








Oral healthcare management practices in Brazil: systematic review and metasummary

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Universal health coverage is a global target included in the United Nations Sustainable Development Goals agenda for 2030. Healthcare in Brazil has universal coverage through the Unified Health System (SUS), which guarantees health as basic right to the Brazilian population. Considering the principles of SUS, public oral healthcare management is a huge challenge.

Aim: To identify good management practices for quality care adopted by local public oral healthcare managers and teams around Brazil. **Methods:** This study was registered with PROSPERO (CRD42017051639). Five databases (PubMed, Embase, Web of Science, Scopus and Lilacs) as well as the reference lists and citations of the included publications were searched according to PRISMA guidelines. **Results:** A total of 30,895 references were initially found, which were evaluated according to the defined eligibility criteria. Twenty qualitative studies, eight surveys and two mixed-model studies were selected. The practices (codes) were organized into three main groups (families), and the Frequency of the Effect Size (FES) of each code was calculated. Among the 20 codes identified, the most relevant ones were: *Diagnosis and Health Planning* (FES=80%) and *Family Health Strategy* (FES=66,7). The Intensity of the Effect Size of each study was also calculated to demonstrate the individual contribution of each study to the conclusions. **Conclusion:** The evidence emerging from this review showed that healthcare diagnosis, planning, and performance based on the family health strategy principles were the most relevant practices adopted by public oral healthcare managers in Brazil. The widespread adoption of these practices could lead to improved oral healthcare provision and management in Brazil.

Keywords: Public health. Dentistry. Policy making. Health policy. Practice management.



Introduction

Health is a valuable resource for sustainable human development. It contributes to national social equality, justice and peace, and increased quality of life. The importance of health in global development is exemplified in the Sustainable Development Goals (SDGs) agenda for 2030 proposed by the United Nations¹. Specifically, the third SDG seeks to “ensure a healthy life and promote well-being for all, at all ages”.

The public health system in Brazil is aligned with this broad SDG, and has been described as a reference model for neighbouring countries². For over 30 years, public healthcare has been enshrined in the Brazilian Constitution as an inalienable right of all members of the population. Brazil operates a Unified Health System (SUS - *Sistema Único de Saúde*, in Portuguese) that was created on the core principles of equity, integrality, and universality of healthcare provision. Under SUS, every person in the country is entitled to free healthcare, and are invited to take part in the formulation, evaluation and control of health policies³.

Because oral health is inherent to a healthy life, the Brazilian National Oral Health Policy (BNOHP - *Política Nacional de Saúde Bucal*, in Portuguese), a program also known as “Smiling Brazil”, was created and incorporated into SUS. This policy has steadily been implemented by stakeholders at various levels, such as consumer protection agencies, public health professionals, and oral health professional⁴. Over the last decade, newer links have been forged between the BNOHP and non-dental actors within SUS such as health workers, managers, and the community. To further integrate oral healthcare within the universal system provided by SUS, practice transformation, and the introduction of new concepts, contents, and forms of organization are required with the overarching intent of improving the oral health of the population⁵.

However, managing SUS presents various levels of challenges. The complexity of a universal system in association with the fragmentation of health policies and programs, lack of management qualification and social control, and a hierarchical, regionalized network structure are some of the issues that encumber health actions and services⁶. Under such circumstances, unqualified management can become a critical leadership bottleneck, impairing the implementation of health policies⁷. Furthermore, the role of managers in the public sector is dependent on regulations that sometimes limit their autonomy. Indeed, difficulties experienced by managers in promoting healthcare integration at all levels of the public service have created barriers to full access to proper healthcare⁸. Hence, the combination of inadequate management qualification and the organizational complexities of a health system that is intended to be universal can compromise the very foundational principles of SUS⁷.

SUS management has become a major public health issue in Brazil³, and more effective and efficient public management is required to facilitate the implementation of oral healthcare actions in line with the principles and guidelines of the national healthcare system. Yet, insufficient attention has been given to the role of managers and the qualification they require as a way to achieve SUS objectives.

A possible approach to the problem is to highlight health management models employed in different parts of the country, which have the potential to face the challenges and change the predominant traditional practices that are not in accordance with the BNOHP⁹. Therefore, the aim of this systematic review and metasummary was to identify good management practices for quality care adopted by local public oral healthcare managers and teams around Brazil.

Materials and Methods

Protocol and Registration

This systematic review was conducted in accordance with the Preferred Reporting items for Systematic Review and Meta-Analyses (PRISMA) Statement¹⁰ and was registered with the International Register of Prospective Systematic Reviews (PROSPERO) under the registration number CRD42017051639.

Literature search

The research question that guided this systematic review, according PICOS, was: "What practices have been adopted by local managers and teams within the public health service in Brazil aimed at improving oral healthcare management?". To answer this question, a search was performed in the following electronic databases: PubMed, Embase, Web of Science, Scopus and Lilacs. A search was conducted until September 2021. For the search in the databases, no terms related to the type of study were used, since the term "qualitative research" was introduced only in 1988 in the Embase database and in 2003 as a MeSH term in PubMed.

Search strategy

It was used the PICOS strategy, following terms that were used in the final search strategy: Patient (P) "*polycymaker*", "*policy making*", "*public health*", Intervention (I) "*dentistry*". "MeSH terms" (PubMed), "entry terms" (EMBASE) and "Decs" (Lilacs) were also used to "construct" a highly sensitive search strategy. Some initial keywords were selected. Different strategies were tested in the databases, and key words were added or rejected according to the results obtained. Terms related to study type were not used because the term "qualitative research" was only introduced in EMBASE in 1988, and as a MeSH term in PubMed in 2003¹¹.

Eligibility Criteria

The inclusion criteria were as follows: qualitative studies, surveys, or mixed-model (qualitative-quantitative) articles that indicated the practices adopted by local public health managers to improve oral healthcare management in the Brazilian public sector. No limits were imposed on the date, language, or type of study. Moreover, no study was excluded a priori for reasons of quality. According to Supplementary Guidance for Inclusion of Qualitative Research in Cochrane Systematic Reviews of Interventions¹², this is a strategy that allows that potentially valuable themes remain included.

Study selection, quality assessment, and data extraction followed a similar procedure. Two reviewers (THU and USGS) initially performed the task independently, and then met with a third reviewer (MF) for consultation and consensus.

Study Selection

All titles and abstracts of the articles retrieved were independently assessed by two reviewers (THU and USGS). These reviewers held weekly meetings for 18 weeks in the presence of a third reviewer (MF) with experience in public management, qualitative research and systematic reviews. Abstracts that did not provide sufficient information in relation to the eligibility criteria were maintained for full text evaluation. Afterwards, manual searches were performed in the references of the included articles, and citations were analyzed using Google Scholar. The authors of the included studies were contacted by e-mail for the identification of possible additional studies.

Study Quality Assessment

Qualitative studies were evaluated according to quality items adapted from the Critical Appraisal Skills Program (CASP)¹³; Surveys were assessed based on quality items adapted from Bennett et al.¹⁴ (2010), while mixed-model studies were analyzed according to O’Cathain et al.¹⁵ (2008).

Quality items were assessed and classified as being present (yes) or absent (no). Studies which presented a prevalence of “yes” (>60% of the evaluated items) in the quality evaluation were considered as presenting low risk of bias. Studies with 40% - 60% of “yes” were considered moderate risk of bias. And studies with a prevalence of “no” (<40% of the items) were classified as presenting high risk of bias.

Data extraction

The following general data were collected from the studies: authors, year of publication, and geographic region of the first author. Additionally, the following specific characteristics were also retrieved: study objective, type of study, place of research, intervention, number of participants in the sample, inclusion and exclusion criteria, participant characteristics, data collection methods, data analysis, main results, and conclusions.

Data analysis

Data analysis was conducted through a metasummary of the retrieved data. This is a quantitatively oriented aggregation approach for the synthesis of both qualitative studies and surveys. The methodology involves extracting, grouping and formatting the results to allow the calculation of the frequency of the effect size (FES) of each practice, and the intensity of the effect size (IES) of each study¹⁶.

After extracting the results of the included studies, and grouping the relevant findings, major topics (concise but comprehensive representations) termed “Families” were created referring to the practices adopted by oral healthcare managers for

quality care. In each Family, individual practices, termed “codes”, were grouped based on similarity.

