

National curriculum guidelines for health professions 2001-2004: an analysis according to curriculum development theories

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This study aimed to analyze the National Curriculum Guidelines (DCNs) published from 2001 to 2004 for fourteen careers in the area of Health. A descriptive exploratory study was conducted in 2015 and 2016 through a documental analysis of the DCNs according to Resolution no. 287/1998. Data were collected from the website of the Ministry of Education. To analyze the data, an analytical matrix with two axes was used: Curriculum (evaluation process; teaching-learning process; curriculum organization) and Professional Profile (professional profile; healthcare; health education; health management). The results showed that the DCNs maintained aspects of the traditional model of teaching, and the innovative pedagogical orientations were not qualified in a clear way in these documents. The association of these findings with the presence of gaps in the articulation among education, health needs and the demands of the Brazilian National Health System (SUS) reveal that further analyses of this type should be carried out and that the DCNs should be reviewed.

Keywords: Health professionals. Curriculum. Brazilian National Health System.

Introduction

Aiming to contribute to the consolidation of *Sistema Único de Saúde* (SUS - Brazil's National Healthcare System), the Ministry of Education and the Ministry of Health instituted *Diretrizes Curriculares Nacionais* (DCNs - National Curriculum Guidelines) for fourteen health professions, with the objective of offering an education that qualifies healthcare in compliance with the principles of the SUS.

The DCNs resulted from a process that involved political, institutional, cultural and educational aspects. Some of the educational values expressed in these guidelines can be found in the New School movement of the beginning of the 20th century. In Brazil, this movement gained strength with the Manifest of 1932¹, which criticized the exclusively passive, intellectualized and verbalistic trends of traditional school. This movement advocated the need of change, targeted at the integral education of students, with the aim of developing their capacities of creation and active construction of knowledge. At the end of the 1950s, the Manifest of 1959¹ created favorable conditions for the drafting of the 1961 *Lei de Diretrizes e Bases da Educação Nacional* (LDB - Law of Basic Tenets and Guidelines for National Education)². The 1988 Federal Constitution³ contributed fundamental principles to the 1996 review of the LDB⁴. This review valued the fostering of citizenship and emphasized curriculum flexibilization and the frontiers of science in professional practice.

In this context, undergraduate studies were understood as one stage of the education process, which must be continuous to deal with permanent change in knowledge production. This education must incorporate processes of learning how to learn and meet society's demands. In addition, it needs to prioritize the education of autonomous and flexible professionals.

On January 9, 2001, the National Education Plan was approved by means of Law no. 10172, which established the National Curriculum Guidelines to ensure "flexibility and diversity in the programs of study offered by higher education institutions"⁵.

The DCNs are a general guiding standard to the drafting of political-pedagogical projects and curricula by higher education institutions in Brazil. The first resolution with guidelines to the area of health - Resolution CNE/CES no. 1133/2001, which was published on August 7, 2001⁶ and prescribes DCNs to the programs of Medicine, Nursing and Nutrition - presents elements about graduates' profile, skills and competencies, curriculum contents, internships and complementary activities, program organization, monitoring and evaluation. All the elements must meet the demands of the SUS.

The Ministry of Education, as well as the players involved in the construction of the DCNs, recommend that:

[...] the political-pedagogical project should be collectively constructed; there should be interdisciplinarity according to the teaching-learning process; the ethical and humanistic dimensions should be valued; the inclusion of teachers and students in the services should strengthen the teaching-service partnership; there should be a diversification of scenarios; management should develop a system of co-accountability, evaluation and monitoring free of fears; and content selection should be targeted at social needs⁷ (p.20).

From 2002 to 2004, the DCNs to the other careers in the area of health were established. The construction of these guidelines involved the broad participation of different institutions and social players, such as *Rede Unida*, the Ministry of Health, the Ministry of Education, the National Health Council, the Higher Education Department, the National Forum of Brazilian Universities' Provosts,

teaching associations, professional councils, and committees of education specialists from the Higher Education Department/Ministry of Education⁸.

The DCNs were approved by the National Education Council between 2001 and 2004. They are part of the Brazilian educational reform as a result of a long process of struggles, debates, reflections and proposals that derive from the Education Manifests of 1932¹ and 1959¹, and specially from the 1996 LDB⁴, with the contribution of the Organic Law of Health no. 8080/1990⁹.

