

## Advances and challenges of training in the Unified Health System based on teachers' experience in the area of Public Health in Dentistry courses

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**Abstract** *The training directed at the Unified Health System (SUS) has been one of the most challenging assumptions in the development of Dentistry courses in Brazil. In this regard, public health educated teachers play a fundamental role in the curricular proposition favoring such an approach. This study aimed to identify the possible advances achieved in Dentistry courses and the challenges in training for the SUS. This is a quantitative, cross-sectional research with a sample of 119 teachers employing the probabilistic Snowball technique. Participants responded to a validated criteria matrix, and an exploratory factor analysis was performed for data analysis, which defined five factors responsible for training for the SUS: Primary Care; Social Responsibility and Teamwork; Health Management; Information Systems, and Continuing Education/Humanization. The study allowed identifying significant advances in the perspective of greater adequacy of the training proposal aimed at the SUS. However, some challenges to teachers require expanding the prospect to face the barriers still imposed by traditional health training.*

**Key words** *Public health, Staff development, Educational assessment, Dentistry Education*

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## Introduction

The training directed to the Unified Health System (SUS), as signaled in the National Curriculum Guidelines (DCN) of undergraduate courses in Health<sup>1</sup>, must be one of the assumptions for the development of Dentistry courses in Brazil.

The tremendous ongoing challenge today is the Unified Health System's transformation as a locus for the training of general practitioners who can work based on collective health, considering its potential for the continuity of care and the relationship with the population<sup>2</sup>. This same challenge signals the need to reorient higher education in all Brazilian health courses to extrapolate the biologicist care paradigm, turning to relational technologies, characteristics of the care recommended by the SUS<sup>3,4</sup>.

However, the historical construction aimed at the individual care model, the adverse context of professional performance, and the weaknesses in the Family Health Strategy's perceptions still limit the performance of dentists' work processes<sup>5</sup> and that of other health professionals.

A differentiated role in advances in training that reverse this situation lies in the curriculum design implemented in the different courses. In most cases, the curriculum appears as a field of dispute<sup>6</sup> since several interests are treated by the different groups that participate in its construction, considering the complex discussion due to the need to develop several competencies, skills, and attitudes required for Dentistry training<sup>7</sup>.

In this discussion, teachers with training in public health play a fundamental role in contributing to a curricular proposition that favors an approach directed to the SUS. In this regard, the pillars of collective health must be considered, which are practices that aim to improve the health of the population, based on the articulation of knowledge and practices, anchored in three areas: Epidemiology; Policy, Planning and Management; and Social and Human Sciences in Health<sup>8</sup>.

However, few studies indicate how these aspects have been addressed in Dentistry courses, and other health areas, leaving a gap on how to approach what is recommended in the DCNs and the training required for the SUS. In the meantime, the construction of evaluative instruments can assist in this process, showing how much Higher Education Institutions' (HEIs) training has enabled health practices consistent with the demands of the territories and mobilized betterments and advances for the consolidation of the SUS<sup>9</sup>.

Given the above, this study aimed to identify the possible advances achieved in Dentistry courses and the challenges in training for the Unified Health System (SUS).

## Methods

A quantitative, cross-sectional, and exploratory study was developed from the participation of teachers in the field of Public Health linked to different Brazilian Dentistry courses to answer the research objective.

The SnowBall<sup>10</sup> non-probabilistic sampling technique was used for the composition of the study sample. Therefore, at first, we contacted participants defined as "seeds" who should have broad knowledge about the topic under study (health education for the SUS) and be a reference in the research study area. In the case of this study, "seeds" were considered teachers participating in the Thematic Group on Public Oral Health of the Brazilian Association of Public Health (ABRASCO). These professors are leaders in the areas covered by the study and know members of the scientific community with characteristics similar to them. As a result, the "seeds" then indicated other possible participants in the study.

This study did not aim to establish representativeness by region of the country or administrative category of HEIs since the authors' wanted to have a global view on training from teachers recognized by their peers.