For the coding step, the software ATLAS.ti 8.0 – Qualitative Data Analysis (Atlas.ti® Scientific Software Development, Berlin, Germany) was used. FES was calculated in order to evaluate the magnitude of the extracted results. It consisted on verifying the number of times a particular code emerged from all included articles. To do so, the number of studies that presented an individual code was divided by the total number of studies included, and the result was presented as a percentage.

The IES of each study was calculated by checking the number of times codes emerged in each of the included articles. The calculation was performed to indicate which codes with FES > 25% contributed to answering the research question. In order to do this, the number codes contained in one study was divided by the total number of codes in all the studies. With this calculation, the articles were considered “stronger” or “weaker” based on their contribution to answering the research question. Thus, the number of codes with FES > 25% in one particular study was divided by the number of codes with FES > 25% across all studies¹¹. This information assisted in interpreting the data in the metasummary, determining the individual contribution of studies to the conclusions of this systematic review¹⁷.

Results

Study selection

Figure 1 show the flowchart of the study selection process. The initial search in the electronic databases yielded 30,895 references. After the removal of duplicates (3,485 references); title and abstract evaluations (27,385 references), 25 articles were considered potentially eligible. Full texts were retrieved and analyzed by applying the eligibility criteria. After the analysis of the references of these articles, quotes in Google Scholar, and studies indicated by the authors of the selected texts, 35 new articles were included for further eligibility evaluation.

Of the 60 articles selected, 23 were excluded for the following reasons: 3 studies were non-scientific research; 19 articles did not present any practices to improve oral healthcare management; 2 articles were not on Dentistry; and in 6 studies, the subject interviewed could not be clearly identified. In the end of the evaluations, 30 articles were included in the systematic review and metasummary: 20 qualitative studies, 8 surveys and 2 mixed model studies.

Study characteristics

Table 1 presents information on the included studies (number of participants, setting, context of the study). The total number of participants was 1,010, among whom 498 were dentists and 512 were managers. The geographical distribution of the studies was as follows: Amazonas (1 study); Bahia (5 studies); Ceará (2 studies); Minas Gerais (2 studies); Paraíba (2 studies); Paraná (4 studies); Pernambuco (1 study); Rio Grande do Norte (2 studies); Santa Catarina (6 studies); São Paulo (4 studies). Only 1 study was multicentric, involving the states of Paraná and São Paulo.

Most of participants were enrolled in the Family Health Strategy (FHS - *Estratégia Saúde da Família*, in Portuguese), and most health managers held Municipal or State positions (Table 1).

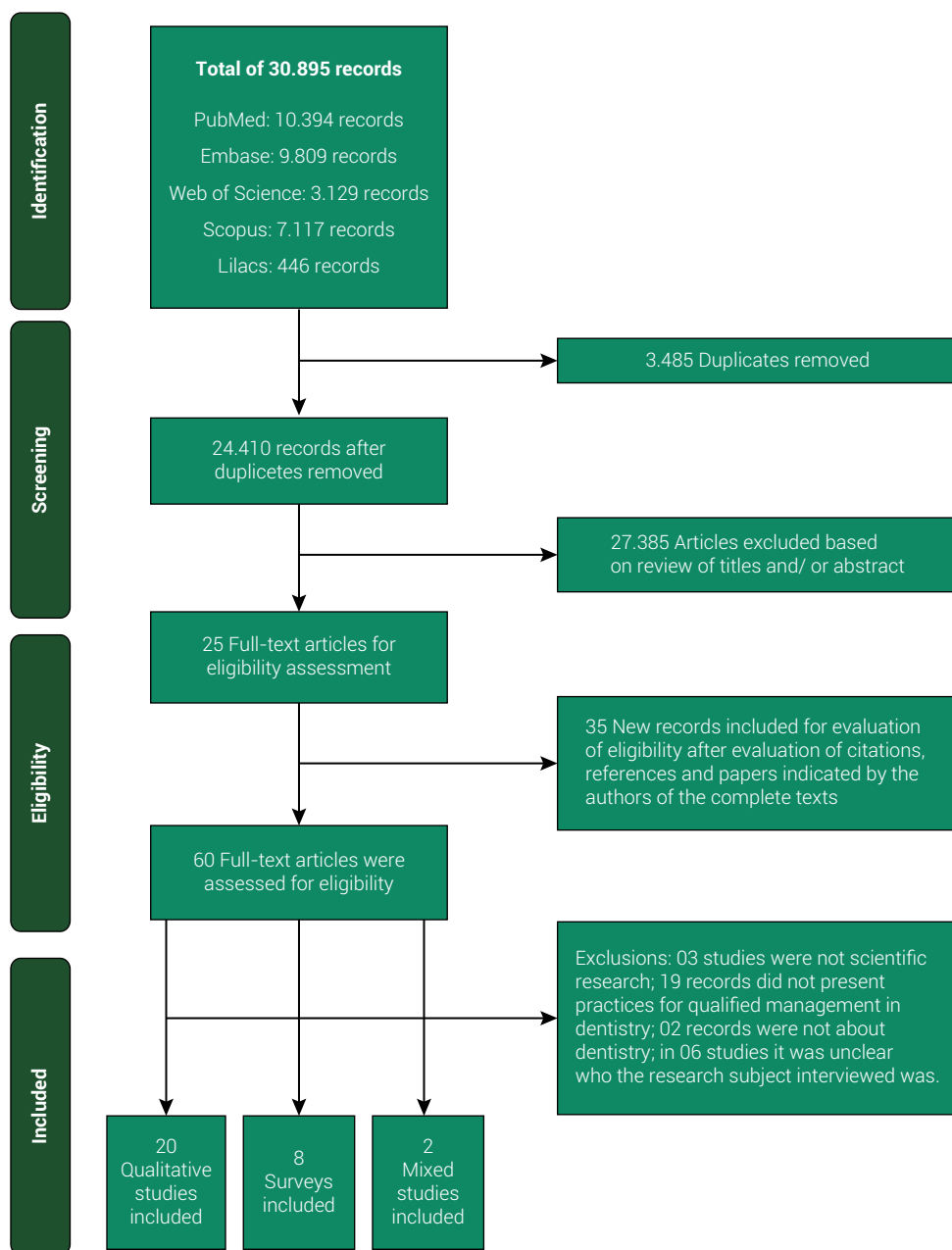


Figure 1. Flowchart of the study selection process.

Table 1. Study characteristics and risk of bias (N = 30).

Study	Number of Participants		Setting	Context of the Study
	Dentists	Managers		
Aguilera et al. ¹⁸ (2013)	0	17	Paraná	Municipal Health Office
Aquilante and Aciole ¹⁹ (2015)	38	11	São Paulo	Regional Department of Health of São Paulo
Araújo and Dimenstein ²⁰ (2006)	21	0	Rio Grande do Norte	Dentists from the Family Health Strategy (FHS)
Cavalcanti et al. ²¹ (2012)	17	0	Paraíba	Basic Health Unit (BHU)
Chaves and da Silva ²² (2007)	9	0	Bahia	Dentists in the primary healthcare systems
Correa et al. ²³ (2010)	6	2	Amazonas	Dentists inserted in the FHS, Municipal Health Department and Oral Health Coordinator at FHS
Fernandes et al. ²⁴ (2015)	11	0	Santa Catarina	Dentists inserted in the FHS
Lippert et al. ²⁵ (2020)	14	0	Paraná	Dentists from the Basic Health Units (BHU) and Dental Specialties Centers
Mello et al. ²⁶ (2014)	0	10	Santa Catarina	SUS managers
Moimaz et al. ²⁷ (2008)	0	3	São Paulo	Regional Department of Health
Nascimento et al. ²⁸ (2009)	58	0	São Paulo and Paraná	Dentists worked in the ESF
Padilha et al. ²⁹ (2005)		74*	Paraíba	Dentists worked in the FHS and as managers
Pimentel et al. ³⁰ (2010)	3	12	Pernam-buco	FHS Health District VI
Rodrigues et al. ³¹ (2011)		31*	Bahia	FHS
Rossi and Chaves ³² (2015)	8	5	Bahia	Oral Health Management Team
Sá et al. ³³ (2015)	23	1	Santa Catarina	FHS
Santos et al. ³⁴ (2007)	4	0	Bahia	FHS
Santos and Assis ³⁵ (2006)		11*	Bahia	FHS
Silva Junior et al. ³⁶ (2020)	0	9	Ceará	State Health Managers
Vieira et al. ³⁷ (2013)	8	0	São Paulo	Public Sector
Baldani et al. ³⁸ (2005)	105	0	Paraná	Oral health team (OHT) at the FHS
Colussi and Calvo ³⁹ (2011)	0	207	Santa Catarina	Municipal Health Managers
Godoi et al. ⁴⁰ (2013)	0	1	Santa Catarina	Municipal Health Managers
Godoi et al. ⁴¹ (2014)	0	12	Santa Catarina	Municipal Health Managers
Lessa and Vettore ⁴² (2010)	0	3	Ceará	Municipal Health Office
Lourenço et al. ⁴³ (2009)	278**	166	Minas Gerais	OHT at the FHS
Mattos et al. ⁵ (2014)	43	14	Minas Gerais	OHT at the FHS
Souza and Roncalli ⁴⁴ (2007)	25	19	Rio Grande do Norte	OHT at the FHS
Aquilante and Aciole ⁴⁵ (2015)	38	11	São Paulo	Regional Department of Health of São Paulo
Moretti et al. ⁴⁶ (2010)	67	9	Paraná	OHT
TOTAL	498	512		