As it is a public policy that broadly involves the careers in the health area, and considering the long period of implementation of the DCNs, this study aims to analyze the set of curriculum guidelines for the fourteen health professions published from 2001 to 2004: Biology, Biomedicine, Dentistry, Medicine, Nursing, Nutrition, Occupational Therapy, Pharmacology, Physical Education (Baccalaureate), Physiotherapy, Psychology, Social Work, Speech-Language Pathology and Audiology, and Veterinary Medicine. By means of this analysis, we aim to reflect on health education in the SUS context, focusing on the role of the DCNs as guidelines to the development of projects for programs of the health careers. It is important to clarify that some DCNs have already been reviewed; however, the new DCNs were not the object of this study.

Methodological Aspects

This is a descriptive-exploratory study about the 2001-2004 National Curriculum Guidelines for the fourteen health careers. Data were collected from the Ministry of Education's website, which contains resolutions referring to the fourteen careers. Data analysis was performed by means of thematic categories and was divided into three stages: pre-analysis, exploration of the material, and treatment and interpretation of the obtained results¹⁰.

The analytical matrix that was used was constructed by teachers and Master's students involved in a research project about health education in the sphere of a Professional Master's Program in the area of Collective Health of *Coordenação de Aperfeiçoamento de Pessoal de Nível Superior* (CAPES - Coordination for the Improvement of Higher Education Personnel), with which this study is connected.

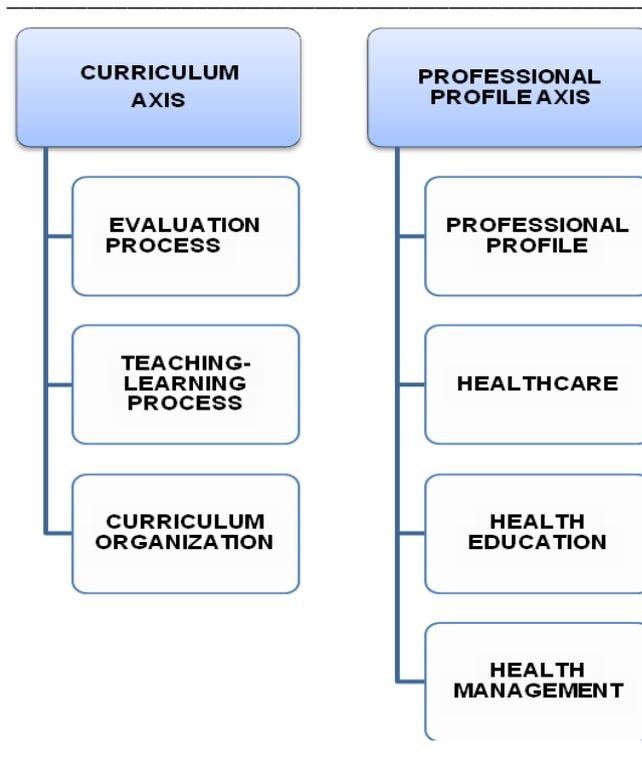


Figure 1 - Analytical Matrix

This matrix has two axes represented by the categories that delimit the scope of this investigation: Curriculum and Professional Profile. The category Curriculum has three subcategories: 1) Evaluation Process, 2) Teaching-Learning Process, and 3) Curriculum Organization. The category Professional Profile has four subcategories: 1) Professional Profile, 2) Healthcare, 3) Health Education, and 4) Health Management.

The characterization of the Curriculum category was grounded on curriculum development theories. These theories take into account the selection process of curricular contents in a context that articulates society-culture-education. Thus, the main ones are the traditional, critical and post-critical theories¹¹.

According to the traditional theory, based on the positivistic philosophical line and inspired by Taylor's "scientific" management, teachers and schools started to believe that task division was fundamental to achieve higher efficiency in the educational system. The contents selected by teachers started to be expressed in the form of behaviors to be attained, according to a more efficient organization, to fulfill the established objectives. The teacher remained in the center of the teaching-learning process and the contents started to be approached according to a technicist perspective, targeted at the inclusion of students in the job market¹¹.

