

Availability of hospital dental care services under sedation or general anesthesia for individuals with special needs in the Unified Health System for the State of Minas Gerais (SUS-MG), Brazil

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Abstract *This study identified the demographic characteristics of individuals and dental treatment care under sedation/general anesthesia in a hospital environment in the Unified Health System in the State of Minas Gerais (SUS-MG). All Hospitalization Authorizations (AIHs) for Dental Treatment for Patients with Special Needs procedures were evaluated between July 2011 and June 2012. Demographic and health care variables for treatment were also assessed. Hospitalization rates per 10,000 inhabitants, and health care coverage provided in the state of Minas Gerais and in each of the Broader Health Regions were calculated. Descriptive analysis of data was carried out by calculating the central trend and variability frequency and measurements. All 1,063 AIHs paid during the study period were evaluated, which is equivalent to a rate of 0.54 hospitalizations per 10,000 individuals. The majority of the patients were adult, male, diagnosed with mental or behavioral disorders and resident in 27.7% of the municipalities in Minas Gerais. The procedures were performed in 39 municipalities and the care coverage was equal to 1.58%. The study reveals a classic demographic and clinical profile of patient attendance. Difficulties in establishing a network of dental care were identified.*

Key words *Dental care for the disabled, Hospital information systems, Public health*

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Introduction

People with special needs (PSN) may be at a higher risk for developing oral diseases when they present with difficulties related to their oral hygiene and chewing, eat soft and/or carbohydrate-rich foods, take sugary medications or xerostomia-inducing drugs, or have limited access to dental services¹⁻³. Dental care for these groups may also be difficult because of the limitations presented by PSNs or by the professional in the oral health care team, resulting in dental treatment under general anesthesia or sedation in a hospital setting⁴. The indications for the provision of dental treatment under general anesthesia or sedation can be medical, mental or psychological, including intellectual deficiency, physical limitations, mobility problems, behavioral disorders and chronic diseases⁵⁻⁸.

In Brazil, efforts have been made in recent decades to organize actions toward oral health services for PSNs, from primary care to hospital-based sedation and general anesthesia, thus strengthening the *Política Nacional de Saúde da Pessoa com Deficiência* (National Health Policy for People with Disability)⁹⁻¹⁴. In 2010, the Ministry of Health created a health program known as *Tratamento Odontológico para Pacientes com Necessidades Especiais* (Dental Treatment for Patients with Special Needs), which was included in the list of procedures offered by the Brazilian Unified Health System (SUS – *Serviço Único de Saúde*) and incorporates sedation and/or anesthesia in the hospital environment¹². In 2012, the State of Minas Gerais organized their hospital system to include an oral health care network (*Rede de Atenção à Saúde Bucal*) aimed at extending the guarantee of integral care to PSNs. Such a network functions under the premise that the number of referrals for dental treatment under general anesthesia or sedation is inversely proportional to the level of organization of primary care, and those referrals must only be made in specific cases^{5,15,16}. The Oral Health Care Network of the State of Minas Gerais was developed according to the Plan of Guidance for Regionalization (*Plano Diretor de Regionalização*, PDR-MG), which consists of 853 municipalities in 77 Health Regions. These regions are part of 13 Wide Health Regions.

Each of the latter has 1 to 3 municipalities as their headquarters¹⁷. Dental treatment under sedation and/or general anesthesia in hospitals for PSNs should be provided at one of the 19 headquarters in the State¹⁶. This procedure is defined, according to the unified table from the Management System for the Table of Procedures, Medication & Othesis, Prosthesis and Materials of SUS (*Sistema de Gerenciamento da Tabela de Procedimentos, Medicamentos e Órtese, Prótese e Materiais do SUS - SIGTAP*)¹⁸, as dental services performed at a hospital under sedation or general anesthesia on patients with one or more temporary or permanent limitations of intellectual, physical, sensorial or emotional origin that prevent them from receiving conventional dental treatment.

This approach is characterized as the main procedure that generates an Authorization for Hospital Admission (AHA) from the Brazilian Code of Occupation (BCO) for dental surgeons. It also features a complementary attribute, which includes the value of the anesthetic, and is compatible with secondary dental procedures (from the list of primary care services) and special procedures (from the list of services of medium complexity/specialized care), which, once completed, will generate remuneration¹⁹.