* Subjects excluded from the total sum, since it was not clear in the methodology how many were dentists and how many were managers.

** Subjects excluded from the total sum, because it was not clear in the methodology how many were dentist.

Quality assessment

The overall risk of bias of the selected studies is presented in Table 1. Of the 20 qualitative articles, 20 (100%) presented high risk of bias (Table 2). Among the 8 surveys included in this systematic review, 2 (25%) had low risk of bias, 4 (50%) had moderate risk of bias and 2 (25%) high risk of bias (Table 2). The 2 mixed-model studies (100%) presented high risk of bias (Table 2).

Frequency of the Effect Size (FES)

Twenty practices (codes) were identified after analysis and coding of the 30 included articles. Similar codes were grouped into three families: "Oral Healthcare Structure", "Oral Healthcare Provision", and "Staff Management" (Table 3).

Codes belonging to the family "Oral Healthcare Structure" with highest FES values, showed that the main practices adopted by managers to achieve qualified management were: *Care Diagnosis and Planning* (80%), *Healthcare Networks* (63,3%), *Infrastructure and Materials*, and *Information Systems and Evaluation* (30%).

As for the family "Oral Healthcare Provision", the following codes stood out: *Family Health Strategy* (66,7%), *Expanded Clinical Service* (56,7%), and *Intersectoriality* (46,7%).

Codes within the family "Staff Management" with the highest FES were: *Interprofessional Teamwork* (40%), *Continuing Education* (26,7%), *Creativity, Initiative, Motivation and Innovation* (10%), and *University-Health Service Integration* (6,7%).

Intensity of the Effect Size (IES)

The IES was calculated to verify the individual contribution of each study to the conclusions of this systematic review. All the qualitative studies, surveys and mixed-model studies contributed significantly to the practices for the qualification of oral healthcare management (Table 4). The study that presented the highest IES was Vieira et al. 2013 with 55%, followed by Aquilante and Aciole 2015 with 50%, Baldani et al. 2005 with 45%, and Lourenço et al. 2009 with 40%. Among the other 24 selected studies, 8 had scores between 5% and 15%, and 24 studies presented scores between 25% and 35%.

Ten codes: *Care Diagnosis and Planning*, *Family Health Strategy*, *Healthcare Networks*, *Expanded Clinical Service*, *Intersectoriality*, *Interprofessional Teamwork*, *Ongoing Health Education*, *Infrastructure and Materials*, *Information Systems and Evaluation* and *Continuing Education* presented FES > 25%, which resulted in IES > 25% in all included studies.

Table 2. Quality assessment of included studies.

Included articles	Quality variables assessment*										Risk of bias assessment	
	Clarity of purpose	Qualitative methodology appropriateness	Justification for the qualitative methodology	Participant recruitment strategy	Data collection	Relationship between researcher and participants	Ethical issues	Data analysis	Clarity of results	Study relevance		
Aguilera et al. ¹⁸ (2013)	+	+	+	-	-	-	-	-	-	-	-	High
Aquilante and Aciole ¹⁹ (2015)	+	+	+	-	-	-	-	-	-	-	-	High
Araujo and Dimenstein ²⁰ (2006)	+	+	+	-	-	-	-	-	-	-	-	High
Cavalcanti et al. ²¹ (2012)	+	+	+	-	-	-	-	-	-	-	-	High
Chaves and da Silva ²² (2007)	+	+	+	-	-	-	-	-	-	-	-	High
Correa et al. ²³ (2010)	+	+	-	-	-	-	-	-	-	-	-	High
Fernandes et al. ²⁴ (2015)	+	+	-	-	-	-	-	-	-	-	-	High
Lippert et al. ²⁵ (2020)	+	+	-	-	-	-	-	-	-	-	-	High
Mello et al. ²⁶ (2014)	+	+	-	-	-	-	-	-	-	-	-	High
Moimaz et al. ²⁷ (2008)	-	+	-	-	-	-	-	-	-	-	-	High
Nascimento et al. ²⁸ (2009)	-	+	+	-	-	-	-	-	-	-	-	High

Continue

Continuation											
Padilha et al. ²⁹ (2005)	-	+	-	-	-	-	-	-	-	-	High
Pimentel et al. ³⁰ (2010)	-	+	-	-	-	-	-	-	-	-	High
Rodrigues et al. ³¹ (2011)	+	+	-	-	-	-	-	-	-	-	High
Rossi and Chaves ³² (2015)	+	+	-	-	-	-	-	-	+	-	High
Sá et al. ³³ (2015)	+	+	+	-	-	-	-	-	-	+	High
Santos et al. ³⁴ (2007)	+	+	+	-	-	-	-	-	-	-	High
Santos and Assis ³⁵ (2006)	-	+	-	-	-	-	-	-	-	-	High
Silva et al. ³⁶ (2020)	+	+	-	-	-	-	-	-	-	-	High
Vieira et al. ³⁷ (2013)	-	+	-	-	-	-	-	-	-	-	High
Surveys according Bennett (N=8)											
Quality variables assessment*	Included article										
	Godoi et al. ⁴⁰ (2013)	Colussi and Calvo ³⁹ (2011)	Lessa and Vetture ⁴² (2010)	Souza and Roncalli ⁴⁴ (2007)	Godoi et al. ⁴¹ (2014)	Mattos et al. ⁵ (2014)	Baldani et al. ³⁸ (2005)	Godoi et al. ⁴³ (2009)	Lourenço et al. ⁴³ (2009)		
Justification of the research question	-	+	+	+	-	+	+	+	+		
Explicit research question	-	-	-	+	-	+	+	+	+		
Clarity of purpose	+	+	+	+	+	+	+	+	+		
Continue											

Continuation																		
Description of methods used for data analysis	+	+	+	+	+	+	+	+	+	-	+	+	+	+	+	+	+	+
Method of administering the questionnaire	+	+	-	+	+	+	+	+	-	+	+	+	+	+	+	+	+	+
Location and date	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+
Methods sufficiently described for replication	+	+	-	+	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Evidence of reliability	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+
Evidence of validity	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+
Use of encoding	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+
Sample size calculation	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Representativeness of the sample	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+
Sample selection method	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+
Description of the sample population	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+
Description of the search tool	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+
Description of tool development	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Pre-test instrument	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+
Reliability and validity instrument	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Continue

Continuation										
Consent	+	-	-	-	+	-	-	-	-	-
Ethical approval	+	-	+	+	+	+	+	+	+	+
Evidence of ethical treatment of research participants	+	-	-	+	+	-	-	-	-	-
Risk of bias assessment	Low	Low	Moderate	Moderate	Moderate	Moderate	Moderate	High	High	High

Mixed-model studies according O’Cathain (N=2)

Included articles	Quality variables assessment*							Risk of bias assessment
	Assessment of study success	Assessment of study design	Assessment of the quantitative component	Assessment of the qualitative component	Assessment of study integration	Assessment of study inferences		
Aquilante and Aciole ⁴⁵ (2015)	-	-	-	-	-	-	-	High
Moretti et al. ⁴⁶ (2010)	-	-	-	-	-	-	-	High

* Adapted from Cochrane’s Collaboration: + Yes - No

Table 3. Families (Oral Healthcare Structure, Oral Healthcare Provision, and Staff Management) and codes with their respective frequency of the effect size (FES).