The following inclusion criteria were considered for participation in the research: 1) having at least a Master's degree; 2) teachers involved with curricular components aimed at the collective health area in Dentistry courses; 3) teachers who have had some experience in SUS care or management.

The data collection instrument consisted of a matrix of criteria previously validated through the Delphi Consensus<sup>11</sup> based on the construction of a logical model on the guidelines signaled in the National Curriculum Guidelines for undergraduate courses for training focused on the SUS employing the categories of the cognitive domain proposed by Bloom's taxonomy (knowledge, understanding, application, analysis, synthesis, and evaluation) for the composition of the criteria to be used in each of the subdimensions. Eighteen "experts" participated in the three rounds of the Delphi Consensus (teachers in the field of public health with at least a Master's degree and previous experience in SUS as health

service managers) who validated 40 criteria from the 62 initially proposed.

The criteria matrix was composed of three Dimensions (1. Epidemiology; 2. Social Sciences and Humanities, and 3. Health Policy, Planning, and Management), as well as Subdimensions and the respective criteria as set out in Chart 1.

In the guidance for completing the criteria matrix, the research participant was asked to signal how the training elements present in the matrix were being worked on in the undergraduate course in which he was a teacher. He should assign a grade to each of the formative elements on a scale in which “1” was totally inadequate, and “10” was totally adequate. For this classification, he should answer the following question: “How has the course provided educational approaches that allow students to learn about this formative element?”

Besides the criteria matrix, the data collection instrument consisted of a questionnaire with the following information about the research participants: year of graduation, teaching experience, highest degree achieved, workload regime, type of institution where he works, employment relationship, professional performance in addition to teaching and type of professional experience in the SUS.

The data collection instrument was built from a Google® Form (<https://docs.google.com/forms/>) and forwarded to study participants through the WhatsApp® application.

The collected data were systematized in an Excel® spreadsheet and later exported to the IBM SPSS version 20.0 program. For data analysis, the multivariate technique was used, based on exploratory factor analysis that enables actions aimed at reducing data size, which allows reorganizing the variables in a more correlated way, thus collaborating to minimize loss of information<sup>12,13</sup>. The exploratory factor analysis was also employed to analyze the structure of a set of related variables, generating a scale of measures for factors that control the original variables<sup>14</sup>.

We aimed to preliminarily confirm the factorability of the correlation matrix between the items on the scale in order to compose the results of this study. The results found showed the adequacy of the factor analysis model, considering the Kaiser-Meyer-Olkin index (KMO), which compares simple correlations with partial correlations and indicates the adequacy of the analysis for the respective database. The value found (0.923) is excellent. Another critical measure is the Bartlett Sphericity Test, which compares the matrix found with an identity matrix.

**Chart 1.** Dimension, Subdimension, Code and Criteria validated with essential content for training in SUS. Natal, Brazil, 2019.

<b>Dimension: Epidemiology</b>	
<b>Subdimension</b>	<b>Codes: Criteria</b>
Information System	E1: Knowledge of information systems
	E2: Knowledge of the consolidated the information system
	E3: Use of the PHC Information System to analyze the health situation, considering social, economic, demographic, and epidemiological characteristics of the territory.
	E4: Health situation of the population in the working territory
Health Surveillance	E5: Understanding the concept of health surveillance
	E6: Development Health Situation Analysis for planning, monitoring and evaluating actions
	E7: Understanding of the National Health Surveillance System
	E8: Development of Health Situation Analysis activities
<b>Dimension: Social and Human Sciences</b>	
<b>Subdimension</b>	<b>Codes: Criteria</b>
Humanization	C01. Knowledge of NHP and its guidelines
	C02. Knowledge and applicability of the NHP devices
	C03. Development of user reception
	C04. Assessment of risk classification and vulnerabilities

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**Chart 1.** Dimension, Subdimension, Code and Criteria validated with essential content for training in SUS. Natal, Brazil, 2019.

