Nurse training in health in different regions in Brazil

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Abstract

Objectives: to identify on the one hand whether there has been any changes in the nurse training in Brazil and on the other if regionalizing health incurred interference in this process.

Methods: an exploratory research of a multiple case study in a qualitative approach developed between November 2015 and March 2017, in seven regions in Brazil. The data were collected by in-depth interviews with 16 administrators of the undergraduate courses in nursing and by documentary analysis of the Projetos Políticos Pedagógicos (Political Pedagogical Projects). Content analysis was undertaken by having the theoretical references of the Diretrizes Curriculares Nacionais (National Curriculum Guidelines).

Results: varied profiles of undergraduates were observed with higher tendency for the basic level in health practice or for hospital level with competencies in health care that is still fragmented and not interdisciplinary. The curricular structure of the courses focuses on isolated disciplines with little or no interdisciplinary integration and the pedagogical model is based on traditional teaching-learning strategies and additional evaluation process. There were no differences in health among the regions.

Conclusions: it is necessary in concomitance with the changes that are required in the field of training to undertake efforts in the development of health units and training institutions, which has already proven to be a factor of professional retention and regional development.

Key words *Education, higher, Nursing, Regional health planning, Unified Health System, Health manpower*

Introduction

The Federal Constitution of Brazil[1] defined that regionalizing is an important strategy to guarantee people the right for health, providing that the Public Health System (SUS) should settle for the actions and services offered by the human resources in health (RHS) as sufficient and a profile in health training depending on the population's necessities.[2]

The approval of the *Diretrizes Curriculares Nacionais* (National Curriculum Guidelines) (DCN)[3] for undergraduate courses in health since 2001, directing the health training process and having a considerable expansion of the courses and vacancies available in higher education were not sufficient to overcome the inequalities offered by the RHS. And from a quantitative point of view observed the regional concentration of trainers[4] and, from a qualitative point of view that health professionals are acquiesced to a process of poor training that does not prepare the professional to act in the perspective of SUS.[5,6]

Considering the expansion of primary care through the Family Health Strategy, if it has to challenge the creation of mechanisms that allow to articulate work and training in order to translate the current demands and to combine the skills and appropriate multidisciplinary competencies as loco-regional realities.

In this scenario, nursing is included as the professional category that mostly grew in the first decade of the 21st century.[7] In Brazil, about 30,000 nurses are trained yearly[8] which have a fundamental and strategic role to strengthen the model in care for SUS. For this reason, the competence training process for these professionals should be strongly connected to the health services and the reality in which they are found in.

Therefore, for almost 30 years since the implementation of SUS and 15 years of the DCN, this study aimed to identify whether on the one hand, there has been any changes in nurse training in Brazil, and on the other, if regionalizing health incurred interference in this process.

In an unprecedented matter by focusing on the RHS training along with regionalizing on the understanding that the changes at first are dependent and at the same time, promote the development of regionalized health units.

Methods

This is an exploratory study of a qualitative multiple cases, developed between November 2015 and March 2017 (part of the *Regulação das Profissões de Saúde* (Regulation of Health Professions) research who investigated seven health professions' training), and the object of the analysis were the undergraduate courses in nursing.

The scenarios of the delimited study were in the regions investigated for the research "*Política, Planejamento e Gestão das Regiões e Redes de Atenção à Saúde no Brasil*" ("Policy, Planning and Management in the regions and the Health Care units in Brazil") (which is coordinated by Faculdade de Medicina da Universidade de São Paulo - FMUSP, the objective is to evaluate the organization, coordination and management processes involved in the conformation of regions and health care units) which are: *Rede Interestadual de Saúde do Vale Médio São Francisco* (PEBA), specifically the macro-regions of Petrolina/PE and Juazeiro/BA; Entorno in Manaus/AM; Baixada Cuiabana (MT); and the Metropolitan Region of Porto Alegre (RS). Besides these, three regions were investigated in Rio de Janeiro State: Norte (North) Fluminense, Metropolitana I and Metropolitana II.

The data were collected by in-depth interviews with administrators in education (Director, Coordinator and Vice-Coordinator). Considering the estimation of five days for data collecting in each region in which the invitation were made by phone calls and/or e-mails, being careful in covering the largest number of courses possible. 54 invitations were made to the coordinators, 16 agreed to participate upon their availability in the period for data collection.