STRUCTURAL MANAGEMENT		CARE MANAGEMENT		MANAGEMENT OF THE WORK	
Codes/ References	Effect size frequency (%)	Codes/ References	Effect size frequency (%)	Codes/ References	Effect size frequency (%)
<i>Healthcare networks</i>					
Aguilera et al. ¹⁸ (2013), Aquilante and Aciole ⁴⁵ (2015), Cavalcanti et al. ²¹ (2012), Chaves and da Silva ²² (2007), Colussi and Calvo ³⁹ (2011), Fernandes et al. ²⁴ (2015), Lippert et al. ²⁵ (2020), Godoi et al. ^{40,41} (2013, 2014), Lessa and Vettore ⁴² (2010), Lourenço et al. ⁴³ (2009), Mattos et al. ⁵ (2014), Mello et al. ²⁶ (2014), Padilha et al. ²⁹ (2005), Pimentel et al. ³⁰ (2010), Rossi and Chaves ³² (2015), Silva et al. ³⁶ (2020), Souza and Roncalli ⁴⁴ (2007), Vieira et al. ³⁷ (2013)	63,3	<i>User satisfaction</i> Cavalcanti et al. ²¹ (2012)	3,3	<i>Autonomy of management</i> Vieira et al. ³⁷ (2013)	3,3
<i>Care Diagnosis and Planning</i>					
Aguilera et al. ¹⁸ (2013), Aquilante and Aciole ^{19,45} (2015), Baldani et al. ³⁸ (2005), Cavalcanti et al. ²¹ (2012), Correa et al. ²³ (2010), Fernandes et al. ²⁴ (2015), Godoi et al. ^{40,41} (2013, 2014), Lessa and Vettore ⁴² (2010), Lourenço et al. ⁴³ (2009), Mattos et al. ⁵ (2014), Mello et al. ²⁶ (2014), Moimaz et al. ²⁷ (2008), Moretti et al. ⁴⁶ (2010), Nascimento et al. ²⁸ (2009), Padilha et al. ²⁹ (2005), Rossi and Chaves ³² (2015), Sá et al. ³³ (2015), Santos et al. ³⁴ (2007), Santos and Assis ³⁵ (2006), Silva Junior et al. ³⁶ (2020), Souza and Roncalli ⁴⁴ (2007), Vieira et al. ³⁷ (2013)	80	<i>Expanded Clinical Service</i> Aquilante and Aciole ^{19,45} (2015), Baldani et al. (2005) ³⁸ , Chaves and da Silva ²² (2007), Colussi and Calvo ³⁹ (2011), Correa et al. ²³ (2010), Fernandes et al. ²⁴ (2015), Godoi et al. ⁴¹ (2014), Mattos et al. ^{5,26} (2014), Moretti et al. ⁴⁶ (2010), Nascimento et al. ²⁸ (2009), Pimentel et al. ³⁰ (2010), Santos et al. ³⁴ (2007), Santos and Assis ³⁵ (2006), Souza and Roncalli ⁴⁴ (2007), Vieira et al. ³⁷ (2013)	56,7	<i>Individual performance</i> Chaves and da Silva ²² (2007)	3,3
<i>Budget and Funding</i>					
Lourenço et al. ⁴³ (2009), Moimaz et al. ²⁷ (2008), Rossi and Chaves ³² (2015), Vieira et al. ³⁷ (2013)	13,3	<i>Social Control</i> Aquilante and Aciole ⁴⁵ (2015), Baldani et al. ³⁸ (2005), Cavalcanti et al. ²¹ (2012), Colussi and Calvo ³⁹ (2011), Moimaz et al. ²⁷ (2008), Nascimento et al. ²⁸ (2009), Santos et al. ³⁴ (2007)	23,3	<i>Creativity, initiative, motivation and innovation</i> Aquilante and Aciole ¹⁹ (2015), Chaves and da Silva ²² (2007), Correa et al. ²³ (2010)	10

Continue

Continuation				
<i>Infrastructure and materials</i> Aguilera et al. ¹⁸ (2013), Baldani et al. ³⁸ (2005), Correa et al. ²⁸ (2010), Lourenço et al. ⁴³ (2009), Mello et al. ²⁶ (2014), Souza and Roncalli ⁴⁴ (2007), Rossi and Chaves ³² (2015), Santos et al. ³⁴ (2007), Vieira et al. ³⁷ (2013)	30	<i>Ongoing Health Education</i> Aquilante and Aciole ^{19,45} (2015), Baldani et al. ³⁸ (2005), Cavalcanti et al. ²¹ (2012), Fernandes et al. ²⁴ (2015), Godoi et al. ^{40,41} (2013, 2014), Lourenço et al. ⁴³ (2009), Moretti et al. ⁴⁶ (2010), Nascimento et al. ²⁸ (2009), Santos and Assis ³⁵ (2006), Souza and Roncalli ⁴⁴ (2007), Vieira et al. ³⁷ (2013)	43,3	<i>Continuing Education</i> Aguilera et al. ¹⁸ (2013), Aquilante and Aciole ⁴⁵ (2015), Chaves and da Silva ²² (2007), Lourenço et al. ⁴³ (2009), Nascimento et al. ²⁸ (2009), Rodrigues et al. ³¹ (2011), Santos and Assis ³⁵ (2006), Vieira et al. ³⁷ (2013)
<i>Information systems and evaluation</i> Aquilante and Aciole ⁴⁵ (2015), Baldani et al. ³⁸ (2005), Cavalcanti et al. ²¹ (2012), Colussi and Calvo ³⁹ (2011), Godoi et al. ^{40,41} (2013, 2014), Moimaz et al. ²⁷ (2008), Pimentel et al. ³⁰ (2010), Souza and Roncalli ⁴⁴ (2007)	30	<i>Family Health Strategy</i> Aguilera et al. ¹⁸ (2013), Aquilante and Aciole ^{19,45} (2015), Araújo and Dimenstein ²⁰ (2006), Baldani et al. ³⁸ (2005), Cavalcanti et al. ²¹ (2012), Chaves and da Silva ²² (2007), Fernandes et al. ²⁴ (2015), Godoi et al. ^{40,41} (2013, 2014), Lessa and Vettore ⁴² (2010), Lourenço et al. ⁴³ (2009), Mattos et al. ⁵ (2014), Moretti et al. ⁴⁶ (2010), Nascimento et al. ²⁸ (2009), Padilha et al. ²⁹ (2005), Pimentel et al. ³⁰ (2010), Santos and Assis ³⁵ (2006), Souza and Roncalli ⁴⁴ (2007), Vieira et al. ³⁷ (2013)	66,7	<i>Auxiliary Team (Oral Health Technician and Oral Health Assistant)</i> Baldani et al. ³⁸ (2005), Correa et al. ²⁸ (2010), Fernandes et al. ²⁴ (2015),
		<i>Intersectoriality</i> Aquilante and Aciole ^{19,45} (2015), Baldani et al. ³⁸ (2005), Chaves and da Silva ²² (2007), Colussi and Calvo ³⁹ (2011), Godoi et al. ⁴¹ (2014), Mattos et al. ⁵ (2014), Mello et al. ²⁶ (2014), Moretti et al. ⁴⁶ (2010), Padilha et al. ²⁹ (2005), Pimentel et al. ³⁰ (2010), Santos and Assis ³⁵ (2006), Souza and Roncalli ⁴⁴ (2007), Vieira et al. ³⁷ (2013)	46,7	<i>Qualified Manager</i> Aquilante and Aciole ⁴⁵ (2015), Fernandes et al. ²⁴ (2015), Rossi and Chaves ³² (2015)
				<i>University-Health Service Integration</i> Godoi et al. ^{40,41} (2013, 2014), Mello et al. ²⁶ (2014)
				<i>Interpersonal relationship</i> Vieira et al. ³⁷ (2013)
				<i>Interprofessional teamwork</i> Aquilante and Aciole ^{19,45} (2015), Baldani et al. ³⁸ (2005), Cavalcanti et al. ²¹ (2012), Chaves and da Silva ²² (2007), Colussi and Calvo ³⁹ (2011), Fernandes et al. ²⁴ (2015), Lourenço et al. ⁴³ (2009), Mello et al. ²⁶ (2014), Moretti et al. ⁴⁶ (2010), Nascimento et al. ²⁸ (2009), Padilha et al. ²⁹ (2005), Pimentel et al. ³⁰ (2010)
				6,7
				3,3
				40

Table 4. Intensity of the effect size (IES) for all codes and codes with FES > 25%.