Regarding the organization of the oral health care network, the use of hospital dental services under sedation and/or general anesthesia by SUS-MG on PSNs must be described and assessed to collaborate toward managing decision making. The assessment of health includes an examination of the following dimensions: structure (resources and organization), process (services or goods produced) and results²⁰. Health services are assessed using development indicators and quality standards in those three dimensions. Consequently, the analysis of the distribution of the demographic and care profiles for dental treatment under sedation and/or general anesthesia for PSNs may contribute to the assessment.

Considering that the application of health policies to PSNs is recent, little scientific evidence has been produced to cooperate for planning care actions. Therefore, the purpose of the present study was to identify the demographic characteristics of the patients and the features of care from dental treatment under sedation and/or anesthesia in SUS-MG hospitals.

Methods

This was a descriptive quantitative study using secondary data from AHAs, State of Minas Gerais, registered as 'payment settled'. The latter referred to the completion of dental treatment in PSNs from June 2011 to July 2012.

The State of Minas Gerais (MG), located in the Southeastern Region of Brazil, is the second most populated state, with the third largest Gross Domestic Product in the country. The estimated population of MG in 2013 was 20,593,356 inhabitants, living in 853 municipalities.

The Hospital Information System-SUS (SIH/SUS), National Registration System for Health Establishments (SCNES) and Health Secretariat for the State of Minas Gerais (SES-MG) databases were consulted.

In February 2013, using the SIH/SUS and SES-MG databases, an audit was performed on the number of AHAs with payment settled in MG for completed dental treatment from June 2011 to July 2012, according to the municipality where the admission occurred. The information from both databases was subsequently compared to check for diverging information regarding paid AHAs. The database was then exported to SPSS for Windows v.19.0 to be rechecked for possible mismatches, which, if present, were corrected using information from the SES-MG. The latter was chosen due to the availability of detailed information regarding each AHA entry.

All of the settled AHAs registered in the SES-MG database were analyzed. The variables investigated were as follows: month and year of procedure, gender, age (years), age group (children: up to 9 years old, adolescents: 10 to 19 years old, adults: 20 to 59 years old, elderly: 60 years or older), principal diagnosis (International Classification of Diseases – ICD), patient's municipality of residence, municipality where the hospital procedure was performed (Center, South-central, Jequitinhonha, East, East-south, Northeast, Northwest, North, West, Southeast, South, Northern Triangle, Southern Triangle), hospital ward (surgery, medicine, pediatrics, day hospital), reason for admission (elective, urgency/emergency), procedure performed (SIA/SUS table), Brazilian Code of Occupation (BCO) of the dental surgeon performing the procedures, number of days in hospital for the patient, and patient's chaperone.

The admission rates were calculated per 10,000 inhabitants for the State of MG and for each of the Wide Health Regions, using the population numbers obtained from PDR-MG/2011¹⁷. The service coverage for the State of MG and each of the Wide Health Regions was estimated by dividing the number of AHAs by the estimated number of PSNs in need of dental treatment under sedation and/or general anesthesia²¹⁻²³. According to IBGE²¹ and the Ministry of Health²², 6.7% of the population may require special needs dental treatment. Among those, 5% may need hospital treatment under sedation and/or general anesthesia²³, indicating that 0.34% of the general population may require this management approach.

Descriptive analysis of the variables of interest was calculated in terms of frequency, measures of central tendency and variability. No confidence intervals were performed because the study population was analyzed as a census.

This study was approved by the Research Ethics Committee of the Universidade Federal de Minas Gerais.

Results

All 1,063 settled AHAs in the studied period were assessed. The percentage of AHAs in the months evaluated in 2012 was 50.2%. Regarding all of the months studied, the lowest number of settled AHA was 67, and the highest was 108.

The mean age was 28.5 (\pm 18.2) years, ranging from zero to 90 years. The first, second and third age quartiles were 15, 25 and 39 years, respectively. The percentage of children, adolescents, adults and elderly people treated were 15.0%, 21.4%, 56.0% and 7.6%, respectively, most of whom were female (61.0%).

