting, the shorter the waiting time. There was a statistically significant correlation between waiting time and the types of commuting for care in Centers for Dental Specialties (p<0.001).

The group of users that showed adequacy with needs obtained better performance (71.7%) in attendance in one week and between one week and one month of waiting. Users reported various forms used to schedule appointments on CEOs (Table 2), and significant differences were identified in relation to schedule times.

In the analysis of the waiting time for appointment considering the scheduling characteristics, it was observed that situations in which users received the UBS scheduling sheet and scheduled appointments in the CEOs were majority. There were also reports of users who received the notice of the appointment time after it was duly scheduled by UBS. The scheduling of appointment at the CEO by UBS is considered by several authors and by the National Oral Health Policy through the Manual of Oral Health Specialties, a more favorable condition for scheduling appointments [2-4].

However, by associating the waiting time with the identified forms of scheduling, that is, without considering "other options", the option that the user calls the CEO obtained better performance for appointments in the period of up to one month, 79.8%, followed by the situation in which users reported receiving the UBS scheduling sheet and addressed the CEO to schedule the appointment (72%).

As for the form of scheduling appointments, the numeric consolidated pointed to the options "scheduled time" and "in order of arrival" the most frequent types, but in proportional terms, comparing to the waiting time, the "squeeze in" option, that in which user goes directly to the service to obtain appointment without prior scheduling, obtained 77.8% the guarantee of appointment in up to one week.

If, on the one hand, considering the scheduled time as a more favorable condition under the normative and technical aspect of the organization of a specialized referral service, it is worth considering that this was not the condition that produced the best performance against the decrease in waiting time, on the other hand, and not opposing, the most efficient response when the option is "squeeze in", apparently makes the CEO equipment capable of minimizing barriers to access in territories not yet served by primary care or with problems organizing the actions of care regulation. Users end up by scheduling appointments by themselves, seeking care to meet their needs [23].

Conclusion

It was observed that aspects related to schooling, income and primary health care coverage influenced the waiting time in relation to the guarantee of appointment at the CEOs, being a prominent factor to the extent that these indicators were favorable to obtain better service performance.

It was possible to identify several forms of referencing and scheduling profile in CEOs; however, when considering the National Oral Health Policy, through the Manual of Oral Health Specialties, a more favorable condition for appointment scheduling, the forms that obtained better performance, when analyzing the waiting time, were those that minimized the responsibility of services in relation to appointment scheduling. Therefore, it is necessary to address the various distortions regarding access in Centers for Dental Specialties.

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