Article	IES % all codes (n = 20)	IES % codes > 25% (n= 10)
Aguilera et al. ¹⁸ (2013)	15	30
Aquilante and Aciole ¹⁹ (2015)	35	60
Aquilante and Aciole ⁴⁵ (2015)	50	90
Araújo and Dimenstein ²⁰ (2006)	10	20
Baldani et al. ³⁸ (2005)	45	80
Cavalcanti et al. ²¹ (2012)	30	40
Chaves and da Silva ²² (2007)	35	50
Colussi and Calvo ³⁹ (2011)	15	30
Correa et al. ²³ (2010)	25	30
Fernandes et al. ²⁴ (2015)	30	50
Godoi et al. ⁴⁰ (2013)	30	40
Godoi et al. ⁴¹ (2014)	35	60
Lessa and Vettore ⁴² (2010)	15	30
Lippert et al. ²⁵ (2020)	5	20
Lourenço et al. ⁴³ (2009)	40	70
Mattos et al. ⁵ (2014)	25	50
Mello et al. ²⁶ (2014)	15	20
Moimaz et al. ²⁷ (2008)	15	10
Moretti et al. ⁴⁶ (2010)	25	50
Nascimento et al. ²⁸ (2009)	35	60
Padilha et al. ²⁹ (2005)	35	70
Pimentel, Moura and Acioli ³⁰ (2010)	30	60
Rodrigues et al. ³¹ (2011)	5	10
Rossi and Chaves ³² (2015)	25	30
Sá et al. ³³ (2015)	5	10
Santos et al. ³⁴ (2007)	25	30
Santos and Assis ³⁵ (2006)	25	40
Silva et al. ³⁶ (2020)	10	10
Souza and Roncalli ⁴⁴ (2007)	25	50
Vieira et al. ³⁷ (2013)	55	80

Discussion

A total of 20 specific practices (codes) were identified in the metasummary of the retrieved data and allocated into three families: "Oral Healthcare Structure", "Oral Healthcare Provision" and "Staff Management".

Adequate structure, including not only the physical structure itself, but also the knowledge about health system organization, is a basic requirement to address

the demands of universal health coverage. Apart from oral health clinical care, the involvement of the community, other health professionals, and other sectors of society are of great value to amplify habit changing and health promotion⁴⁷. Additionally, healthcare staff motivation, interprofessional integration and continuing qualification are also important characteristics to improve working processes through individual contribution, and to strengthen interpersonal relationships. Although all the 20 specific practices were not applied at the same time in the same place, it seems that their widespread implementation could place oral healthcare managers/teams onto a more progressive path to promote a healthier population in long-term practice.

In all the included studies, samples were composed by dentists and/or oral health managers. The majority of the participants were oral health managers, who directly contributed to the implementation of oral healthcare practices within SUS. Dentists emerged as important protagonists, either working at Basic Health Units (BHUs), leading Oral Health Teams (OHTs), or occupying management positions. However, the evidence also shows that good management is not only dependant on qualified managers, but also on the efficient performance of OHT members. Among the 20 codes identified in the metasummary, three main practices emerged as being the most relevant: *Care Diagnosis and Planning* (FES = 82%), *Family Health Strategy* (FES = 71%), and *Interprofessional teamwork* (FES = 46%).

In the family "Oral Healthcare Structure", the code *Care Diagnosis and Planning* emerged from 23 of 28 studies included in the metasummary, clearly indicating that situational diagnosis based on the epidemiological status of care provision along action planning are essential for a quality service⁴⁵. This finding is in agreement with the BNOHP guidelines, which indicate that epidemiology and information about the geographic area covered by the OHTs should be used to subsidize action planning³⁰. Planning has been considered the instrument to consolidate the foundational principles of SUS (universality, integrality and equity), and promote health improvements³². In several studies, the authors registered the need for managers to structure and organize oral healthcare provision based on action planning to increase access and ensure the continuity of treatment^{19,27,32,33,42-46}. Moreover, proposed actions need to be permanently evaluated to ensure that improvements in the healthcare system and in the general health of the population are implemented step by step. The practices conducted by managers in municipalities with no water fluoridation and high prevalence of dental caries is a good example. OHT members should be guided on the need to perform fluoridated mouthwashes or distribute sachets with fluoride to the local population^{23,30,41,45}. Therefore, OHT professionals should be responsible for planning, organizing, developing and evaluating actions according to the requirements of their local community, seeking articulation with the most varied social actors involved in health promotion⁴⁸.

In the family "Oral Healthcare Provision", the code *Family Health Strategy* emerged as the most important practice. Most of the studies analyzed proposed that OHTs should be more closely integrated into the FHS through group activities, regular home visits, and seeing the patient in a more holistic sense^{22,29,43,46,49}. The FHS has been designed to renew the rationale of care, which must go beyond interventions directed to the cure of the individual³⁴. The FHS philosophy involves the reorgani-

zation of care practices, by replacing the traditional model oriented to the treatment of diseases, to focusing on how families live and their immediate needs⁴⁹. The FHS is responsible for monitoring a defined number of families, located in a defined geographical area, with focus on health promotion, prevention, recovery, and rehabilitation of more frequent diseases⁵⁰. The FHS endeavours to redirect the work flow through the interaction of multiprofessional teams, aiming at implementing the most resolute and integral practices within the perspective of health surveillance. Hence, primary care organization based on FHS principles has been deemed as essential to the development of the service. Managers have reported on the importance the FHS and community health agent programs, in addition to specific programs for women's and children's health, control of systemic diseases such as diabetes and hypertension, and oral health programs^{24,30,42}.

In the family "Staff Management", the code *Interprofessional Teamwork* highlights the importance of teamwork for the improvement of the FHS, emphasizing the integrality aspect of healthcare provision³. Thus, OHTs is the way to break away from more conventional models, by incorporating the expanded concept of health and sharing the burden of oral healthcare provision among different professional³⁰. OHTs should not only assist in dealing with health issues, but also motivate the population to be engaged in selfcare. Moreover, OHTs are required for the collective construction of health actions. When difficulties arise, these can be the subject of discussion before they are eventually overcome. Thus, the presence of OHTs allows for the exchange of information and search of more adequate therapeutic plans for the user^{21,29,45}. The evidence arising from this systematic review shows that the integration of the OHT members within the FHS has been occurring through the development of activities designed to draw stakeholders together and integrate health actions in an interprofessional manner^{19,29,43}. For instance, the inclusion of dentists in vaccination campaigns, ludic-educational activities, supervised brushing, and children's diet evaluation³⁰.

The evidence emerging from the three families of codes indicate that care diagnosis, health planning, OHT/FHS integration, and interprofessional teamwork were the most relevant adopted practices. As a result, oral healthcare managers tend to perform well when: 1. They know the legislation, and SUS and BNOHP guidelines; 2. Their OHT members participate in ongoing health education; 3. They stimulate intersectionality within their local communities; and 4. They put into effect their leadership role. Thus, qualified oral healthcare managers provide support and guidance, foster cooperation while implementing government health policies, involve all healthcare stakeholders collectively, and are in close contact with the community. Reliable situational diagnosis, establishment of coherent goals, and optimization of physical and financial resources are fundamental requirements for reorganizing and strengthening basic oral healthcare. Action planning, appropriate to the needs and priorities of the population in question through the FHS, can allow the provision of higher quality care and more comprehensive and resolute attention to SUS users.