One hundred forty-five (145) principal diagnoses were identified, from which the highest frequency (60.3%) was for mental illnesses and behavioral disorders, followed by diseases of the central nervous system (18.5%), the musculoskeletal system and connective tissue (5.0%), infectious and parasitic diseases (4.5%), factors that influence health and access to health services (3.5%), diseases of the genitourinary tract (2.8%), diseases of the skin and subcutaneous tissues (1.8%), congenital malformations, defor-

mities and chromosomal anomalies (1.0%), neoplasms (0.8%), diseases of the circulatory system (0.8%), diseases of the blood and hematopoietic organs, as well as some immunological disorders (0.4%), endocrine and metabolic diseases (0.4%) and diseases of the digestive system (0.2%).

The patients were from 236 municipalities of MG, which corresponds to 27.7% of the total number of municipalities in that State, with 2 patients from Três Rios in the State of Rio de Janeiro.

Of the 853 municipalities in MG, 39 (4.6%) performed the procedures, of which 16 (41.0%) were Wide Health Region headquarters, and 14 (35.9%) offered the service only to patients residing in the same municipality. In the latter group, 43 hospitals performed the procedures.

Regarding the type of hospital ward, the highest frequencies were related to surgery (72.7%) and day hospital (12.6%) wards. Urgent admissions comprised 59.9% of the AHAs. Practically all of the events (98.6%) were performed outside of the ITU.

In addition to the procedure “Dental Treatment for PSNs”, which was present in 100% of the AHAs, a detailed entry for the provision of other specific dental procedures was observed in 544 (51.2%) AHAs. From the total entries for Dental Treatment for PSNs with a BCO for dental

surgeons (N = 1,200), 71.4% were general dental practitioners. Other dental specialties, including surgery and maxillofacial trauma (21.3%), special care dentistry (2.4%), periodontology (1.6%), geriatric dentistry (1.4%), endodontics (1.3%) and dental radiology and imaging (0.5%), also provided services.

In most AHAs (94.1%), a single-day stay was registered per patient. The highest number of days in the hospital was 33 (n = 1). In 76.0% of the AHAs, no stays were registered for chaperones, while 22.4% registered a one-day stay. The highest number of days registered for a chaperone was 26 days (n = 1).

Table 1 shows the variation in the frequency of municipalities, resident population and number of hospital-based dental treatments under sedation or general anesthesia for PSNs in the different Wide Health Regions.

The admission rate per 10,000 inhabitants of the State of Minas Gerais was 0.54. Figure 1 shows the rates per Wide Health Region.

Table 2 shows the population estimate of PSNs who can request hospital-based dental treatment under sedation and/or general anesthesia, as well as the service coverage per Wide Health Region in MG. The service coverage during the period and location (MG) analyzed was 1.58%.

Table 1. Number of municipalities, population and number of hospital-based dental treatments under sedation and/or general anesthesia per person with special needs, according to Wide Health Regions, Minas Gerais, between July 2011 and June 2012.

Wide Health Region	Number of municipalities	Population	Number of procedures (%)
Center	103 (12.1%)	6,145,218 (31.1%)	179 (16.8%)
South center	50 (5.9%)	727,516 (3.7%)	30 (2.8%)
Jequitinhonha	29 (3.4%)	374,199 (1.9%)	44 (4.1%)
East	86 (10.1%)	1,458,884 (7.4%)	2 (0.2%)
East-South	53 (6.2%)	667,926 (3.4%)	80 (7.5%)
Northeast	57 (6.7%)	811,856 (4.1%)	34 (3.2%)
Norwest	33 (3.9%)	657,378 (3.3%)	53 (5.0%)
North	86 (10.1%)	1,585,946 (8.0%)	132 (12.4%)
West	55 (6.4%)	1,201,980 (6.1%)	10 (0.9%)
Southeast	94 (11.0%)	1,575,629 (8.0%)	373 (35.1%)
South	153 (17.9%)	2,625,589 (13.3%)	74 (7.0%)
Northern Triangle	27 (3.2%)	1,190,043 (6.0%)	28 (2.6%)
Southern Triangle	27 (3.2%)	706,088 (3.6%)	24 (2.3%)
Total	853 (100%)	19,728,252 (100%)	1,063 (100%)

Source: SES-MG, PDR-MG/2011.

