

# Integritiy in oral health: analysis of referral from a primary care unit to a Brazilian dental specialties center

## Abstract

**Objective:** to analyze the organization of the dental demand referred from a Basic Health Unit with multiprofessional residency in Family Health to the secondary level of referral care, and to describe the characteristics of the individuals who seek services in this unit and are referred to the secondary level, which is located in the municipality of Juiz de Fora, Minas Gerais, Brazil.

**Methods:** A total of 49 users were studied using a closed questionnaire. An analysis was conducted on absolute and relative frequencies of the categorical variables and a characterization of the means, with standard deviation, of the quantitative variables. The data were analyzed in the SPSS 14.0 program.

**Results:** The referred users were, predominantly, female, with a complete primary or incomplete secondary education, belonging to socioeconomic class C, and considered their oral health status to be fair. Surgery and endodontics, each with 38.8% of the total referrals, were the specialties in greatest demand. The pediatric and endodontic specialties had similar means for the time between treatment referral and completion (96 and 98 days, respectively).

**Conclusion:** Despite the extensive coverage area of the Dental Specialties Center in question, most of the referrals are resolved in 3 months time, on average.

**Keywords:** secondary health care, integrality in health care, dental care

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## Introduction

Integritiy is one of the basic directives of the Brazilian Unified Health System (UHS). As a legal and institutional definition, integrality is conceived as a connected set of preventive and curative health actions and services, individual and collective, in each case, at the different complexity levels of the system.<sup>1</sup> In fact, the constitutional text does not use the expression integrality; but rather, integrated care, with emphasis on preventive activities, without adverse effects on assistance services. However, the term integrality has been commonly used to designate exactly this directive.<sup>2</sup> In addition, integrality emerges as a principle of continuous organization of the work process in health services, which would be characterized by the likewise continuous search to expand the possibilities of understanding the health needs of a population group. This expansion cannot be done without assuming a perspective of dialogue between the different subjects and between their different ways of perceiving the needs of health services.<sup>3</sup> Secondary care in oral health in Brazil is still a subject little researched and discussed; however, countries with more developed and structured models of oral health are already demonstrating concern in studying the use and organization of these services, especially in relation to the levels of care.<sup>4</sup> For effective utilization of health services, greater availability and supply is not enough; it is necessary to analyze certain factors, such as geographic distribution, ease of access to dental care, changes in the epidemiological profile, and the characteristics of the management of the service. In Brazil, social inequality is reflected in the way in which health services, including oral health, are utilized. Thus, the planning

of health measures should include vulnerable groups.<sup>5,6</sup> According to the Ministry of Health (MH), the inclusion of oral health in the Family Health Strategy (FHS) aimed to ensure integrated care to individuals and families. However, in practice, the FHS has remained restricted only to basic care, contrary to the principle of integrated care, which presupposes access to all levels of care, which is not guaranteed everywhere the FHS is being implemented.<sup>7</sup> At the time the Family Health Strategy was created, the Oral Health Team (OHT) was not included in the FHS team's composition; this inclusion was enacted only in the year 2000, through Administrative Order GM/MS No. 1.444, of December 28, 2000,<sup>8</sup> with allocation of a financial incentive, and with the definition of an OHT for the Family Health team in the year 2001, by Administrative Order GM/MS No. 267, of March 6, 2001.<sup>9</sup> The intent of this regulation was to change the dental practice existing in basic care until then, and make the work of the OHT in Family Health focus on the reorganization of the care model, and to broaden access to health care actions, guaranteeing integrated care to individuals and to families, through the establishment of a territorial relationship.<sup>10</sup> The National Oral Health Policy (NOHP), created in line with the principles and guidelines of the UHS, aims at improving the health of the population and reducing inequalities by broadening and reorganizing access to Basic Health Care. Although Brazilians' access to public dental services had improved in recent years, according to NOHP data, there was still a major critical issue regarding access to specialized services.<sup>11</sup> In the assistance area, this policy presents guidelines that point, fundamentally, to the expansion and qualification of primary care in oral health, allowing access for all