Concerning the relevance of individual studies to the outcome of this review, four studies stood out with the highest IES, two qualitative studies^{37,45} and two surveys^{38,43}. Qualitative studies showed codes that surveys and mixed-model studies did not, rein-

forcing the importance of the qualitative methodology as a powerful tool for in-depth research in Dentistry. While all the 20 codes emerged from qualitative studies, 5 of them (*User satisfaction, Management Autonomy, Individual Performance, Qualified Management and Interpersonal Relationship*) appeared exclusively in qualitative studies. The advantage of qualitative studies resides in its design, which may permit a deeper insight into the perceptions, feelings and opinions that are sometimes difficult to be captured by surveys¹¹. Nonetheless, surveys can also make an important contribution when they are adequately designed.

The quality of the included studies was evaluated by assessing the risk of bias, which considers the characteristics of individual studies that contributed to the outcome⁵¹. Overall, most studies presented low risk of bias. Important quality limitations were observed in the majority of the selected studies. For instance, many qualitative studies did not mention the type of relationship between researchers and participants; did not present an adequate sample description; did not disclose the criteria used to select research subjects or the way data were analyzed; some results lacked clarity; and the relevance of the study and ethical issues were also absent. Therefore, future qualitative studies in the area should make use of the Confidence in the Evidence from Reviews of Qualitative research (CERQual) and the Consolidated Criteria for Reporting Qualitative Research (COREQ). CERQual provides a clear method for assessing confidence in the synthesis of qualitative findings⁵². COREQ is an instrument that defines verification criteria to help researchers to report important aspects related to research teams, methods, context, findings, analysis and interpretations⁵³.

Although most of the surveys (62%) included in this systematic review was identified as having low risk of bias, none of the selected studies presented any type of questionnaire validation. The use of a validated instrument would have significantly contributed to increasing the quality of the evidence, since the validation process shows the reliability and veracity of the questionnaire applied to research subjects. The two mixed-model studies also showed a high risk of bias. None of the items evaluated by the instrument were found in the included studies, with weaknesses in both the quantitative and qualitative evaluation. In relation to the quantitative component, not enough information on the methodological outline could be found. On the other hand, in the qualitative component, there was no information on items related to sampling, methodology and the presence an experienced researcher.

In relation to the metasummary, an important limiting factor concerns the absence of a quality assessment instrument to integrate qualitative studies, surveys and mixed-model studies. In conclusion, the evidence emerging from this systematic review and metasummary demonstrate that oral healthcare diagnosis, planning, and basic care based on the FHS principles were the most relevant practices adopted by public oral healthcare managers in Brazil to provide quality care. Although most studies included in this systematic review presented a high risk of bias, the emerging evidence makes a significant contribution to the improvement of oral healthcare management within SUS in Brazil. Other countries with universal health systems, as well as those seeking to follow the United Nations SDGs, may also benefit from the present findings.

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Author Contribution

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Uhana Seifert Guimarães Suga: Data curation, Investigation, Methodology.

Clarissa Garcia Rodrigues: Methodology.

Josely Emiko Umeda: Writing, review and editing.

Mark Tambe Keboa: Review and editing.

Raquel Sano Suga Terada: Writing, review and editing.

Mitsue Fujimaki: Conceptualization, data curation, investigation, methodology, project administration, validation, original draft, writing, review and editing.

All authors actively participated in the discussion of the manuscript's findings, and have revised and approved the final version of the manuscript.

References

1. United Nations. The Sustainable Development Goals Report. New York: United Nations; 2017. Available from: <https://unstats.un.org/sdgs/files/report/2017/the-sustainable-development-goals-report-2017.pdf>.
2. Dias CMM, Rosa LP, Gomez JMA, D'Avignon A. Achieving the Sustainable Development Goal 06 in Brazil: the universal access to sanitation as a possible mission. *An Acad Bras Cienc*. 2018;90(2):1337-67. doi: 10.1590/0001-3765201820170590.
3. Bastos ML, Menzies D, Hone T, Dehghani K, Trajman A. The impact of the Brazilian family health strategy on selected primary care sensitive conditions: A systematic review. *PLoS One*. 2017 Aug;12(8):e0182336. doi: 10.1371/journal.pone.0182336. Erratum in: *PLoS One*. 2017 Dec;12(12):e0189557.
4. Pucca Junior GA, Gabriel M, Araujo ME, de Almeida FCS. Ten Years of a National Oral Health Policy in Brazil: Innovation, Boldness, and Numerous Challenges. *J Dent Res*. 2015;94(10):1333-7. doi: 10.1177/0022034515599979.
5. Mattos GCM, Ferreira EFE, Leite ICG, Greco RM. The inclusion of the oral health team in the Brazilian Family Health Strategy: barriers, advances and challenges. *Cien Saude Colet*. 2014;19(2):373-82. Portuguese. doi: 10.1590/1413-81232014192.21652012
6. Pucca Junior GA, Lucena EH, Cawahisa PT. Financing national policy on oral health in Brazil in the context of the Unified Health System. *Braz Oral Res*. 2010;24 Suppl 1:26-32. doi: 10.1590/s1806-83242010000500005.
7. Santos L. The first 30 years of the SUS: an uncomfortable balance? *Cien Saude Colet*. 2018 Jun;23(6):2043-50. doi: 10.1590/1413-81232018236.06082018.

8. Gomez CM, Vasconcellos LCF, Machado JMH. A brief history of worker's health in Brazil's Unified Health System: progress and challenges. *Cien Saude Colet*. 2018 Jun;23(6):1963-70. Portuguese, English. doi: 10.1590/1413-81232018236.04922018.
9. Ravioli AF, Soárez PC, Scheffer MC. Health services management modalities in the Brazilian Unified National Health System: a narrative review of research production in Public Health (2005-2016). *Cad Saude Publica*. 2018;34(4):e00114217.
10. Moher D, Liberati A, Tetzlaff J, Altman DG; PRISMA Group. Preferred reporting items for systematic reviews and meta-analyses: the PRISMA statement. *Ann Intern Med*. 2009 Aug 18;151(4):264-9, W64. doi: 10.7326/0003-4819-151-4-200908180-00135.
11. Suga US, Terada RS, Ubaldini AL, Fujimaki M, Pascotto RC, Batilana AP, et al. Factors that drive dentists towards or away from dental caries preventive measures: systematic review and metasummary. *PLoS One*. 2014 Oct;9(10):e107831. doi: 10.1371/journal.pone.0107831.
12. Hannes K. Critical appraisal of qualitative research [Internet]. In: Noyes J, Booth A, Hannes K, Harden A, Harris J, Lewin S, editors. *Supplementary Guidance for Inclusion of Qualitative Research in Cochrane Systematic Reviews of Interventions*. Cochrane Collaboration Qualitative Methods Group; 2011 [cited 2021 Jun 4]. Chapter 4. Available from: <http://cqrmg.cochrane.org/supplemental-handbook-guidance>
13. CASP - Critical Appraisal Skills Programme. 10 Questions to make sense of qualitative research. 2006 [cited 2021 Jun 4]. Available from: <https://casp-uk.net/wp-content/uploads/2018/01/CASP-Qualitative-Checklist-2018.pdf>.
14. Bennett C, Khangura S, Brehaut JC, Graham ID, Moher D, Potter BK, et al. Reporting guidelines for survey research: an analysis of published guidance and reporting practices. *PLoS Med*. 2010 Aug;8(8):e1001069. doi: 10.1371/journal.pmed.1001069.
15. O'Cathain A, Murphy E, Nicholl J. The quality of mixed methods studies in health services research. *J Health Serv Res Policy*. 2008 Apr;13(2):92-8. doi: 10.1258/jhsrp.2007.007074.
16. Sandelowski M, Barroso J, Voils CI. Using qualitative metasummary to synthesize qualitative and quantitative descriptive findings. *Res Nurs Health*. 2007 Feb;30(1):99-111. doi: 10.1002/nur.20176.
17. Sandelowski M, Barroso J. Creating metasummaries of qualitative findings. *Nurs Res*. 2003;52(4):226-33. doi: 10.1097/00006199-200307000-00004.
18. Aguilera SLVU, França BHS, Moysés ST, Moysés SJ. Articulation between levels of healthcare services in the Curitiba Metropolitan Area: challenges for managers. *Rev Adm Pública*. 2013;47(4):1021-40. Portuguese. doi: 10.1590/S0034-76122013000400010.
19. Aquilante AG, Aciole GG. Oral health care after the National Policy on Oral Health - "Smiling Brazil": a case study. *Cien Saude Colet*. 2015;20(1):239-48. doi: 10.1590/1413-81232014201.21192013.
20. Araújo YP, Dimenstein M. Structure and organization of the work of dentists in the Family Health Program of some Municipal Districts of Rio Grande do Norte (Brazil). *Cien Saude Colet*. 2006;11(1):219-27. doi: 10.1590/S1413-81232006000100031.
21. Cavalcanti YW, Lira-Júnior R, Delmondes LN, Prado RL, Padilha WVN. Oral health planning in João Pessoa municipality, Paraíba State: dental surgeons as protagonists of basic care. *Acta Sci Health Sci*. 2012;34(2):221-5. doi: 10.4025/actascihealthsci.v34i2.10576.
22. Chaves SC, da Silva LM. Professional practices in public dental healthcare: case study of two municipal districts, Bahia State, Brazil. *Cien Saude Colet*. 2007;12(6):1697-710. Portuguese. doi: 10.1590/s1413-81232007000600031.
23. Correa RP, Parente RCP, Moysés MNM. Analysis of oral health actions in the Family Health Strategy of an amazonian riverine municipality. *Health Social Change*. 2010;1(1):75-80. Portuguese.
24. Fernandes EGS, Masiero AV, Kuhnen M. Perception of dentists inserted in the Family Health Strategy on multiprofessional work. *Rev Gepesvida*. 2015;1(2):56-70. Portuguese.