Popular Participation	C05. Knowledge of popular participation and social control
	C06. Building bonds with the community and with the multidisciplinary team
Social Responsibility	C7. Knowledge of the principles of ethics and bioethics
	C08. Understanding citizenship as a condition of the individual
	C09. Act respecting criteria decided by the group or team
Communication	C10. Ethics adopted in health decision-making
	C11. Knowledge of community language
	C12. Perception of the interests of different social groups
Popular education	C13. Development of social engagement strategies/technologies
	C14. Knowledge of the principles of popular health education
	C15. Performing educational actions aimed at enrolled population
<b>Dimension: Public Health Policies</b>	
<b>Subdimension</b>	<b>Codes: Criteria</b>
Health Planning and Management	P01. Knowledge of the historical / political path of Health in Brazil
	P02. Knowledge of SUS principles and guidelines
	P03. Identification of the Health Care Models
	P04. Knowledge of planning and management tools
	P05. Understanding interdisciplinary work / multidisciplinary team
	P06. Effective participation in the planning of PHC activities
	P07. Evaluation of defined actions planning/management process
Health Care	P08. Knowledge of the territorialization process
	P09. Knowledge lines of care / comprehensive health care
	P10. Knowledge of Comprehensive Health Care Networks
	P11. Performing care actions as needed
	P12. Experience of actions developed in the lines of care
Continuing Education	P13. Understanding the performance of health care activities
	P14. Knowledge of the National Continuing Health Education Policy
	P15. Development of educational activities
	P16. Articulation of different knowledge in the team
	P17. Daily routine educational approaches

Source: Elaborated by the authors, 2018.

Since there is a statistical difference between these matrices, the adequate modeling is considered. The value found for the Bartlett test was  $p < 0.001$ . Finally, the Varimax rotation was performed after obtaining the eigenvalues to achieve a better distribution between the factors.

Considering that this is a study involving human beings, the research project was submitted to the Research Ethics Committee of the Onofre Lopes University Hospital (CEP-HUOL) and was approved.

## Results

The development of the Exploratory Factor Analysis (EFA) required applying the previ-

ously validated matrix of criteria derived from the definition of the fundamental elements to train health professionals to work in the Unified Health System. The sample consisted of 119 teachers in Public Health Dentistry courses from public and private Higher Education Institutions from all the five Brazilian regions.

Of the total participants, 79.2% are doctors, 78.3% develop activities in a public higher education institution, 61.7% have the highest degree in Collective Health or similar ("public health", "epidemiology", "health policies", "health planning", among others), 62.5% have more than 10 years of experience in higher education, 52.5% have more than 10 years of higher education degree, 65% work full-time, and 22.5% perform other activities besides teaching.

The study variables and the factors obtained from the Exploratory Factor Analysis, for training in SUS in Dentistry courses, are shown in Table 1.

The final model for understanding the main elements for training in the SUS in Dentistry courses showed five factors after the Exploratory Factor Analysis. With this definition, the factors were titled from the sequence presented by the EFA with the following denominations: Primary Care (Factor 1), Social Responsibility and Teamwork (Factor 2), Health Management (Factor 3), Information Systems (Factor 4), and Continuing Education and Humanization (Factor 5).

According to the perception of the teachers participating in the study, the factors allowed identifying the variables with a higher perspective of being the most “hardened” elements in Dentistry courses in order to train health professionals to work in the SUS. The criteria sorted by factor and value are available in Table 2.

Considering the factors defined by the factor analysis, in the Primary Care Factor, the most developed elements in the HEIs are the articulation of different knowledge in the team, the effective participation in the planning of activities for the actions to be developed in Primary Care, and the evaluation of the actions defined in the health planning and management process. In the Social Responsibility and Teamwork Factor, the main pedagogical approaches developed were the perceived interests of different social groups, the knowledge of community language, and the development of actions observing criteria decided by the group or team. Knowledge of SUS principles and guidelines and the process of territorialization of the team’s work area were considered the most present knowledge in the Health Management Factor. The development of the use of the Primary Care Information System to analyze the health situation, considering the social, economic, demographic, and epidemiological characteristics of the territory, was the most present attitude in the Information Systems Factor. Simultaneously, the knowledge and applicability of the National Humanization Policy provisions stood out as the best pedagogical approach in the Continuing Education and Humanization factor.