age groups, promoting assistance in secondary level care, through the implementation of Dental Specialties Centers (DSCs), which augment the role of backup support for basic care, increasing its resolution capacity.<sup>12</sup> The DSCs must meet the demand for specialized procedures and counter-refer these patients so the Basic Health Units (BHUs) can complete the treatments.<sup>13</sup> They have been the NOHP's strategy to ensure secondary care. These services should constitute referral units for Basic Care, integrated into the local-regional planning process, offering at a minimum the specialties: periodontics, endodontics, and care for patients with special needs, oral diagnosis with emphasis on the detection of oral cancer, and minor oral surgery. Based on their physical and structural resources, they can be classified into three types: type I DSC (three dental chairs); type II DSC (four to six dental chairs); and type III DSC (seven or more dental chairs). They should operate 40 hours a week, with the number of professionals varying according to the type of service.<sup>14</sup> Organizing health services in care networks means providing integrated assistance focused on the interests of users, and providing access in an unequal manner, according to the necessities of those who need it. Thus, the Health Care Networks (HCNs) could simply function effectively, bringing the idea of "transversality" to the entire health system.<sup>15</sup> Organization of the demand for a local health service presupposes the patients' entry via the BHU or the Family Health Team.<sup>16</sup> Referrals should be based on criteria agreed upon with the health team, aimed at reducing queues and wait times for consultation, resource savings, optimization, and improvement in the quality of service. Therefore, it is necessary to determine priorities for care and suggest means to organize the demand for public dental services that collaborate in resolving the problems encountered.<sup>5</sup> Thus, the objective of this study is to evaluate the organization of the dental demand referred from a BHU with multiprofessional residency in Family Health to the secondary level of referral care, identifying the most requested specialties, as well as the number of patients who were unable to obtain care.

## Method

This study was submitted for evaluation and approved by the Research Ethics Committee of the Federal University of Juiz de Fora. This is a cross-sectional, descriptive study. Cross-sectional studies are a most useful tool for describing population characteristics, for identifying groups at risk, and for health actions and planning.<sup>17</sup> Juiz de Fora is a Brazilian municipality in the interior of the state of Minas Gerais (MG), part of the Zona da Mata. Its population in 2010 was 516,247 inhabitants.<sup>18-20</sup> The network of primary care services in Juiz de Fora is made up of 63 (sixty-three) BHUs distributed in 7 (seven) administrative regions and 12 (twelve) health regions.<sup>21</sup> Oral Health in the city of Juiz de Fora is not part of the Family Health Strategy (FHS), although the unit in this study follows the Multiprofessional Residency in Family Health, including dentistry. The study scenario was a Primary Healthcare Unit of Juiz de Fora, located in the northern region of Juiz de Fora, with approximately 6,000 inhabitants in its coverage area. Oral health care at this unit issues referrals to the Dental Specialties Center (DSC) North, in the same region, which is about 5.5 km from the local neighborhood of the unit and covers a total of 35 neighborhoods in the Northern Zone of Juiz de Fora (including the Rural Zone) and another 12 affiliated municipalities in the Juiz de Fora micro-region. At this location, patients are attended in the areas of endodontics, periodontics, Bucamaxillofacial surgery and traumatology, pediatric dentistry, and patients with special needs. Operating at this same location, the Regional Dental Unit (RDU)

north is responsible for general clinical care for 24 localities without basic dental care coverage. In this municipality, the patient receives a referral document and is personally responsible for finding the suggested service. The study population included BHU users who were seeking dental care from July 2014 to June 2015 and required specialized attention in secondary care (Dental Specialties Center). Patients who could not understand or respond to the questions asked, such as patients with neurological and cognitive disorders in their medical records, were excluded. Of the total of 143 users attended in the period, 63 (44%) patients required a referral for attention in secondary care. Data collection was done through a standardized questionnaire applied in home visits together with the Community Health Agents (CHAs).<sup>22</sup> Participants answered a closed questionnaire-based interview with identification data, self-perceived general health and oral health, socioeconomic data according to the Economic Classification Criteria of the Brazilian Association of Research Companies,<sup>23</sup> and characterization of the referral for secondary care. This interview was conducted at least four months after the referral, considering an average wait time between receiving the referral and being seen for treatment, according to local administrators. The authors' choice was to interview users to reduce information bias, attributed to user levels of education.<sup>24</sup> When the referral was issued for minors, the responsible adult was the interviewee. All participants signed a Free and Informed Consent Form in accordance with National Health Council Resolution No. 466, of December 12, 2012.<sup>25</sup> Analysis of absolute and relative frequencies of the categorical variables (gender, schooling, socioeconomic class based on average monthly family income) and characterization of means, with standard deviation, of the quantitative variables (age, time between referral and completion of treatment in the DSC) were conducted. Data were analyzed using SPSS 14.0 software.