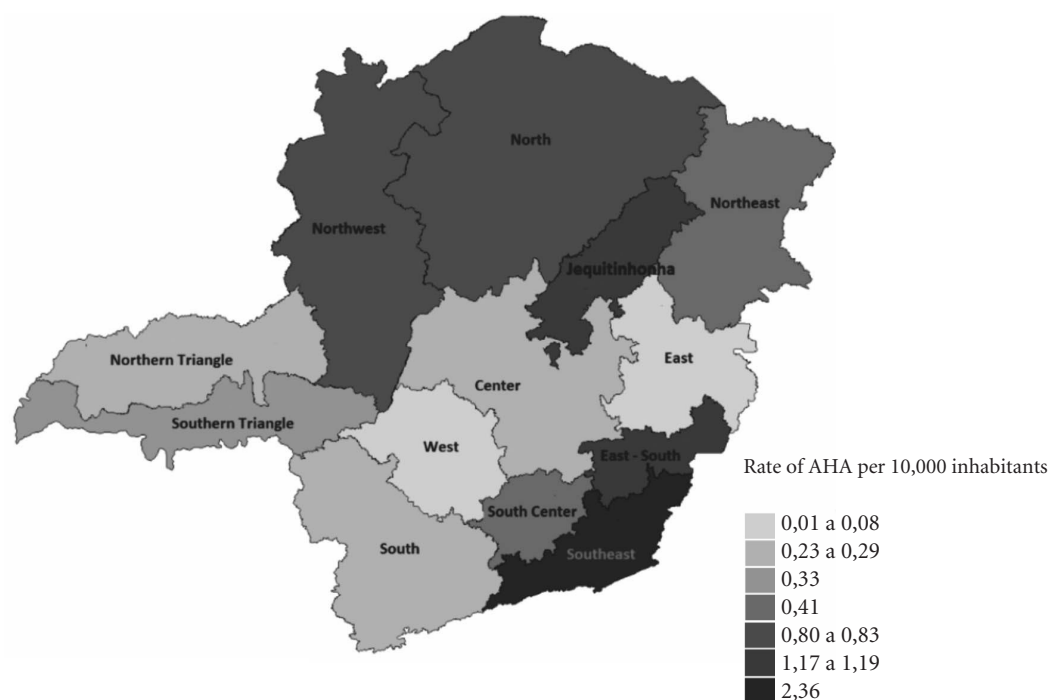


Figure 1. Admission rate/10,000 inhabitants, per Wide Health Region.

Source: SES-MG, PDR-MG/2011 database.

Table 2. Estimated Population of PSNs that can request hospital-based dental treatment under sedation and/or general anesthesia and coverage under the Wide Health Region, Minas Gerais, from July 2011 to June 2012.

Wide Health Region	Estimated Population [*]	Number of AHA	Service coverage (%)
Center	20,894	179	0.86
South center	2,474	30	1.21
Jequitinhonha	1,272	44	3.46
East	4,960	2	0.04
East-South	2,271	80	3.52
Northeast	2,760	34	1.23
Norwest	2,235	53	2.37
North	5,392	132	2.45
West	4,087	10	0.24
Southeast	5,357	373	6.96
South	8,927	74	0.83
Northern Triangle	4,046	28	0.69
Southern Triangle	2,401	24	1.00
Total	67,076	1,063	1.58

^{*} Estimation of people with special needs who can request dental treatment under sedation and/or general anesthesia (= 0.34% of the general population).

Source: SES-MG, PDR-MG/2011.

Discussion

Assistance was provided mostly to adult males, originating from all of the regions of MG, with a diagnosis of mental illness and behavioral disorder. Low service coverage was observed.