In view of the hegemony of the traditional theory in curriculum development, critical and post-critical theories emerged from the analysis of the impact of traditional curriculum organization on the education-work relationship. The critical theory highlighted, mainly, the historical component of curriculum development, conceptualizing the curriculum as a social construction. Because it views schools as an equipment that aims to reproduce the status quo, the critical trend did not suggest

alternatives to curriculum organization. In this context, post-critical theories started to argue that neither society could be seen as a totality, nor schools could be seen in a deterministic way. Although they share the historical-social explanations of the critical trend, they attribute greater relevance to local contexts in the construction of alternative proposals for educational projects^{12,13}.

The post-critical theories emphasize diversity, recognize that differences derive from meanings attributed by subjects to phenomena that are present in society, and believe the latter are determined by the social, political and economic context¹¹.

Generally speaking, the DCNs are aligned with the post-critical theories, as they establish that curricula must meet social needs and education must be responsible for forming professionals capable of thinking and acting in a critical, propositional and transformative way in societies. The curricular proposal defended by the DCNs aims to overcome fragmented, technicist and decontextualized educational practices. In spite of this orientation, the current curricula are influenced by the three theories described above¹¹⁻¹³.

Thus, a curriculum is considered innovative when its educational proposal aims to overcome fragmentations between theory and practice, the lack of articulation among disciplines, decontextualization of knowledge, predominance of the use of passive teaching-learning methodologies, the importance given to memorization to the detriment of reasoning, and the atomistic approach to competence.

The holistic conception of competence, in opposition to the atomistic one, represents one of the most relevant characteristics of innovative curricula. This relevance is expressed by the articulation “of attributes (cognitive, psychomotor and affective) which, combined, enable distinct ways of successfully performing tasks that are essential and characteristic of a certain professional practice”¹⁴. In addition to this characteristic, the dialogic approach of the holistic conception emphasizes:

[...] the history of people and societies in their processes of reproduction or transformation of the knowledge and values that legitimize the attributes and results expected in a certain professional area¹⁵ (p. 371).

Thus, the dialogic conception of competence places, on the interaction among the elements that constitute it, the strength of the synthesis, which combines a set of attributes to perform a professional practice according to a context and excellence criteria that have been socially and scientifically established. The dialog among the constituents of competence necessarily requires an articulation between education and the world of labor¹⁵.

Thus, the methodological path encompassed:

- 1) identification and grouping of the articles of the fourteen studied DCNs according to each category in meaning nuclei, that is, nuclei that, in a literal or interpretative way, were aligned with the categories of analysis;
- 2) categorization of these groupings according to traditional or innovative characteristics. Innovative propositions were the ones in which:

- the student evaluation process presented evaluation in an embracing, articulated, participatory, continuous and propositional way, based on ethics¹⁶⁻¹⁸;
 - the teaching-learning process revealed a critical, reflective and creative view in which the student has an active role and the teacher is a facilitator or mediator of learning;
 - the curriculum organization prioritized articulation among disciplines and integration of health actions according to a multiprofessional perspective;
 - the professional profile defined a generalist, humanistic, critical and reflective education that values the real needs of the SUS;
 - healthcare highlighted the comprehensiveness of care, subject's autonomy, creation of bonds, humanization of actions, and an articulation among the biological, subjective, ethnic, socioeconomic, political, environmental and cultural dimensions;
 - health education viewed education in the perspective of transformation of practices, openness and proactivity to learn throughout life, in a continuous search for new knowledge, as proposed by permanent education;
 - health management presented a perspective of shared management and work in multiprofessional teams, aiming at a continuous improvement in health and care practices;
- 3) comparison between the explored material and the conceptual benchmarks for each category, and
- 4) critical interpretation of the meanings and purposes of the analysis of data collected by category.

Results and Discussion

Curriculum Axis

Student evaluation process

In the National Curriculum Guidelines (DCNs) for the programs of Biomedicine, Dentistry, Medicine, Nursing, Nutrition, Occupational Therapy, Pharmacology, Physiotherapy, Speech-Language Pathology and Audiology, and Veterinary Medicine, we observed that, for student evaluation, other domains were considered besides the cognitive domain, such as the “evaluation of competencies, skills and contents”¹⁹. In addition, they recommend the utilization of evaluation methodologies and criteria in consonance with the evaluation system of the higher education institution.

The DCNs for Physical Education (baccalaureate) added to this the evaluation of contents and experiences related to political-social, ethical-moral, professional and scientific actions pertinent to this career.