## Results

From the 143 patients treated at the Primary Healthcare Unit, from July 2014 to June 2015, 63 (44%) patients were referred for treatment in secondary care. Of these, 14 were excluded due to lack of contact (change of address, absence after 3 attempts at a home visit). Thus, the data regarding 49 users were analyzed. 35 female subjects (71.4%) characterized the sample of 49 users, with ages varying from 4 to 79 years, and a mean of 40.1 years (standard deviation 19.70). As for educational level, the majority (38.8%) had completed elementary school (8 years of schooling) or some high school (up to 10 years of schooling). The predominant socioeconomic class among users was C1, with 17 people (34.7%), characterized by an average monthly family income of \$ 795.00. The profile of the users is described in Table 1. The participants' assessment of self-perceived general health and oral health is presented in Table 2. On the general health question, the majority of users considered their health very good or good (75.5%). Regarding oral health, the majority considered it good or fair (67.3%). Regarding the referrals, the specialties with the greatest number of referrals were surgery and endodontics, both with 19 (38.8%) cases. The percentage of users who did not take the referral to the referral location is considerable for all referred specialties. Among those who did, most concluded the treatment, except in the periodontics specialty, as shown in Table 3. The specialty with the shortest time between referral and completion of treatment was surgery. The pediatric dentistry and endodontics specialties have similar means for the time between treatment referral and completion (96 and 98 days, respectively) (Table 4).

**Table 1** Profile of the users referred to a specialties referral center

Variable	Number of users	Percentage (%)
Sex		
Female	35	71.4
Male	14	28.6
Schooling		
Illiterate / elementary I incomplete (0 to 3 years)	7	14.3
Elementary I complete / elementary II incomplete (4 to 7 years)	6	12.2
Elementary complete/ High school incomplete (8 to 11 years)	19	38.8
High School graduate / some college	16	32.7
College graduate	1	2
ABEP Socioeconomic classification (average monthly family income)		
Class A (\$6,143.00)	0	0
Class B1 (\$2,720.00)	1	2
Class B2 (\$1,427.00)	9	18.4
Class C1 (\$795.00)	17	34.7
Class C2 (\$478.00)	15	30.6
Class D/E (\$226.00)	7	14.3

**Table 2** Self-perceived general health and oral health of users referred to a specialties referral center

Variable	Number of users	Percentage (%)
General Health		
Very good	20	40.8
Good	17	34.7
Fair	11	22.4
Poor	1	2
Very poor	0	0
Oral Health		
Very good	5	10.2
Good	13	26.5
Fair	20	40.8
Poor	9	18.4
Very poor	2	4.1

**Table 3** Number of referrals according to the specialties offered by the referral center, 49 users

Variables	Surgery	periodontics	endodontics	Pediatric dentistry	Patients with special needs
Number of referrals (%) Situation	19 (38.8)	8(16.3)	19 (38.8)	5 (10.2)	0 (0.0)
Have not yet taken to the referral location (%)	47.4	50	31.6	0	0
Already taken but not yet called (%)	5.3	50	5.3	20	0
Treatment is underway (%)	5.3	0	0	0	0
Treatment has been completed (%)	42	0	63.1	80	0

Note A patient may have received referrals to more than one specialty

**Table 4** Time from the date of referral to completion of treatment

Variables	Number of treatments completed	Minimum wait time (in days)	Maximum wait time (in days)	Approx. mean (in days)
Surgery	8	9	146	64
Endodontics	12	17	408	98
Pediatric dentistry	4	41	144	96