Likewise, it was possible to identify the variables representing the points to be improved in the formative processes (lower factor loading in their respective factors) signaled in Table 3.

Concerning the challenges, the teachers identified that students’ appropriate performance in Primary Care would require the courses to in-

vest in the development of skills to carry out the analysis of the health situation of the population in their work territory, for planning, monitoring and evaluating actions, emphasize knowledge about the principles of popular health education, and promote the establishment of relationships with the community and the multidisciplinary team. The understanding of the National Health Surveillance System, its responsibilities and guidelines, the implementation of health education actions directed at the assigned population, and the development of user reception, through qualified listening to health needs, would be the skills requiring a better approach when considering the Social Responsibility and Teamwork Factor. The limitations related to the Health Management Factor reside in the knowledge of the Comprehensive Health Care Networks and the health planning and management tools. Identifying the health situation of the population in their work territory based on Information Systems, and knowing the National Policy for Continuing Health Education are approaches that should be further investigated in the Information Systems Factor and the Continuing Education and Humanization Factor, respectively.

## Discussion

One of the main challenges related to dentists’ training oriented to the SUS is the precise definition of the most significant elements to provide substantial support to this training. Advances can be observed from the Pedagogical Projects’ improvement of the courses guided by the DCNs with this purpose, advocating a higher approximation of education to the needs of public health services<sup>15</sup>. Moreover, government initiatives such as the National Program for the Reorientation of Professional Training in Health (*Pró-Saúde*), the Education through Work for Health Program (*PET Saúde*), the Project “Experiences and Internships in the Reality of the Unified Health System” (VER-SUS, free translation from Portuguese) sought to encourage teaching-service integration. These strategies were configured as places for the exchange of shared knowledge among teachers, students, and health professionals, enabling the strengthening of relationships between all the actors involved<sup>16</sup>.

This perspective is evident from the inclusion of the Oral Health team in the Family Health Program in 2000<sup>17</sup>, publication of the DCNs of undergraduate courses in Dentistry in 2002<sup>18</sup>, and

**Table 1.** Criteria with respective codes and factors obtained from the Exploratory Factor Analysis. for the training of SUS in Dentistry courses. 2019.