The DCNs for Psychology, in this category, only mentioned the need to ensure specific evaluation procedures in each academic activity of the program. There is not a specific article about student evaluation. In the DCNs for Biological Sciences and Social Work, there was no mention to the student evaluation process.

The texts of the DCNs for the programs of Biomedicine, Dentistry, Medicine, Nursing, Nutrition, Occupational Therapy, Pharmacology, Physiotherapy, Speech-Language Pathology and Audiology, and Veterinary Medicine mention “evaluation of competencies, skills and contents”. It is possible to see that there is an overlap in the utilization of the terms competency and skills. According to the theoretical framework used in our study, skills are capacities related to the psychomotor domain and are part of the set of capacities that, together with other elements, form the holistic conception of competence. This conception of competence:

[...] deals with the development of capacities or attributes (cognitive, psychomotor and affective) which, combined, form distinct ways of successfully performing tasks that are essential and characteristic of a certain professional practice¹⁵ (p.372).

Concerning the definition of content, Libâneo (apud SILVA)²⁰ considers that contents are systematized knowledge, skills and habits, attitudes and convictions. Thus, we believe that the text of the DCNs does not present clear and specific conceptions of these elements, neither to a better definition of the student evaluation process, nor to curriculum organization. In fact, the articles of the DCNs raise doubts and may generate different interpretations.

In view of the fact that traditional evaluation is predominantly expressed by the classification of students' performances by means of grades related to the evaluation of the cognitive domain through objective exams^{21,22}, the DCNs fail to indicate alternative means and methods that enable an articulated evaluation of the cognitive, psychomotor and attitudinal capacities, as well as the construction and reconstruction of knowledge and practices throughout education.

Teaching-Learning Process

The DCNs for the programs of Biomedicine, Nursing, Nutrition and Veterinary Medicine have elements that indicate an innovative teaching-learning process, as they recommend a critical, reflective and creative view of learning, in which the student is considered an active subject in this process.

In this subcategory, we found ideas related to education for citizenship, full participation in society and stimuli to reflections on social reality. The capacities of learning how to learn, do, know, work together, be, and work in groups emerge connected with the interaction of collectives and interpersonal relations.

This orientation follows the sociocultural and humanistic view of learning, in which the student is seen as a subject who builds knowledge in an autonomous way, in the perspective of education for citizenship, participation in society and understanding of contexts, based on the daily routine in the area of health and on real scenarios of practice. When students undergo this process, they are able to build their own knowledge and, instead of reproducing it, they transform it. In this way, it is possible to overcome a naïve conscience and replace it by a critical conscience.

The DCNs for the programs of Dentistry, Medicine, Occupational Therapy, Pharmacology, Physiotherapy and Speech-Language Pathology and Audiology briefly approach the characteristics that the teaching-learning process must have. They only mention that the learning process must be centered on the student as subject and the teacher must be a facilitator. The DCNs for Pharmacology refer to a theoretical-practical balance, “disconnected from the technician view”, in order to enable the “learning of the art of learning”²³.

The DCNs for the programs of Biological Sciences, Physical Education (baccalaureate), Psychology and Social Work do not present articles containing elements that contribute to the understanding of the teaching-learning process.

In this subcategory, some DCNs advance in the specification of the pedagogical innovation and point to a conception of critical-reflective learning. The teacher’s role is characterized as that of a facilitator of knowledge construction and sharing, and students are considered active subjects in this process, instead of passive receptors.

Curriculum Organization

The DCNs for Biomedicine, Dentistry, Medicine, Nursing, Nutrition, Pharmacology, Physiotherapy, Speech-Language Pathology and Audiology, and Veterinary Medicine present elements of the critical and post-critical theories¹¹ when they propose a curriculum that “understands, interprets, preserves, reinforces, fosters and disseminates national and regional, international and historical cultures, in a context of pluralism and cultural diversity”¹⁹ (p. 4). However, in these DCNs, there are signs of curriculum organization models based on disciplines or on areas of knowledge, which is a variant of the first²⁴. In general, discipline-based curricula are translated as thematic contents that are frequently disconnected from each other.