## Discussion

Primary Care plays a fundamental role in the structuring of the national health system, establishing links with secondary and tertiary care, constituting a hierarchical network, in the form of referrals and counter-referrals of needs. To optimize the supply of dental services, it is important that the users' needs are resolved at the appropriate levels of complexity of care.<sup>26,27</sup> In a study conducted in the south of Brazil,<sup>28</sup> the profile of the user seeking specialized dental care was described as having an age range between 10 and 87 years; the majority being female and with only an elementary education, similar to the findings of this study. This association of the female sex with the search for health services is well reported in other studies.<sup>29,30</sup> Besides having a greater perception of the health needs and the central role as caregiver of the family, women still present a lower percentage of employment, which may explain this higher demand.<sup>30</sup> It was also observed that the majority of users had a low level of schooling. The result is consistent with other studies that show that DSC users represent a socioeconomic profile similar to that of UHS users as a whole.<sup>31,32</sup> This finding may as much indicate equity in access as indicate that individuals in a sufficient financial situation seek other services without waiting for the oral health care from the Unified Health System. Access to oral health care faces a number of barriers in Brazil, whether economic, cultural, or organizational. Thus, schooling and income are significant predictors of demand and access, suggesting the effect of purchasing power and of the domain of information and positive expectations in relation to the oral health associated with schooling level.<sup>33</sup> It is further observed that the pediatric dentistry and endodontics specialties had similar mean times between the date of referral and the completion of treatment (96 and 98 days, respectively), similar to a study carried out in Bahia, where 6.7% of the users reported a delay of more than 90 days.<sup>34</sup> A study carried out in a Northeastern DSC (Natal, RN) showed less time until first attended (mean of 50 days).<sup>35</sup> In this sense, it should be emphasized that the longer the wait time until first attended, or the delay in completing treatment already started, the more users seek other services or give up treatment.<sup>36</sup> In order to improve the organization of care, the health agent's home visit should include actions to monitor appointments, enabling the recording of information requested by the user regarding transportation to the scheduled appointment.<sup>37</sup> Notification from the CHA could be adopted as a strategy, aimed at improving performance.<sup>38</sup> One should not think of basic care, without secondary care, because both are essential for the integrality of oral health care.<sup>39</sup> It is fundamental that basic health care be offered in all municipalities. It should act as the gateway to the health system, taking on the role of organizing integrated care. In addition, its presence strengthens the process of decentralization to the municipal level.<sup>40</sup> In order to follow the principle of integrality in care, qualification of the work process would be fundamental, with continuing education actions and the creation of residency in secondary care for skills and competency training focused on the DSCs. Another important aspect would be the evaluation of technologies and procedures specific to

the DSCs, which could be conducted through the establishment of a Clinical Research Network for secondary care, and also, conducting research on the impact related to the implementation of the DSC in Brazil.<sup>41</sup> Upon assessing 613 DSCs in different Brazilian regions, poor performance was identified in reference to meeting targets, for most regions. The Southeast region was one of the exceptions, where most of the services achieved good performance, being the region with the highest percentage of DSCs with excellent performance.<sup>42</sup> There is a statistically significant correlation between the performance of the DSCs and the population sizes of the municipalities, concluding that the smaller the municipality and the lower its HDI, the worse its performance.<sup>43</sup>

The evaluation of health services, especially public services, allows the expression of the user, who exercises social control. In addition, the orientation of this type of evaluation aims to bring an improvement to the health services daily routine that provides benefit to the users themselves, to the health professionals, and to the management of the services.

## Conclusion

The profile of the user who sought dental care at the BHU selected for this study and who was referred to the DSC is, predominantly, female, with a complete elementary or some high school education, belonging to socioeconomic class C, and considering their oral health status fair. Despite the wide coverage area of the DSC in question, there is regular resolution of referrals, except in periodontics, which deserves scrutiny into the reason for the delay in resolving these cases. A specific analysis is needed about the reasons that lead users not to take the referral to the referral location, in order to then carry out work on raising their awareness about the importance of concluding treatment and the impacts on their daily life, in addition to reducing the vicious cycle that can occur in the request for new referrals at the BHU. Toward this end, the CHAs can act jointly with the dental surgeon, since they are in constant contact with the subscriber population.

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## Conflicts of interest

The authors declare no conflict of interest.

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