For the interviews based on the *Diretrizes Curriculares Nacionais* (National Curriculum Guidelines) for nursing courses (DCENF), a structured questionnaire with 54 questions relating to the interviewee's profile, the characterization of the course and teaching institution, curriculum structure and the undergraduate's profile. The interviews were recorded, transcribed and carried out for the content analysis with the purpose to produce inferences.

A documentary analysis was also performed in the *Projetos Políticos Pedagógicos* (Political Pedagogical Projects) (PPPs) of the courses including those in the sample, such as the interviewees or those who accessed virtually in the electronic pages of the educational institutions. The documentary analysis and the questionnaire prepared for the interviews were guided by DCENF.

In response to the standards set in the Resolution number 466/2012 of the National Health Council,[9] this study project was submitted and approved by the Ethics Committee in Research at the of the Instituto

de Medicina Social da Universidade do Estado do Rio de Janeiro, documented in 1,248.858.

Results and Discussion

Interviewee's profile

All the 16 interviewees graduated in nursing, among whom, 13 were women. Twelve of them stated to have previous experience in the positions of educational management. As to the age profile, the mean age was 48 years old.

Characterization of the courses

16 courses were included: six private and ten public, among those, eight were Federal Universities. Mostly were located in the Southeast region (62.5%), and the lesser number were in the North and Midwest regions (6.3% each). The concentration panorama of the courses analyzed accompanies the National distribution of the total of health courses and the total of nursing courses.[8] These data are confirmed by a national survey, where the results point to the hegemony of the Southeast Region as a hotbed for training and allocation: the total number of nurses registered in the professional department, about 45% have graduated and work in this region.[10]

All the 16 courses offer 2,110 job opportunity per year, an average of 132 vacancies per course, and the average of completion is 84%, n other words, the total number of vacancies offered, 16% are idle. According to the legal law, the average annual vacancies and completion is 230, 68.8% are private, and 73 and 99.5% are among the public vacancies.

In 63% of the courses analyzed, most of their students come from the same region where the course is located. According to the interviewees, this characteristic is due to the adoption of the *Exame Nacional do Ensino Médio* (National High School Exam) (ENEM) as a form of entering the universities and colleges, especially due to the percentages of vacancies, suggested by a democratization to have access to higher education for the people from the local community.

In relation to the total duration of the course, the average is computed in 4,466 hours in the 16 courses; among the private courses there is an average of 4,086 hours and among the public of 4,693 hours.

Nurses' training in Brazil

It is required by the Ministry of Education (MEC) that all undergraduate courses adopt a PPP built collectively from the *Núcleo Docente Estruturante* (Nucleus of Structured Teaching) (NDE), whose responsibility is to act in the concept, consolidation and continuous process updating this document. In the scope of this research, most of the PPPs were applied/updated in the quadrennium 2013-2016, with an indication of new modifications in the near future given the expectation of launching new DCENF, as it would happen to the field of medicine.[11] The existence of NDE was reported by all the interviewees, although it is not always its responsibility to update the PPPs, an obligation that falls upon some courses, and for the coordinators.

It is in the understanding that knowledge complements one and the other, the collective and dialoged construction of the PPPs are essential for structuring an educational process of quality, which is dependent on a number of factors that interpenetrate, such as professors that allow the organization of the proposed pedagogical work.

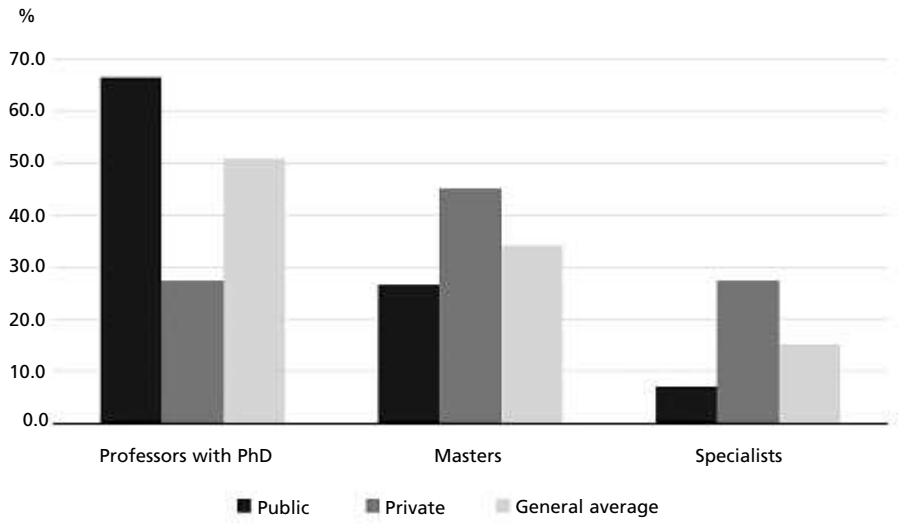
The educational transformation occurred since the 1990s and has significantly altered the working process of the institutions that train professors, the profile and responsibilities of the professor in a high educational course, which involves political, administrative, academic and institutional functions. For this professor it is assigned the responsibility to form competent professionals to meet the needs of the labor market. To do so, the professor should have much knowledge about the contents that forms the course, educational resources and new technologies to share knowledge and promote the development of skills and competencies in their students.[12]