The predominance of this type of dental treatment in adult patients may be related to patient size and physical strength as well as involuntary movements, which may render conventional techniques of behavioral management unable to achieve adequate control for treatment^{24,25} and is especially true in males, thus further complicating management in the presence of cognitive and mental changes. The relatively low priority given to prompt oral health care by relatives may be related to the challenges they face. That is, the patients' health conditions represent a demand for continued care to maintain life, which might complicate access to health services²⁵, resulting in a higher number of adults requiring care under sedation and/or general anesthesia. Due to the descriptive nature of this study, such hypotheses must be investigated in studies with analytical potential.

Studies evaluating patients undergoing dental treatment under general anesthesia have reported that most individuals have mental or cognitive impairment²⁵⁻²⁷. For this modality of treatment in PSNs by SUS¹², there are 2,442 ICD-10 codes that would allow an AHA entry, which is rather comprehensive, considering that AHAs include this modality of dental treatment beyond the context of disability. The concept of a person with a disability and persons with special needs may overlap, and regarding dental care, not every person with a disability has special needs and *vice versa*. The term PSN, used in this study, is in accordance with the specialty ratified by the Federal Dental Council (*Conselho Federal de Odontologia* - CFO) and the description by the Ministry of Health for dental procedures.

The demographic and clinical profiles identified in this study may be useful to promote further investigations into the current demand for tertiary care so that services can be organized to include, whenever possible, assistance at the primary and secondary levels, thus reducing the number of procedures under sedation and/or general anesthesia^{28,29}.

The lack of access for PSN residents in the majority of municipalities in MG may signify that their local administration offers a resolute primary care to this population or that they do not guarantee the integrality of care, for instance, due to a lack of service availability, signifying a deficiency in the organization of the Oral Health Care Network of SUS-MG^{16,30-32}. The treatment of patients from other States, despite low numbers, may complicate the administration of services in the municipality of Juiz de Fora, for example, due to its geographic proximity to the State of Rio de Janeiro.

Two situations were identified from the results obtained in this study, indicating malpractice in terms of the organization of the Oral Health Care Network in SUS-MG^{16,30-32}. First, the minority of service provider municipalities were Wide Health Region headquarters. Second, a significant proportion of the municipalities were identified as having provided the service exclusively to residents of their own territory, suggesting the presence of operational difficulties for the implementation of the guidelines of regionalization of the specialized oral health services in SUS-MG.

Urgent admissions presented a higher frequency than elective admissions, suggesting that referrals were made during acute stages of oral diseases due to a lack of adequate intervention at the appropriate time in the primary care setting³⁰. The type of ward used for treatment may reflect the availability in the hospital network of MG.

A general dental practitioner most frequently performed dental treatment for PSNs—an interesting finding because previous studies have demonstrated that Brazilian dental surgeons have difficulties providing services to such individuals, even at the outpatient level³³. When self-assessed as being well trained to provide this type of service, dental surgeons are the professionals that most frequently see these patients³⁴. Further studies aimed at understanding the availability of human resources for this type of service are needed.

There was a higher number of entries for procedures (N = 1,200) than for appointments (N = 1,063), suggesting that the procedure was registered only once by the BCO of the anesthe-

tist or the dental surgeon and that the procedure involved a rigorous integrated approach by the health team³⁵.

The frequency of treatment under sedation/general anesthesia varied among the Wide Health Regions in the State of Minas Gerais but not with the frequency of the number of municipalities or the resident population in each of those regions. When the rate for this type of dental service was determined, as a function of the population that potentially needs it, the coverage was far from ideal. Several factors may be at play in this situation, including funding for the procedure³⁶ and the attitude of the professionals²⁸. Historical reasons for hospital organization, in general and in terms of assistance to PSNs, may also explain the low coverage. In the 1990s, a significant decrease (22.2%) in hospital coverage by SUS was reported³⁷. The decrease in AHAs at private hospitals was not compensated by the mild increase in AHAs at State hospitals³⁸. In addition to bed restrictions, policies regarding the organization of hospital-based dental services for PSNs and the presence of dentists in a hospital environment, *per se*, being relatively recent occurrences may have posed difficulties in the availability of an infrastructure for hospital-based dental treatment^{16,19,39}. Additionally, the timid capacitation of professionals to work in this area may, once again, explain the low coverage detected^{28,39,40}. An evaluation of the contribution of dental surgeons to the hospital network in the State of Sao Paulo revealed that Hospital Dentistry is still at the foundation level⁴¹, a finding that is similar to that in the present study. The analysis of service coverage identified a potential accumulated need, which will have to be remedied by the administration.