Codes: Criteria	Factors				
	1	2	3	4	5
P16. Articulation of different knowledge in the team	0.830	0.244	0.109	0.084	0.265
P6. Effective participation in the planning of PHC activities	0.825	0.111	0.302	0.154	0.169
P7. Evaluation of defined actions planning/management process	0.803	0.156	0.280	0.254	0.203
P17. Daily routine educational approaches	0.801	0.377	0.213	0.039	0.020
P11. Performing care actions as needed	0.773	0.217	0.313	0.269	-0.029
P15. Development of educational activities	0.763	0.322	0.031	-0.087	0.181
P12. Experience of actions developed in the lines of care	0.746	0.093	0.376	0.295	0.056
C4. Assessment of risk classification and vulnerabilities	0.714	0.272	0.150	0.287	0.246
C13. Development of social engagement strategies/technologies	0.576	0.552	0.226	0.271	0.095
E6. Development Health Situation Analysis for planning, monitoring and evaluating actions	0.568	0.316	0.177	0.559	0.020
C14. Knowledge of the principles of popular health education	0.539	0.515	0.062	0.169	0.231
C6. Building bonds with the community and with the multidisciplinary team	0.538	0.532	0.320	0.121	0.175
C12. Perception of the interests of different social groups	0.260	0.774	0.259	0.091	0.260
C11. Knowledge of community language	0.331	0.767	0.212	0.028	0.177
C9. Act respecting criteria decided by the group or team	0.309	0.731	0.285	0.224	0.119
C10. Ethics adopted in health decision-making	0.222	0.710	0.312	0.376	0.188
C8. Understanding citizenship as a condition of the individual	0.276	0.644	0.462	0.239	0.153
P13. Understanding the performance of health care activities	0.352	0.623	0.459	0.176	0.102
C5. Knowledge of popular participation and social control	0.192	0.614	0.449	0.230	0.207
E5. Understanding the concept of health surveillance	0.146	0.603	0.350	0.469	0.269
C7. Knowledge of the principles of ethics and bioethics	0.163	0.600	0.398	0.332	0.248
P5. Understanding interdisciplinary work/multidisciplinary team	0.420	0.531	0.493	0.070	0.073
E7. Understanding of the National Health Surveillance System	0.202	0.494	0.260	0.439	0.486
C15. Performing educational actions aimed at enrolled population	0.477	0.489	0.272	0.313	-0.115
C3. Development of user reception	0.408	0.428	0.189	0.252	0.372
P2. Knowledge of SUS principles and guidelines	0.234	0.298	0.812	0.126	0.126
P8. Knowledge of the territorialization process	0.248	0.261	0.792	0.194	0.081
P1. Knowledge of the historical/political path of Health in Brazil	0.197	0.361	0.751	0.148	0.192
P3. Identification of the Health Care Models	0.172	0.382	0.721	0.176	0.242
P9. Knowledge lines of care/comprehensive health care	0.287	0.230	0.600	0.312	0.310
P10. Knowledge of Comprehensive Health Care Networks	0.311	0.257	0.570	0.274	0.422
P4. Knowledge of planning and management tools	0.496	0.307	0.502	0.185	0.248
E3. Use of the PHC Information System	0.452	-0.006	0.175	0.726	0.265
E1. Knowledge of information systems	0.141	0.327	0.240	0.703	0.231
E2. Knowledge of the consolidated the information system	0.063	0.348	0.245	0.682	0.309
E8. Development of Health Situation Analysis activities	0.560	0.247	0.191	0.571	0.001
C2. Knowledge and applicability of the NHP devices	0.192	0.290	0.295	0.255	0.790
C1. Knowledge of NHP and its guidelines	0.126	0.225	0.398	0.214	0.761
P14. Knowledge of the National Policy of Continuing Health Education	0.597	0.192	0.051	0.129	0.638

Source: Elaborated by the authors, 2019.

the definition of the National Oral Health Policy in 2004<sup>19</sup>. These initiatives represented exponents of change from a mutilating, isolated, and individual dentistry to interactive, teamwork-based

dentistry, seeking the incorporation of collective health content into graduation<sup>20</sup>. Dentistry with SUS-focused training has advanced in the pedagogical structuring of curricula focused on

**Table 2.** Criteria most present in Dentistry courses for training for the SUS and values, according to factors, Faculty of Dentistry Courses, 2019.

Factor	Criterion	Value
Primary Health Care	Articulation of different knowledge in the team	0.830
	Effective participation in planning activities for actions to be developed in Primary Care	0.825
	Evaluation of the actions defined in the health planning / management process	0.803
Social Responsibility and Teamwork	Perception of the interests of different social groups	0.774
	Knowledge of community language	0.767
	Act respecting criteria decided by the group or team	0.731
Health Management	Knowledge of the principles and guidelines of the Unified Health System (SUS)	0.812
	Knowledge of the process of territorialization of the team's operational area	0.792
Information System	Use of the PHC Information System to analyze the health situation, considering social, economic, demographic, and epidemiological characteristics of the territory	0.726
Continuing Education and Humanization	Knowledge and applicability of the provisions of the National Humanization Policy	0.790

Source: Elaborated by the authors, 2019.

**Table 3.** Criteria less present in Dentistry courses for training for the SUS and values, according to factors, Faculty of Dentistry Courses, 2019.