In this context, the formation of the professors becomes relevant to the extent that the professor is part of the whole educational process. The present study identified an average of 41 professors per course; among the public courses, the average was 46 and the private, only 30. The physicians and professors correspond to 85% of the total faculty members. This proportion between public courses is 93%, and the private, 72.7% (Figure 1). Similar data were found in other studies.[13-15]

Besides the prior training, diverse factors may influence the professor's performance and, therefore, the efficiency in forming students with the expected profile as the working conditions that involves salary policy and working hours. While the interviewees indicate public courses with the profile of a statutory professor working full-time, exclusive dedication and the average earnings of R$64.00 an hour. The profile of a professor in a private course is characterized by a plurality of institutional links

Figure 1

Proportion of PhD, Masters and Specialists Professors in Undergraduate Nursing Courses. Brazil, 2015-2016 (n=16).



(CLT) (Brazilian Consolidation of Labor Laws), hourly paid and temporary), with working days ranging from 10 to 40 hours of work, and the average earnings of R$52.50 an hour class. Most of these professors work also as nursing assistance.

Based on the typology of institutional contexts,[16] the characteristics identified in this research suggest to classify the context of public courses in nursing as academics , in which there is a high proportion of full time physicians; and the private as corporate, understood as those who have small proportion of physicians (less than 50%) and professors with full time contract.

The corporate interface of education and the opening of the educational market since the 1990s, the level of demands have dropped for the professor in teaching higher education and consequently the working conditions. This situation is referred by Ferreira[17] as a trivialization of the professor's work in higher education, in which prevails the regime of working part time or by the hour, which contributes to the small participation of the professor working as a colligate and accumulating links with other jobs to complement the salary.

In the academic context, although the scenario shows a more favorable appreciation and development in teaching practices in a more satisfying matter, perhaps the professor could focus on the possibility to concentrate on research activities and in teaching postgraduate courses than the loss of undergraduate courses and extension activities.

> "Extension Activities score less than science [...]. This makes a small number of extension professors. [...] We're pushing the professor to become a mere producer of articles, and not always in a good quality" (Metropolitan Region II/RJ)

This fact was also pointed out by professors in nursing in São Paulo city. According to them, there is a major concern in achieving the institutional goals for scientific production, which has a direct implication in the assessment of post-graduation programs resulting in distancing the activities for the under-graduation course.[15]

The professor's teaching work has great relevance in enabling the PPPs and, therefore, the students' training with an expanded view in health are active and committed to the transformation of the reality. It is the faculty members that allow to put into practice what the PPPs propose, because it is dependent on the use of effective teaching methods for the presentation of the curriculum content that will give support to develop the necessary skills for the nurses, and thus for the undergraduates' profiles. By deducing that, in addition to the working conditions, the curriculum organization should be in favorable to the professor's work.

It was identified that the nursing courses, mostly are organized into two basic cycles,: the faculty from other units of the institution and with content widely linked to Health Sciences; and professional,

developed by nurses in the nursing courses with more specific content based on their profession. Each of the cycles is composed by isolated disciplines, so that the integration and interdisciplinary become obstacles.

It is noteworthy that some PPPs, although present integrated pedagogical guidance and describe the curriculum development through axles/thematic nucleus, but in practice, if it is dismembered in isolated disciplines.

> "The disciplinary transversality is a big challenge due to the theoretical load in the course is very extent. We are trying to do it, but it is still in a very tight matter" (Metropolitan Region I/RJ)

According to the interviewees, among the difficulties that are necessary in achieving an integrated curriculum are the number of professors and the little communication among the different institutional units responsible for the basic and the professionalized cycles.