The present study has limitations that are common to studies that are based on secondary data in the area of health, potentially generating distortions, such as the quality and standardization of AHA form completion. An evaluation of results on the care provided and patient and family satisfaction should also be considered. Analytical studies on factors associated with patient usage of dental services under sedation and/or general anesthesia for PSNs that consider the regional distribution of the population are also needed. To evaluate the provision of dental services to

PSNs throughout the network, prior evaluation of the different levels of care (primary, secondary and tertiary) would be necessary. At the secondary level, this evaluation could be performed via data collected at the Centers of Dental Specialties (*Centros de Especialidade Odontológica*). At the primary level, however, this information has not yet been made available. Evaluation approaches could be applied to assess how professional work 'within' and 'among' the levels in the system³⁵.

The choice of study period was justified by the starting month and year being marked by the effective implementation of Regulation/GM nº 1.032, of May 5th, 2010¹², which included the aforementioned dental service in the Table of Procedures, Medication, Ortheses, Prostheses and Special Materials – OPM/SUS. The month and year selected as the endpoint of the investigation reflect a guarantee of a full twelve-month evaluation, thus avoiding the possible loss of a tendency of a procedure being performed at a specific time of the year. Data collection was finalized shortly before adherence of the municipalities to Resolution SES-MG nº. 3.238, of April 18th, 2012¹⁶, which approved financial support and established criteria for the implementation of hospital dental services under general anesthesia or sedation in MG. Therefore, the data presented in this study must be interpreted considering the aforementioned aspects; however, they may also serve as a useful initial analysis of service provision to this group of patients.

In so far as the literature could be consulted, the present study presented was the first population-based description of hospital dental care to PSNs in a Brazilian State. In addition to the information on demographic and service provision profiles, the use of referral parameters for planning and programming oral health actions and services is one of the key elements in the process of organizing the Oral Health Care Network, based on the health needs presented by the population.

Conclusions

This study revealed a classic profile of the patient with special needs provided with dental treatment under sedation and/or general anesthe-

sia—i.e., an adult male with a diagnosis of mental illness, behavioral disorder or a disease of the central nervous system. The results have demonstrated the presence of situations that complicate the establishment of an oral health care network for this specific population. In the state of Minas Gerais, hospital-based dental services for PSNs, which is the role of Hospital Dentistry, appear to be at the foundation stage.

Collaborations

JS Santos, DA Valle, AC Palmier, JHL Amaral and MHNG Abreu participated equally in all stages of preparation of the article.