25. Lippert AO, Mendonça FF, Carvalho BG, Caldarelli PG. The dental specialties center as a point of attention in the oral health care network in a region of Paraná. *Braz J Oral Sci.* 2020;19:e209984. doi: 10.20396/bjos.v19i0.8659984.
26. Mello ALSF, de Andrade SR, Moysés SJ, Erdmann AL. Oral health care in the health network and the regionalization process. *Cien Saude Colet.* 2014;19(1):205-14. doi: 10.1590/1413-81232014191.1748.
27. Moimaz SAS, Garbin CAS, Garbin AJI, Ferreira NF, Gonçalves PE. Challenges and difficulties of financing oral health: a qualitative analysis. *Rev Adm Publica.* 2008;42(6):1121-35. Portuguese. doi: 10.1590/S0034-76122008000600005.
28. Nascimento AC, Moysés ST, Bisinelli JC, Moysés SJ. Oral health in the family health strategy: A change of practices or semantics diversionism. *Rev Saude Publica.* 2009 Jun;43(3):455-62. doi: 10.1590/s0034-89102009000300009.
29. Padilha WWN, Valença AMG, Cavalcanti AL, Almeida RVD, Taveira GS. Dental Planning in the Family Health Program of the State of Paraíba: a qualitative study. *Rev Pesq Bras Odontoped Clin Integr.* 2005;5(1):65-74. Portuguese.
30. Pimentel FC, Moura R, Acioli L. Análise da atenção à saúde bucal na Estratégia de Saúde da Família do Distrito Sanitário VI, Recife (PE). *Ciência e Saúde Coletiva.* 2010;15:2189-96. doi: <https://doi.org/10.1590/S1413-81232010000400033>
31. Rodrigues AAAO, Assis MMA, Nascimento MAA, Fonseca GS, Siqueira D. Oral Health in the Family Health Strategy in a municipality in the semi-arid region of Bahia. *Rev Baiana Saude Publica.* 2011;35(3):695-709. Portuguese. doi: 10.22278/2318-2660.2011.v35.n3.a326.
32. Rossi TRA, Chaves SCL. Secondary dental care implementation in two municipalities in the state of Bahia/Brazil. *Saude Debate.* 2015;39(spe):196-206. Portuguese. doi: 10.5935/0103-1104.2015S005186.
33. Sá CR, Kuhnen M, Santos IF, Arruda MP, Toassi RFC. Oral health planning in Primary health care: from theory to practice. *Rev APS.* 2015;18(1):92-101. Portuguese.
34. Santos AM, Assis MMA, Rodrigues AAAO, Nascimento MAA, Jorge M. Conflicting situations in the reception of oral health teams from the Family Health Program in Alagoinhas, Bahia, Brazil. *Cad Saude Publica.* 2007;23(1):75-85. Portuguese. doi: 10.1590/S0102-311X2007000100009.
35. Santos AM dos, Assis MMA. From fragmentation to integrality: constructing and reconstructing the practice of buccal health in the Alagoinhas (BA) Family Health Program. *Cien Saude Colet.* 2006;11(1):53-61. Portuguese. doi: 10.1590/S1413-81232006000100012.
36. Silva Junior CL, Almeida PF, Martins Filho MT, Lima LD. Implementation of Dental Specialty Centers in the context of health regionalization in the state of Ceará, Brazil. *Physis.* 2020;30(4):1-22. Portuguese. doi: 10.1590/S0103-73312020300404.
37. Vieira V, de Andrade FR, Castro CGJ, Bighetti TI, Narvai PC. Municipalization of health services according to oral health professionals in an upstate São Paulo municipality in Brazil. *Saude Soc.* 2013;22(3):795-803. Portuguese. doi: 10.1590/S0104-12902013000300013.
38. Baldani MH, Fadel CB, Possamai T, Queiroz MGS. [Inclusion of oral health services in the Family Health Program in the State of Paraná, Brazil]. *Cad Saude Publica.* 2005 Jul-Aug;21(4):1026-35. Portuguese. doi: 10.1590/s0102-311x2005000400005.
39. Colussi CF, Calvo MCM. An evaluation model for oral health in primary care. *Cad Saude Publica.* 2011 Sep;27(9):1731-45. Portuguese. doi: 10.1590/s0102-311x2011000900007.
40. Godoi H, de Mello ALSF, Caetano JC, Zanardi E. Oral Health Care Network: Limitations and Challenges in a Large Municipality of Santa Catarina, Brazil. *Saude Transform Soc.* 2013;4(4):69-77. Portuguese.