It is important to highlight that, in spite of the focus on a discipline-based curriculum, some DCNs present articles that indicate the need of theoretical and practical activities since the beginning of the program, in an integrated and interdisciplinary way. Other DCNs mention practical activities since the beginning of the program, but do not indicate an integration between theory and practice. Finally, other DCNs do not even mention the need of practical activities since the beginning of the program.

Students’ participation in curriculum organization was observed only by means of Complementary Curricular Activities, expressed in Opinion no. 67 of CNE/CES²⁵ and in Resolution CNE/CES no. 2/2007²⁶. These activities bring flexibility to the studies, so that students can search for new knowledge with greater autonomy, according to their needs. These notes bring the idea of a student-centered curriculum organization model.

Another meaning nucleus of this subcategory revolves around interdisciplinary professional practice²⁷. It is possible to consider that, even in the careers that focus on this orientation, this expression occurs in a non-specific way.

The DCNs for Physical Education (baccalaureate) are different from the others in this respect because they express that “the education of the Physical Education student must ensure inseparability between theory and practice”²⁸, that is, the curriculum must integrate theory and practice by means of

interdisciplinary studies. They briefly mention the issue of student's experience of social practices by means of curriculum internships, but they do not give further details about this orientation.

In the DCNs for Psychology, curriculum organization follows a model based on disciplines grounded on structuring axes that articulate knowledge, skills and competencies. Some parts of the text refer to the intention of articulating different types of knowledge; however, knowledge and practices are presented in a somewhat disconnected way, similarly to what happens in the traditional organization of curricula.

The DCNs for Occupational Therapy are different from those of the other careers because they present elements related to the critical and post-critical theories of curricular development when they highlight that the making of the health policy is grounded on the relations between health and society. This career views the ideas of diversity and multiculturalism as perspectives to the understanding of social, cultural and political phenomena and the population's health problems in an emancipatory and amplified sense of experiences, in a democratic and ethical way.

The DCNs for the programs of Biological Sciences and Social Work do not mention articles that bring orientations about how to organize their respective curricula.

Therefore, in the category "Curriculum Organization", there are signs of an innovative curriculum organization model. However, in some texts of the DCNs, there are articles that contradict the innovative curriculum principles or that are not very clear regarding the directions to be followed towards a transformative proposal for traditional curricula, organized in disciplines.

Professional Profile Axis

Professional Profile

Although the DCNs for the fourteen careers of the health area reveal diversities in relation to the desired competence profile, all of them state that graduates must have a "generalist, humanistic, critical and reflective" education. The guidelines direct the educational institutions to connect the knowledge constructed during the program to the population's real needs. This orientation is not present only in the programs of Biological Sciences and Social Work, which do not have the profile category.

The DCNs for the programs of Biomedicine, Dentistry, Nutrition, Occupational Therapy, Pharmacology, Physical Education (baccalaureate), Physiotherapy, Speech-Language Pathology and Audiology, and Veterinary Medicine state that graduates must have ethical principles and understand the social, cultural and economic reality of their environment. Furthermore, they must act to transform reality to the benefit of society, in all levels of healthcare, based on scientific and intellectual rigor.

It is important to highlight, here, that the programs that link teaching/education/service to the population's reality express social responsibility and commitment to healthcare in all levels of care, aiming to articulate health promotion, prevention, recovery and/or rehabilitation¹⁹. The nurses' and physicians' profiles in the respective guidelines state that graduates must be "qualified to act, with social responsibility and commitment to citizenship, as promoters of the human being's integral health"^{19,29}.

The DCNs for Psychology do not mention the word *profile* explicitly, but provide indications for professional action in the area of health. The DCNs for the programs of Biological Sciences and Social Work do not mention articles with information that enhance the understanding of the professional profile category.

In the Professional Profile category, almost all the careers defend a generalist, humanistic, critical and reflective education that values social relevance in health actions. This type of profile brings significant advances to the education of the health professional, as it fosters transformative practices to the detriment of reproductive practices.

Healthcare

The majority of the health programs, except for Biological Sciences, Physical Education (baccalaureate) and Social Work, conceptualize healthcare as a set of actions of health promotion, protection, prevention and rehabilitation. These dimensions of care are expressed as being integrated and articulated to society's problems, in a search for solutions and answers to them.