> "We are not modulated. We are by discipline. We do not have the quantitative number of professors who can encounter this possibility. We have to have a professor from the beginning to the end of the course, who is involved in the process." (PEBA Region)

A study that analyzed the implementation process of the integrated curriculum of a nursing course pointed out that among the factors that facilitated the change of the curriculum, the professors involved in the process and the union among the professors in the basics and the professionalized, enabling the interdisciplinary, the correlation between theory and practice and the integration of the content in order to provide meaningful learning.[18]

This panorama raises difficulties in the implementation and the use of active methodologies. In the analyzed courses have, mostly lectures, based on the professor's protagonism and the process of summative assessment based on regular exams. This situation meets what DCENF proposes, according to which the courses should ensure the use of methodologies that encourage the student to reflect on the social reality.[3] It is true, however, that there is the effort to mobilize new ways to teach and that these have resulted in a positive way in the training process.

> We use lectures, dialoged classes [...]. We observe the innovated professor's profile with a tendency to use active methodologies. Unfortunately, these professors are not the majority. We still see a lot of the traditional teaching. (Entorno Region in Manaus)

The resistance of the faculty to implement active methodologies was reported by most of the interviewees. On this issue, Cunha[19] discusses that during their training, the professors have absorbed conceptions, epistemological and didactic experiences by means of which they organized their cognitive schemes that support their faculty performance. And, in this context, they find difficulties to understand and implement new pedagogical models. Intervene in this process of professional naturalization demands a systematized reflection based on the deconstruction of the experience.[20]

A study identified as common obstacles to apply new methodologies in the influence of the conservative methods that generates the resistance of some professionals to accept other pedagogical concepts; the rigidity of the institutions and health services; and the unknown pedagogical theories.[21]

The lack of time is justified by the professors' excessive functions - which involve lesson planning, monitoring the student in the internship, targets in scientific production and so on, - these were also pointed out by the coordinators from public institutions as limited development on new teaching methods. In the private institutions it was pointed out the lack of institutional incentives and the contract regime which only pays the time spent in the classroom. Similar results were found in a study with professors from a nursing course in the Northeast.[20]

To encounter this reality, how to build collective pedagogical projects and to form different teaching organization using active methodologies since these tasks require time, dedication and institutional affiliation?[6] how to break the fragmented curriculum structure and develop one that is, in fact, interdisciplinary, cross-sectional and able to subsidize the development of skills in the needed competence to encounter with the social reality presented to the nurses in their daily work?

The analyzed PPPs show, in parts, documental and adherent innovations to the DCENF; on the other hand, the managers' speeches demonstrate the institutional fragility that hinders the materialization for which it proposes. Among them are those related to the scenarios used for the development of practical activities.

The data research points out to the inclusion of the student since the beginning of the course in various social and health space which includes hospitals, basic and specialized units, nursing homes and schools. Despite this, the interviewees expressed problems related to the infrastructure of the units, the number of students and professors, the difficulties in the establishment for contracting with local health management to develop activities and the dispute of space on practical fields with private institutions.

The cause concerning the payment of specific preceptors to monitor student by the private institutions, removing from the nurse the responsibility as a preceptor and the establishment of financial agreements with the units to use in the field.

> "There are a lot of competitiveness in terms of internships. [...]. There are fields that we cannot get and we need to seek other places because here there are several training institutions in health." (Metropolitan Region in Porto Alegre)
> "They began to charge to have the student inside. And there are courses for us to pay which is bad because it ends up generating an addiction." (North Fluminense Region/RJ).

This situation emerge two elements that can compromise the whole training process. One for example, students in private courses cannot establish any link with the preceptors, since they are not actually professors and act exclusively in the field, incurring a training even more fragmented and away from the actual theory. The other is the public courses who cannot compete in the financial aspect as with the private ones, and end up losing more and more space in this territory.

Eventually these difficulties begin to decrease the number and qualities of the activities developed by the students and undermine the development of the necessary key-competences of the students' profiles.

When we analyze the students' profile proposed by the PPPs, it seems that the nurses' training depends on the professional's developing skills to get in the field of practice, as it is proposed in the DCENF. However, in their saying, they let it slip that some courses do not surpass the paradigm in hospital training, stating that this scenario, during the course, it is the most privileged field of practice for the nurses.