References

1. US Department of Health and Human Services. *Oral Health in America: A Report of the Surgeon General*. Rockville: US Department of Health and Human Services, National Institute of Dental and Craniofacial Research, National Institutes of Health; 2000.
2. Glassman P. A review of guidelines for sedation, anesthesia, and alternative interventions for people with special needs. *Spec Care Dentist* 2009; 29(1):9-16.
3. Buchhholtz KJ, King RS. Policy and Proposals That Will Help Improve Access to Oral Care Services for Individuals With Special Health Care Needs. *N C Med J* 2012; 73(2):124-127.
4. Dall Magro AK, Dall Magro E, Kuhn GF. Perfil clínico dos pacientes especiais tratados sob anestesia geral no Hospital São Vicente de Paulo de Passo Fundo entre os anos de 2005 e 2010. *RFO* 2010; 15(3):253-256.
5. Minas Gerais. Secretaria de Estado de Saúde (SES). *Atenção em saúde bucal*. Belo Horizonte: SES; 2006.
6. Haddad AS, Maretti MBC. Anestesia geral no tratamento odontológico de pacientes com necessidades especiais. In: Haddad AS, organizador. *Odontologia para pacientes com necessidades especiais*. São Paulo: Pascat; 2007. p. 502-503.
7. Dougherty N. The dental patient with special needs: a review of indications for treatment under general anesthesia. *Spec Care Dentist* 2009; 29(1):17-20.
8. Savanneimo N, Sundberg SA, Virtanen JJ, Vehkalahti MM. Dental care and treatments provided under general anaesthesia in the Helsinki Public Dental Service. *BMC Oral Health* 2012; 12:45.
9. Brasil. Ministério da Saúde (MS). Secretaria Nacional de Assistência à Saúde (SNAS). Coordenação de Saúde Bucal. *Manual Programa Nacional de Assistência Odontológica Integrada ao Paciente Especial*. Brasília: MS; 1992.
10. Brasil. Ministério da Saúde (MS). Secretaria de Atenção à Saúde. *Política Nacional de Saúde da Pessoa Portadora de Deficiência*. Brasília: MS; 2008.
11. Brasil. Ministério da Saúde (MS). Secretaria de Atenção à Saúde. Departamento de Ações Programáticas Estratégicas. *Política Nacional de Saúde da Pessoa com Deficiência*. Brasília: MS; 2010.
12. Brasil. Ministério da Saúde. Portaria/GM nº 1.032, de 05 de maio de 2010. Inclui procedimento odontológico na Tabela de Procedimentos, Medicamentos, Órteses e Próteses e Materiais Especiais do Sistema Único de Saúde - SUS, para atendimento às pessoas com necessidades especiais. *Diário Oficial da União* 2010; 5 mai.
13. Decreto nº 7.612, de 17 de novembro de 2011. Institui o Plano Nacional dos Direitos da Pessoa com Deficiência-Plano Viver sem Limite. *Diário Oficial da União* 2011; 17 nov.
14. Brasil. Ministério da Saúde. Portaria/GM nº 793, de 24 de abril de 2012. Institui a Rede de Cuidados à Pessoa com Deficiência no âmbito do Sistema Único de Saúde. *Diário Oficial da União* 2012; 24 abr.
15. Minas Gerais. Secretaria de Estado de Saúde. Deliberação CIB/SUS-MG nº 1.099, de 18 de abril de 2012. Aprova incentivo financeiro e estabelece critérios para a implantação e/ou implementação de serviços de assistência odontológica com uso de anestesia geral ou sedação em ambiente hospitalar no estado de Minas Gerais *Imprensa Oficial do Estado de Minas Gerais* 2012; 19 abr.
16. Minas Gerais. Secretaria de Estado de Saúde. Resolução SES-MG nº 3.238, de 19 de abril de 2012. Aprova o incentivo financeiro e estabelece critérios para a implantação e/ou implementação de serviços de assistência odontológica com uso de anestesia geral ou sedação em ambiente hospitalar no estado de Minas Gerais. *Imprensa Oficial do Estado de Minas Gerais* 2012; 19 abr.
17. Minas Gerais. Secretaria de Estado de Saúde. Deliberação CIB-SUS/MG nº 978, de 16 de novembro de 2011. Aprova o ajuste do Plano Diretor de Regionalização/PDR-MG 2011 e diretrizes para o ajuste em 2013. *Imprensa Oficial do Estado de Minas Gerais* 2013; 10 dez.
18. Brasil. Ministério da Saúde. DATASUS. SIGTAP - Sistema de Gerenciamento da Tabela de Procedimentos, Medicamentos e OPM do SUS. Brasília; 2013. [acessado 2013 fev 27]. Disponível em: <http://sigtap.datasus.gov.br>.
19. Brasil. Ministério da Saúde (MS). Secretaria de Atenção à Saúde. Departamento de Atenção Básica. Coordenação Geral de Saúde Bucal. Nota Técnica - Informe referente à Portaria Nº 1.032/GM de 05/05/2010, Tratamento Odontológico para Pacientes com Necessidades Especiais. Brasília; 2010. [acessado 2013 jan 20] Disponível em: http://189.28.128.100/dab/docs/geral/Nota_Tecnica_Portaria_Tratamento_PNE.pdf
20. Donabedian A. The quality of medical care. *Science* 1978; 200(4344):856-864.
21. Instituto Brasileiro de Geografia e Estatística (IBGE). *Censo Demográfico 2010. Resultados gerais da amostra*. Rio de Janeiro; 2010.
22. Brasil. Ministério da Saúde (MS). Secretaria de Atenção à Saúde. Departamento de Ações Programáticas e Estratégicas. Coordenação Geral de Saúde Mental. *Saúde Mental em Dados*. Brasília: MS; 2007.
23. Park MS, Sigal MJ. The role of hospital-based dentistry in providing treatment for persons with developmental delay. *J Canadian Dental Assoc* 2008; 74(1):353-357.
24. Musselman RJ, Roy EK. Hospital management of the handicapped child. *Dent Clin North Am* 1974; 18(3):699-709.
25. Castro AM, Marchesoti MGN, Oliveira FS, Novaes MSP. Avaliação do tratamento odontológico de pacientes com necessidades especiais sob anestesia geral. *Rev Odontol UNESP* 2010; 39(3):137-142.
26. Wang YCY, Lin, IH, Huang CH, Fan SZ. Dental anesthesia for patients with special needs. *Acta Anaesthesiol Taiwan* 2012; 50(3):122-125.
27. Marta SN. Programa de assistência odontológica ao paciente especial: uma experiência de 13 anos *Rev Gaucha Odontol* 2011; 59(3):379-385.
28. O'Donnel, D. The special needs patient. Treatment in general dental practice: is it feasible? *Int Dent J* 1996; 46(4):315-319.
29. Messieha Z. Risks of general anesthesia for the special needs dental patient. *Spec Care Dentist* 2009; 29(1):21-25.
30. Mendes EV. As redes de atenção à saúde. *Cien Saude Colet* 2010; 15(5):2297-2305.
31. Minas Gerais. Secretaria de Estado de Saúde de Minas Gerais (SESMG). *Plano Diretor de Regionalização da Saúde de Minas Gerais*. Belo Horizonte: SESMG; 2010.