Factor	Criterion	Value
Primary Health Care	Development of skills to carry out the analysis of the health situation of the population in the working territory, for planning, monitoring and evaluating actions	0.568
	Knowledge of the principles of popular health education	0.539
	Building a bond with the community and the multidisciplinary team	0.538
Social Responsibility and Teamwork	Knowledge of the National Health Surveillance System, its responsibilities and guidelines	0.494
	Carrying out health education actions aimed at the assigned population	0.489
	Developing user reception, through qualified listening to health needs	0.428
Health Management	Knowledge of Comprehensive Health Care Networks	0.570
	Knowledge of health planning and management tools	0.502
Information System	Health situation of the population in the working territory	0.571
Continuing Education and Humanization	Knowledge of the National Policy of Continuing Health Education	0.638

Source: Elaborated by the authors, 2019.

teaching-service interaction, in which the role of the practice fields has been valued<sup>21</sup>.

However, few studies indicate how these initiatives were impactful in Dentistry courses, considering the diverse pedagogical proposals of the various Brazilian HEIs and the regulatory processes to which all courses are submitted for their effective recognition.

In this sense, this study used a matrix of previously validated criteria that could approach this analysis, aiming to identify the possible advances achieved and the challenges in training for

the SUS. Five factors were defined from the factor analysis, as shown below.

Factor 1 (Primary Care) brings the importance of this level of health care to the structuring of the SUS in Brazil. In this context, the founding principles are health promotion based on the articulation of the different team knowledge and health education activities, with competence for planning and evaluating the proposed actions, with discernment for using the risk classification and in search of equity in combating vulnerabilities<sup>22,23</sup>.

Factor 2 (Social Responsibility and Teamwork) is related to health care aspects, focusing on the relationships between individuals, with an emphasis on communication. Reflections on public policies gain prominence and focus on the incorporation of experiences within health education, which can emphasize the democratic and citizenship aspects that involve the subjects of rights<sup>24</sup>. It also signals the importance of interprofessional work, which should be guided by mobilizing information that symbolizes the continuity of care<sup>25</sup>.

In health education, Factor 3 (Health Management) signals the importance of the various sectors and management levels reflecting their practice in the sharing and responsibility in the face of the actions agreed at the different levels of assistance and health care<sup>26</sup>.

Two contents stand out in the definition of Factor 4 (Information Systems), represented by the valorization of information to work in health and the identification of living territory, which must be understood in its properties for the effective development of health practices. In this sense, Information Systems (SIS) should be emphasized as an indispensable tool for planning, monitoring, and evaluating guiding decision-making<sup>27</sup>.

Factor 5 (Permanent Education and Humanization) covers aspects aimed at learning the actions that involve health in a more collaborative way, based on the knowledge of the subjects' concepts, culture, and leadership in health. Continuing Health Education brings the need to discuss the need to continuously seek to learn in order to respond to the real demands of the services. It is necessary to engage in favor of continuous and systematic learning for work since the knowledge guiding the practices is changeable, and the training processes in HEIs occur in specific time contexts<sup>28,29</sup>. On the other hand, the National Humanization Policy is applicable in the formative aspects of health as it is based on the experiential process, from the interaction of learning in the workplace<sup>30</sup>.

Another element that draws attention in the definition of the Factors is related to the pedagogical approach that guides the learning processes in the perception of these teachers. All cognitive development must follow a hierarchical structure so that, at the right time, students can apply and transfer the acquired knowledge<sup>31</sup> in a multidisciplinary way. From the revised Bloom taxonomy, it is possible to observe how the learning objectives are worked on from the

defined Factors, considering the four knowledge domains proposed by the referred taxonomy<sup>32</sup>.

Thus, the learning related to Health Management (Factor 3) and Continuing Education and Humanization (Factor 5) is directed to the dimensions of knowledge associated with factual and conceptual knowledge. According to Bloom's revised taxonomy, in factual knowledge, facts should not be understood or combined but only reproduced as shown. In contrast, conceptual knowledge refers to classification and categorization, knowledge of principles and generalizations, and of theories, models, and structures. Therefore, they are the most elementary levels in the hierarchy of the learning process<sup>32</sup>.