> "If you look at the curriculum level, the primary health care stands out. If you analyze as a training process level in how each professor works, we would still have a pooling in the hospital." (PEBA).
> "It is well distributed. We have management activities in the primary care. But the primary care is still in advanced." (Metropolitan Region in Porto Alegre)

This perception is confirmed by the analysis of the curriculum matrices which point to the concentration of disciplines focusing on the biological character or the nursing procedural (Table 1).

Although the PPPs show intentionality to develop actions of adherence to the DCN and, thus, the necessities of the national health system, the concreteness of what is exposed is still in the process of development. Therefore, there should be a reflection on the DCENF that proposes em general and mentors that may not perceive the complexity of the nurses' training process, especially when dealing with a country as diverse as Brazil, whose regional realities are unmatched.

> "The DCN are broad. To be valid in the country, the DCN does not work the specificities in each location. So, then it gives a general support, but does not provide subsidies for writing PPP." (Baixada Cuiabana Region)

Although the DCENF underline that the curricula should take in consideration the health specificities in the region in which they are inserted, so that nurses are able to intervene about the more prevalent health problems in the epidemiological profile of the territory where the professionals are working, in this study, it did not observe the important differences between the PPPs and the training process undertaken by the health courses in different regions.

However, it emphasizes that the representatives of courses in health located in the North regions demonstrated greater concern with the characteristics of the region, especially regarding to the indigenous population and territorial difficulties which act as obstacles in the training process.

> "The idea is to work with the health of the Amazonian populations where there are indigenous people. The 45 current hours are

Table 1

Analytical synthesis of the nurses' training process for undergraduate nursing courses according to the axles representative of the *Diretrizes Curriculares Nacionais* (National Curriculum Guidelines). Brazil, 2015-2016 (n=16).

Axles	Curriculum Guidelines	Analytical Synthesis of all the courses
Student's Profile	General practitioner, humanist, critical and reflective, able to act in all health care levels	Diverse profile, determined by the curriculum organization, the faculty's profile and location with greater tendency for health practices in the basic or hospital level, focused on the individual
Competence/ skills	Health care; decision making; communication; leadership; administration and management; continuing education; and competence in techno-scientific, ethical and political-educational	Competence in fragmented health care, with deficiencies in the interdisciplinary, team work and research development
Qualifications and emphases	The training shall meet the health care system and the social needs in health, ensuring integrity in care	Diverse emphases among the courses, tending or for the tertiary level or for the basic level in care
Curriculum Content	Biological Bases and Social Aspects in Nursing; Human Sciences; Science of Nursing	Concentration of contents of biological bases and science in nursing with low perfusion by the content of human and social sciences
Organization of the course	Articulated among teaching, researching and extension; theoretical and practical activities, permeating the whole training in an integrated and interdisciplinary matter; implementation of pedagogical strategies that stimulate students to reflect on social reality	Curricular organization, focused on isolated disciplines, with little or no interdisciplinary integration with health; early inclusion of the student in the health scenarios; Teaching-learning strategies mostly traditional teaching, with little stimulus for the student's cognitive and autonomy; and summative evaluation processes, but mixed due to the instruments used: tests associated to practical evaluation by competence/skills

too little to include this diversity. [...] We're preparing a review of this. And the difficulty at the moment is not the training because we have experienced professors in the area. The problem is the logistic access for these students." (Entorno Region in Manaus)

"In a few moments, the current curriculum has a regional vision. Some disciplines recover the epidemiological character of the State, but unfortunately it is still missing a great deal. The indigenous people come to the health units, to the hospital, but we do not need to go to the territories to attend them. Then, there is much lack in this sense." (Baixada Cuiabana Region)

In general other courses stated that the emphases on the regional specifications are restricted to the approach of the epidemiological aspects of the endemic diseases. In addition, most interviewees stated that the loco-regional characteristics, especially when referring to labor market, have a weight in the direction the course is being taken.

"The coverage on primary care in the region is very low. [...]. The (labor) market is aiming for the hospital. So, you have to appreciate the environment of the hospital." (North Fluminense Region/RJ)

"The direction the course is taking and, consequently, the student's profile ends up being determined by several factors. [...] It all depends on the policy to insert them in the practice field. [...] Speaking of a scenario of

> teaching and learning for Primary Care is wonderful, but at the moment to look for a job, the scenario is different." (Metropolitan Region I/RJ)

Brazil assumed the Primary care as a preferential contact for the users, constituting as the main entrance and coordinator in *Redes de Atenção à Saúde* regionais (RAS) (Regional Health Care Units). Thus, a low coverage context in this assistance level implies the inefficiency in the health system.[22]

In this understanding, the nurses' training in the perspective of the model of care directed by the Primary Care demands to encounter the legacy of policies and the vertical training process and overcome the imposition of the service providers' agenda.[23]

That is why there are many regional disparities in the social, political and economical order in Brazil, and this ends up hindering the direction the courses are taking since, on the one hand, this should meet the expectations of national training and, on the other, it should focus on local problems that not always reflect on the demands of public policies.