32. Minas Gerais. Secretaria de Estado de Saúde. Deliberação CIB/SUS-MG nº 1.676, de 10 de dezembro de 2013. Institui a Rede de Atenção à Saúde Bucal no SUS-MG e dá outras providências. *Imprensa Oficial do Estado de Minas Gerais* 2013; 11 dez.
33. Fonseca ALA, Azzalis LA, Fonseca FLA, Botazzo C. Análise qualitativa das percepções de cirurgiões-dentistas envolvidos nos atendimentos de pacientes com necessidades especiais de serviços públicos municipais. *Rev Bras Crescimento Desenvolv Hum* 2010; 20(2):208-216.
34. Dao LP, Zwetchkenbaum S, Inghart MR. General dentists and special needs patients: does dental education matter? *J Dent Educ* 2005; 69(10):1107-1115.
35. Scott C, Hofmeyer A. Networks and social capital: a relational approach to primary healthcare reform. *Health Res Policy Syst* 2007; 5:9.
36. Rashewsky S, Parameswaran A, Sloane C, Ferguson F, Epstein R. Time and cost analysis: pediatric dental rehabilitation with general anesthesia in the office and the hospital settings. *Anesth Prog* 2012; 59(4):147-153.
37. Nunes A, Santos JRS, Barata RCB, Vianna SM. *Medindo as desigualdades em saúde no Brasil*. Brasília: OPS, IPEA; 2001.
38. Ribeiro JM. Desenvolvimento do SUS e racionamento de serviços hospitalares. *Cien Saude Colet* 2009, 14(3):771-782.
39. Godoi APT, Francesco AR, Duarte A, Kemp APT. Odontologia hospitalar no Brasil. Uma visão geral. *Rev Odontol UNESP* 2009; 38(2):105-109.
40. Aranega AM, Bassi AP, Ponzoni D, Wayama MT, Esteves JC, Garcia Júnior IR. Qual a importância da Odontologia Hospitalar? *Rev Bras Odontol* 2012; 69(1):90-93.
41. Costa ACO, Rezende NPM, Martins FM, Santos PSS, Gallottini MHC, Ortega KL. A odontologia hospitalar no serviço público do estado de São Paulo. *Rev Assoc Paul Cir Dent* 2013; 67(4):306-313.

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