As for the learning of Information Systems (Factor 4) and Social Responsibility and Teamwork (Factor 2), besides factual and conceptual knowledge, there is a need to scrutinize in-depth the dimensions of procedural knowledge (knowledge of specific content, skills, and specific techniques and methods; knowledge of criteria and perception of how and when to use a specific procedure) and metacognitive knowledge (strategic knowledge; knowledge about cognitive activities, including preferential contexts and learning situations). The need to articulate all the hierarchical stages of the learning process<sup>32</sup> is observed in these two factors.

What draws attention the most is related to Primary Care (Factor 1) learning, whose variables are all defined in the dimensions of procedural and metacognitive knowledge, that is, in the more complex hierarchical levels of learning. Thus, the knowledge domains developed in Primary Care in the Dentistry courses surveyed are related to the articulations of knowledge in the face of teamwork, which are strengthened by the interaction between health services and academia.

The explicit signaling of the main advances indicated by the faculty of the Dentistry courses participating in this study is essential for understanding the training focused on the SUS. The analysis of Table 2 allows pointing out the articulation of several elements that strengthen this perspective. Among the advances pointed out are the planning of activities and the development of actions in Primary Care; the learning scenarios that involve the contents of teamwork; knowledge of the principles and guidelines of the SUS, and the Primary Care Information System. The perception of social groups should also be considered through knowledge of the language and the community's reality, considering the social, economic, demographic and epidemiological



characteristics of the territory, and the provisions of the National Humanization Policy.

However, the study points out as challenges to be discussed by Dentistry courses the development of skills to carry out the analysis of the health situation of the population geared to the work territory, one of the main pillars of the Family Health Strategy for planning, monitoring, and evaluation of actions, which are complex because they require the incorporation of other concepts that transcend the references of the health area<sup>33</sup>. Another challenge is the relationship with the multiprofessional team, the result of the possible isolation of the dentist throughout his training, as well as the need to expand knowledge about the principles of popular health education and the consequent bonding with the community, of the reception of users, through qualified listening and their health needs, principles that are distant from the still predominant clinical training in undergraduate courses.

Two complex and relatively recent issues as structuring strategies for SUS also pose challenges: the knowledge of the Comprehensive Health Care Networks, guided by the epidemiological profile, responsible for overcoming the vertical model and the articulation of the different health care levels<sup>34</sup> and the understanding of the National Policy for Continuing Health Education centered on mobilization spaces, articulating the population, workers, and managers of the SUS and HEIs in the definition of health education priorities<sup>35</sup>.

A limiting factor is also the understanding of the National Health Surveillance System and its responsibilities, which is a constitutional duty of the Brazilian State in health protection, fundamental in the design of a public and universal sys-

tem based on health promotion and coping with economic interests related to health systems<sup>36</sup>.

A limitation of this study is the composition of the sample based on faculty from different Brazilian HEIs, which does not allow an analysis that corresponds to each course's very reality. However, this limitation signals the possibility that the study can guide local assessment initiatives, allowing for a different contribution to the pedagogical planning of Dentistry courses.

It is also important to point out that future studies should importantly include the other Dentistry courses' teachers, since the subjects of the present research were only faculty with a background in Public Health. This inclusion would allow a more comprehensive perception of training in Dentistry.

### Final considerations

SUS-oriented Dentistry training should excel in conceptions that reaffirm the need for changes, generate rupture before the paradigm of health knowledge centered on the disease and turn to health learning, focusing on the individuals and their daily social lives.

This study allowed identifying significant advances in the perspective of greater adequacy of the training proposed geared to the SUS. However, faculty faces challenges that require further analysis of the perspective to address the barriers still imposed by traditional health education.

Educational mobilizations in Dentistry courses must traverse institutional and political advances that emphasize the strategy of how to approach the training process and the needs of services.

### **Collaborations**

JCS Lima participated in the study design, literature review, construction of the research project, data collection, analysis and interpretation of data, discussion of results, writing and critical review of the content and final approval of the final version. AGRC Oliveira participated in the analysis and interpretation of data, collaborated in the discussion of results, writing and critical review of the content and final approval of the final version. LRA Noro participated in the study design, data collection, data analysis and interpretation, discussion of results, writing and critical review of the content and final approval of the final version.

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