41. Godoi H, Mello ALSF de, Caetano JC. An oral health care network organized by large municipalities in Santa Catarina State, Brazil. *Cad Saude Publica*. 2014 Feb;30(2):318-32. Portuguese. doi: 10.1590/0102-311X00084513.
42. Lessa CFM, Vettore MV. Primary health care management in oral health in Fortaleza, Ceará, between 1999 and 2006 *Saude Soc*. 2010;19(3):547-56. Portuguese. doi: 10.1590/S0104-12902010000300007.
43. Lourenço EC, Silva ACB, Meneghin MC, Pereira AC. The insertion of oral health services in the Family Health Program at Minas Gerais State, Brazil. *Cien Saude Colet*. 2009 Oct;14 Suppl 1:1367-77. Portuguese. doi: 10.1590/s1413-81232009000800009.
44. Souza TMS de, Roncalli AG. Oral health in the Brazilian Family Health Program: a health care model evaluation. *Cad Saude Publica*. 2007 Nov;23(11):2727-39. Portuguese. doi: 10.1590/s0102-311x2007001100020.
45. Aquilante AG, Aciole GG. Building a "Smiling Brazil"? [a "Smiling Brazil"? Implementation of the Brazilian National Oral Health Policy in a health region in the State of São Paulo. *Cad Saude Publica*. 2015 Jan;31(1):82-96. Portuguese. doi: 10.1590/0102-311x00193313.
46. Moretti AC, Teixeira FF, Suss FMB, Lawden JAC, Lima LSM, Bueno RE, et al. Intersectoriality in health promotion actions carried out by the oral health team of Curitiba, Paraná State. *Cien Saude Colet*. 2010 Jun;15 Suppl 1:1827-34. Portuguese. doi: 10.1590/s1413-81232010000700095.
47. Peduzzi M, Agreli HF. Teamwork and collaborative practice in Primary Health Care. *Interface*. 2018;22(Supl.2):1525-34. doi: 10.1590/1807-57622017.0827.
48. Melo LMLL, Moimaz SAS, Garbin CAS, Garbin AJI, Saliba NA. Oral health assessment from the perspective of the municipal manager. *RGO*. 2016;64(4):402-10. doi: 10.1590/1981-863720160003000063096.
49. Assis MMA, Alves JS SA. Human resources policies and the (re)signification of workers' practices in the Unified Health System (SUS): notes for the debate. *Rev Baiana Saude Publica*. 2008;32(Suppl 1):7-15. Portuguese. doi: 10.22278/2318-2660.2008.v32.n0.a1453. [referência não citada no texto]
50. Moraes Dos Santos ML, Zafalon EJ, Bomfim RA, Kodjaoglanian VL, Mendonça de Moraes SH, do Nascimento DDG, et al. Impact of distance education on primary health care indicators in central Brazil: An ecological study with time trend analysis. *PLoS One*. 2019 Mar 26;14(3):e0214485. doi: 10.1371/journal.pone.0214485.
51. Neves RG, Flores TR, Duro SMS, Nunes BP, Tomasi E. Time trend of Family Health Strategy coverage in Brazil, its Regions and Federative Units, 2006-2016. *Epidemiol Serv Saude* 2018;27(3):e2017170. doi: 10.5123/s1679-49742018000300008.
52. Galvão TF, Pereira MG. Rating the quality of evidence of systematic reviews. *Epidemiol Serv Saude*. 2015;24(1):173-5. Portuguese. doi: 10.5123/S1679-49742015000100019.
53. Lewin S, Glenton C, Munthe-Kaas H, Carlsen B, Colvins CJ, Gülmezoglu M, et al. Using qualitative evidence in decision making for Health and Social Interventions: an approach to assess confidence in findings from Qualitative Evidence Syntheses (GRADE-CERQual). *PLoS Med* 12(10): e1001895. doi: 10.1371/journal.pmed.1001895.
54. Tong A, Sainsbury P, Craig J. Consolidated criteria for reporting qualitative research (COREQ): a 32-item checklist for interviews and focus groups. *Int J Qual Health Care*. 2007 Dec;19(6):349-57. doi: 10.1093/intqhc/mzm042.

Continuation

(“practice management”[MeSH Terms] OR (“practice”[All Fields] AND “management”[All Fields]) OR “practice management”[All Fields] OR (“service”[All Fields] AND “practice”[All Fields] AND “management”[All Fields]) OR (“practice management, dental”[MeSH Terms] OR (“practice”[All Fields] AND “management”[All Fields] AND “dental”[All Fields]) OR “dental practice management”[All Fields] OR (“dental”[All Fields] AND “practice”[All Fields] AND “management”[All Fields]) OR (“services”[All Fields]) OR (“practice management, dental”[MeSH Terms] OR (“practice”[All Fields] AND “management”[All Fields] AND “dental”[All Fields]) OR “dental practice management”[All Fields] OR (“practice”[All Fields] AND “management”[All Fields] AND “dental”[All Fields]) OR “managed care”[All Fields] OR “public health management”[All Fields] OR “health management”[All Fields] OR “health policymaking”[All Fields] OR “decision making”[All Fields] OR “health care management”[All Fields] OR “public policies”[All Fields] OR “health policy”[All Fields] OR “health policies”[All Fields] OR “health policy”[All Fields] OR “policy, health”[All Fields] OR “national health policy”[All Fields] OR (“health”[All Fields] AND “policy”[All Fields]) OR (“health”[All Fields] AND “national health policies”[All Fields] OR “health”[All Fields] AND “national”[All Fields]) OR (“health”[All Fields] AND “policy”[All Fields]) OR “national health policies”[All Fields] OR (“health”[All Fields] AND “policy”[All Fields]) OR (“health”[All Fields] AND “national health policies”[All Fields] AND “national”[All Fields]) OR (“health”[All Fields] AND “policy”[All Fields] OR (“policies”[All Fields] AND “national”[All Fields] AND “health”[All Fields] AND “policy”[All Fields]) OR (“health”[All Fields] AND “policy”[All Fields] OR (“federal government”[MeSH Terms] AND “government”[All Fields] AND “health”[All Fields]) OR (“policy”[All Fields] AND (“federal government”[MeSH Terms] OR (“federal”[All Fields] AND “government”[All Fields] OR “federal government”[All Fields] AND “national”[All Fields]) AND (“health”[MeSH Terms] OR “health”[All Fields]) OR “governance”[All Fields] OR “clinical governance”[All Fields] OR “management”[All Fields] OR “decision-making”[All Fields] OR “managing resources”[All Fields] OR “leadership”[All Fields])

dentist,
dentists /
general dental
practitioner /
practitioners
general dental
practitioner
policymaker,
policymakers
/ policy maker,
policy makers

P = Patient

(“dentistry”[All Fields] OR “oral health”[All Fields] OR “health, oral”[All Fields] OR “dental care”[All Fields] OR “care, dental”[All Fields] OR “dental health services”[All Fields] OR (“dental health services”[MeSH Terms] OR (“dental”[All Fields] AND “health”[All Fields] AND “services”[All Fields]) OR “dental health services”[All Fields] OR (“dental”[All Fields] AND “health”[All Fields] AND “services”[All Fields]) OR (“dental”[All Fields] AND “health”[All Fields]) OR (“dental health services”[All Fields] OR (“dental health services”[MeSH Terms] OR (“dental”[All Fields] AND “health”[All Fields] AND “services”[All Fields]) OR “dental health services”[All Fields] OR (“health”[All Fields] AND “service”[All Fields] AND “dental”[All Fields]) OR (“dental health services”[MeSH Terms] OR (“dental”[All Fields] AND “health”[All Fields] AND “services”[All Fields]) OR “dental health services”[All Fields] AND “health”[All Fields] AND “service”[All Fields]) OR (“service”[All Fields] OR (“service”[All Fields] AND “dental”[All Fields] AND “health”[All Fields]) OR “public dental service”[All Fields])

dentistry / oral
health / dental
care / dental
health service

I = Intervention

 **PRISMA 2009 Checklist**

Section/topic	#	Checklist item	Reported on page #
TITLE			
Title	1	Identify the report as a systematic review, meta-analysis, or both.	Title
ABSTRACT			
Structured summary	2	Provide a structured summary including, as applicable: background; objectives; data sources; study eligibility criteria, participants, and interventions; study appraisal and synthesis methods; results; limitations; conclusions and implications of key findings; systematic review registration number.	Abstract
INTRODUCTION			
Rationale	3	Describe the rationale for the review in the context of what is already known.	Introduction
Objectives	4	Provide an explicit statement of questions being addressed with reference to participants, interventions, comparisons, outcomes, and study design (PICOS).	Introduction
METHODS			
Protocol and registration	5	Indicate if a review protocol exists, if and where it can be accessed (e.g., Web address), and, if available, provide registration information including registration number.	Methods
Eligibility criteria	6	Specify study characteristics (e.g., PICOS, length of follow-up) and report characteristics (e.g., years considered, language, publication status) used as criteria for eligibility, giving rationale.	Methods
Information sources	7	Describe all information sources (e.g., databases with dates of coverage, contact with study authors to identify additional studies) in the search and date last searched.	Methods
Search	8	Present full electronic search strategy for at least one database, including any limits used, such that it could be repeated.	Appendix
Study selection	9	State the process for selecting studies (i.e., screening, eligibility, included in systematic review, and, if applicable, included in the meta-analysis).	Methods
Data collection process	10	Describe method of data extraction from reports (e.g., piloted forms, independently, in duplicate) and any processes for obtaining and confirming data from investigators.	Methods
Data items	11	List and define all variables for which data were sought (e.g., PICOS, funding sources) and any assumptions and simplifications made.	Methods
Risk of bias in individual studies	12	Describe methods used for assessing risk of bias of individual studies (including specification of whether this was done at the study or outcome level), and how this information is to be used in any data synthesis.	Methods
Summary measures	13	State the principal summary measures (e.g., risk ratio, difference in means).	Methods
Synthesis of results	14	Describe the methods of handling data and combining results of studies, if done, including measures of consistency (e.g., I ²) for each meta-analysis.	Methods