In the DCNs for the programs of Medicine, Nursing, Nutrition, Occupational Therapy, Psychology, Speech-Language Pathology and Audiology, and Veterinary Medicine, the meaning is closer to care, as they recognize that the professional must perform actions according to the health need of the individual, family and/or society, in the perspective of comprehensiveness in all the system's levels of complexity. The aim of these DCNs is to educate professionals to perform practices in a critical, efficient and propositional way.

The DCNs for Biomedicine, Dentistry, Pharmacology and Physiotherapy defend that the professional's practice should follow the line of comprehensive care and that the professionals who work in the SUS should have sensibility and commitment to the human being in order to value and respect the user who is receiving care.

The DCNs for the program of Physical Education (baccalaureate) do not provide, in an objective and clarifying way, orientations for the healthcare subcategory. Although they state that education must be guided by the "social, moral, ethical and esthetic values of a plural and democratic society"²⁸, these recommendations are described in a technical way, targeted at professional actions per se. They do not mention the issue of providing care to give answers to people's health problems in the context of the SUS.

Although the DCNs do not explore, in a direct way, the issue of healthcare, we believe that these documents recommend healthcare based on comprehensiveness, as they highlight the biopsychosocial dimensions of the health-disease process and argue that care should be provided beyond the technical approach, so as to produce answers to health problems, aiming at changes in relationships, modes of production, and in the value that is attributed to human life.

Once more, we did not find articles that provided clear orientations to foster the education of professionals capable of providing care grounded on the increase in patients' autonomy, enabling them to recognize themselves as subjects who build their own health/disease process, with singular needs permeated by complexities.

Comprehensive care, ethics, respect and the understanding of the biological, subjective, ethnic-racial, socioeconomic, political, environmental, and cultural dimensions, among other conditionings of human life like gender and sexual orientation, are either mentioned briefly or are absent from some DCNs.

Therefore, in this subcategory, the DCNs provide orientations that reveal technicist and fragmented models, and also orientations targeted at comprehensive care. We highlight that, in both situations, these orientations are neither clear nor specific.

Health education

To Ceccim, Bravin and Santos³⁰, health education must be understood as a public policy. These authors argue that there are points of tension and challenges in the relation between health education and the system's production of answers to populations' needs in the context of the SUS. Some of these points are: 1) the inadequacy of professional education in the area of health, in view of the current challenges of care; 2) the low efficacy of conventional educational activities; 3) the need to improve the quality and efficiency of healthcare; 4) the insufficient articulation between teaching and work; 5) the difficulty in recognizing work as a space of knowledge production.

In light of this context, the DCNs for the programs of Biomedicine, Dentistry, Medicine, Nursing, Nutrition, Occupational Therapy, Physiotherapy, Speech-Language Pathology and Audiology, and Veterinary Medicine provide orientations for an education targeted at overcoming the challenges mentioned above. They state that students - and also graduates - must develop capacities to identify their own educational needs and to search for new knowledge, in an articulated way with Permanent Education processes.

The DCNs for Physical Education (baccalaureate) do not approach education in the context of the SUS. The articles of this career that are aligned with this subcategory only bring elements related to the specificities of the profession itself. There is no mention to permanent education processes as one of the components of health education.

The DCNs for Psychology mention permanent education as the graduate's capacity to learn in a continuous way, and the development of this capacity should be a commitment of the undergraduate program. In the curriculum guidelines for this career, there is a brief mention to the capacity for identifying situations and problems specific to professional practice, but there is no clear mention to the fact that this action can also occur in the sphere of the SUS, to meet the population's health needs.

The DCNs for the programs of Biological Sciences and Social Work do not present articles with information that align with this subcategory.

Even considering the existence of public policies directed at the induction of changes in undergraduate health programs, the articles' lack of specificity in this subcategory can hinder the incorporation of educational technologies that shift the centrality of the learning process³¹.

The shift of this centrality from the teacher to the student can be considered one of the most expressive challenges of pedagogical practice. This challenge has been accompanying us since the end of the 19th century. Although it was reactivated at the beginning of the 20th century with the New School

movement, and more recently with the active teaching-learning methodologies in higher education, innovations in pedagogical practice coexist, in a counter-hegemonic way, with traditional practices^{32,33}.

Beyond changes related to educational technologies, the “[...] field of knowledge construction, which is necessarily inter/transdisciplinary, in which there are interlacements among philosophy, science, techniques, technologies and social practices [...]”³¹ (p. 4), can also be considered an important challenge to the organization of curricula based on the interaction of knowledge and practices. When this approach emerges in the guidelines, it is not very specific either.