This requires a high working hours, both theoretical and practical, which this represents a discrepancy among the courses. Among the private courses, many of them have classes at night, have a total of 4,000 course hours minimum established by the *Conselho Nacional de Educação* (National Council of Education) of which 20% are taught in a virtual environment. Besides that, many activities such as practices occur in the laboratories, without any interaction with the territory and users. Among the public courses, there are courses with almost 6,000 course hours that still show insufficient to meet the national guidelines and the necessities in the loco-regional in search of training a general nurse.

In addition, it appears that the DCENF presented important gaps in the definition of the course hours, in specific content to be approached during the training, what may or may not be considered a practical activity /internship. It expresses the need for greater intervention of the State regarding the opening of courses without a prior assessment of the location needs and the institutional capacity to take in consideration the complexity in training professionals.

Thinking of a general practitioner's profile, apt to provide assistance in all levels, act in management, research and education, requires minimum conditions of a local structure that supports multiple scenarios for the internship. In this perspective, a regional training based on epidemiological issues does not mean that there will be allocating adequate professional at the regional location. Or, in another way, a national general practitioner training may not take an account of the regional necessities.

In a permissive professional migration scenario, to think in a general practitioner training shows to be adequate. However, it opens the foregoing perpetuation of a massive concentration of courses in urban centers,[4,24] while the population demands access to health in the countryside and the remote areas.[25]

To affirm a proposal of health training in the understanding by SUS means developing a learning process that considers the 'regional of contents' and that it materializes as a priority in the daily services.[26] Thus, regardless of the undergraduate's profile, it is essential to develop health units and teaching institutions in accordance with the changes that are required in the training field, in order to promote the professional retention at the training location.

There are indications that the university acts as a vector in the regional modeling of the health services[27] and, in a more broadly matter, in the local economic and social development which only occurs from the initial investments.

> "Our university has a mission to develop scientific knowledge in the perspective of the diversity of the region. Science that is developed here is unique. We contribute for the development of the Amazon through teaching, researching, extension, and the citizens' training." (Entorno Region in Manaus)

The professionals' training do not need to constitute a starting point for the change of the assistance model - which it already deals with the interdependent elements that operate changes on one and the other - but it may assume a protagonist role in the constitution and the consolidation of regions and health units. For this reason, it becomes essential to call off the concentration of teaching institutions and the investments in urban centers, and to promote the development of public, regional and integrated policies in order to promote the organization of regional health systems based on the principles of SUS.[28]

It is necessary to look at the needs that arise everyday and, from there, draw up curriculums and propose internships to be completed in several

regional areas, in a logic training based on the health care system, promoting the future professional the understanding of the necessity of regional integration.[27]

Conclusion

The SUS institution caused important changes in health care and, consequently, for the professionals who work in this system requiring compatible training focusing on the proposals in health care, among these, the strengthening of Primary Health Care and the regionalization process.

This study showed that the PPPs in nursing courses are, in part, innovators and adherent to the DCN and, therefore, the needs of SUS; on the other hand, the interviewees' statements demonstrate weaknesses that hinder the materialization than what is documental proposed.

The students' profiles were verified to have skills for a fragmented assistance in health and not in an interdisciplinary, sustained by a centered curriculum structure in isolated disciplines and in teaching-learning strategies, mostly traditional teaching.

Encountering a new conception of teaching, it becomes crucial to rely on resources with quantity and quality, necessary to develop from a proposal that aims to call off with the historical model of training. Innovated training experiences reaffirm that it is possible to overcome the traditional curriculum.

Changes in the curriculum requires more than desire and willing from the professors. It requires institutional support, structuring and provision of support services and sufficient RHS. Thus, whatever the student's profile is, it is fundamental in concomitance with the changes that are required in the training field to undertake efforts in the development of health units and training institutions, which has already been proving professional retention factor and regional development.

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