Due to these limitations, the orientation for health education targeted at the formation of critical, reflective, proactive and autonomous professionals, capable of producing care contextualized in singular and local realities, finds few practical subsidies to guide curriculum organization, despite the clear isomorphism between the teacher-student relationship in the field of education and the professional-patient relationship in the field of care.

Health Management

In the DCNs for Biomedicine, Dentistry, Medicine, Nursing, Nutrition, Occupational Therapy, Pharmacology, Physical Education (baccalaureate), Physiotherapy, Psychology, Speech-Language Pathology and Audiology, and Veterinary Medicine, management is mentioned as an act of administrating and managing “workforce, human resources and information material”, so that graduates are “able to be entrepreneurs, managers, employers or leaders of health teams”.

Some capacities of the management area are mentioned in the DCNs for the exercise of the professions, such as leadership, decision-making, administration and management. However, the lack of articulation in the way they are presented suggest they are more aligned with the Classical Theories of Administration, reproducing an administration model that distinguishes those who plan from those who execute the working processes³⁴.

Thus, we did not find elements that pointed at a shared management with other professionals in the perspective of comprehensive care³⁵. A shared management, constructed in partnership by the team and the user, would enable involvement and sharing in decision-making and in the implementation of objectives and goals, strengthening co-management processes³⁶.

The DCNs for the programs of Biological Sciences, Physical Education (baccalaureate) and Social Work did not present articles with information aligned with this subcategory, particularly in the perspective of collective health work.

Furthermore, it is important to emphasize the inexistence of orientations for healthcare management, particularly in relation to the use of management tools and devices which, articulated with care processes, promote improvements in comprehensive care and in its quality, with safety for patients and professionals.

Therefore, the analysis of this subcategory reveals the challenge, still present, of guiding the education of professionals towards care management by means of clear indications and standpoints referring to the articulation between management and health, in order to include the political, social,

economic, and cultural dimensions of health production and the role of health professionals in this field of activity.

Final Remarks

From the analysis of the subcategories Student evaluation process, Teaching-Learning Process and Curriculum Organization, which form the curriculum axis, we can say that the majority of the DCNs presents elements of the traditional teaching model. Even though some careers provided orientations to overcome hegemonic practices, the innovative changes were not expressed in a clear way in the studied documents.

In the professional profile axis, subdivided in the subcategories Professional Profile, Healthcare, Health Education and Health Management, the DCNs aim to bring a new view to the profile of the health professions. However, the translation of this aim as organizational orientations to the curriculum still needs more specificity.

These findings reflect challenges faced in the construction of national guidelines to orientate curriculum development, considering the area's best practices and taking into account the articulation between education and work, without standardizing or hindering the production of singular projects.

Although the 2001-2004 DCNs represent a significant advance in discussions and orientations towards an education aligned with the challenges of the 21st century, there is still the need of reviews to enable greater specification of the organization of knowledge and practices in an interdisciplinary and interprofessional way.

In this sense, a better conceptualization of the notion of competence must be implemented, as well as the articulation with the evaluation of different components of competent practices. The review of these frameworks tends to qualify the theoretical ground that guides competence-based education and its translation as the organization of curricula that promote an articulated development of capacities mobilized towards the performance of contextualized professional actions based on excellence criteria.

It is expected that, after fourteen years of the publication of the DCNs, educational institutions, society and the players involved in the struggle for educational changes can maintain these guidelines alive and updated. This process must be conducted by means of reviews that preserve the achievements that have been made and succeed in facing the challenges of educating health professionals towards an action targeted at the consolidation of the SUS principles, based on the values of citizenship and social justice.

Authors' individual contribution

Dayane Aparecida Silva Costa (the main author) participated actively in the writing, in the discussion of the results, in the review and in the approval of the article's final version. Roseli Ferreira da Silva (co-author) participated actively in the discussion of the results, in the review and in the approval of the article's final version. Valéria Vernaschi Lima (co-author) participated actively in the discussion of the results, in the review and in the approval of the article's final version. Eliana Claudia de Otero Ribeiro (co-author) participated actively in the discussion of the results, in the review and in the approval of the article's final version.

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