

# Health teaching as an object of research in academic graduate programs:

an analysis of the Pro-Ensino na Saúde\*

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This study aimed to understand the inductive potential of the Pro-Saude Program as an education policy for academic graduate programs and for the development of research on Health teaching, using data from 31 projects and interviews with 17 coordinators. We identified the participation of 59 graduate programs, the realization of 395 research studies and the education of 423 professionals in 24 of the 31 projects. The investment in this program strengthened a qualified education process and the development of research in Health teaching, in the expectation of changes in the daily routine of the academia and the health service. Pró-Ensino na Saúde is recognized as an inductive policy, fostering collaborative networks and knowledge production, but it still faces the challenge of establishing itself as an effective constituent of a public policy of Health education and work.

**Keywords:** Higher education. Graduate teaching. Health. Research. Inductive policy.

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## Introduction

Teaching in the area of health is understood as a process that demands pedagogical actions to the education of health professionals, and encompasses epistemological, curricular, methodological and contextual bases<sup>1,2</sup>. This process has an interdisciplinary nature whose object is the “organization of a system of relations in the dimensions of knowledge, skills, and attitudes, in such a way that the teaching-learning process is maximally favored”<sup>3</sup> (p. 31).

In the last decade, health education and teaching played outstanding roles in the context of education and health policies in Brazil, aiming to ensure qualified training to health professionals and, consequently, an efficient and high-quality healthcare, enabled by investments in the teaching-service-community integration.

In this context of integration, health teaching has deserved special attention by the national health policy, which has conducted initiatives that induce changes in health education. In the undergraduate sphere, the highlights are PROMED (Incentive Program to Curricular Changes in Medical Schools) in 2001-2002, Aprender SUS in 2004, Pró-Saúde (National Reorientation Program in Professional Health Education) in 2005, and, in 2008, PET-Saúde (Education through Work Program for the Health Area), the latter two in more than one edition and version.

In the postgraduate sphere, we have the regulation and expansion of the Multiprofessional Residency in the area of Health, Pró-Residências and Pró-Ensino na Saúde (National Program for Teacher Development in the Area of Health) (Frame 1).

**Frame 1.** Inductive Policies according to their focus, objective and regulation

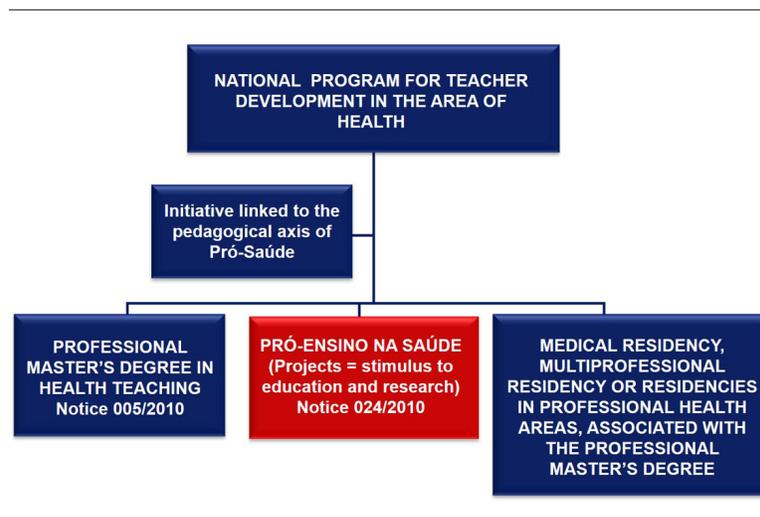
Inductive policy	Focus	Objective	Regulation
Incentive Program to Curricular Changes in Medical Schools (PROMED)	Undergraduate programs in medicine	The main objective is to stimulate Brazil's medical schools to adapt their curricula, knowledge production and permanent education programs to the social and health reality of the Brazilian population, thus contributing to the consolidation of the National Healthcare System (SUS).	Inter-ministerial Directive no. 610, Ministry of Health/Ministry of Education, 2001
Ver-SUS	Undergraduate programs	The project aims to provide knowledge about and recognize the management of the system, care strategies, the exercise of social control and health education processes, thus contributing to the qualification of students' education process and favoring workers' reflection on their practices and actions. Ver SUS enables university students to have a rich interaction and to discover common potentialities, creating new perceptions of their education and performing multiprofessional and multidisciplinary work.	Strategic project of the Ministry of Health in partnership with Rede Unida, ongoing since 2002, that focuses on the education of workers to the SUS.
National Program of Reorientation of Professional Health Education (Pró-Saúde)	Undergraduate programs	The program's objective is teaching-service integration, aiming at the reorientation of professional education, ensuring a comprehensive approach to the health-disease process with emphasis on Primary Care, and promoting transformations in the provision of services to the population.	Inter-ministerial Directive no. 2101, Ministry of Health/Ministry of Education, of November 3, 2005 (Medicine, Nursing and Dentistry Programs)  Inter-ministerial Directive no. 3019, Ministry of Health/Ministry of Education, of November 27, 2007 (All the Programs of the Area of Health)

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Frame 1. continuation

Inductive policy	Focus	Objective	Regulation
Program of Education through Work for the Area of Health (PET-Saúde)	Undergraduate programs	Its presupposition is education through work and it is characterized as an instrument for the in-service qualification of health professionals and for initiation in the world of labor. It is targeted at undergraduate and graduate students in the area of health, based on the needs of the SUS, including the services' needs as a source of production of knowledge and research in teaching institutions.	Inter-ministerial Directive no. 421, Ministry of Health/Ministry of Education, of March 3, 2010
Multiprofessional Residency and Residency by Professional Area in Health	Graduate programs	It aims to articulate teaching, service and community to favor the qualified inclusion of health professionals in Brazil's National Healthcare System (SUS). Managers, workers and users define, by mutual agreement, the priority regions of the country for the strategic action of health professionals, based on the identified local and regional needs and realities.	Law no. 11129 of 2005
Pró Residência Médica	Graduate programs	The objective is to support the education of specialists in priority regions and areas to Brazil's National Healthcare System (SUS).	National Program of Support to the Education of Specialist Physicians in Strategic Areas (Pró-Residência Médica), 2009.
National Program for Teacher Development in the Area of Health (Pró Ensino)	Academic graduate programs	The objective is to support teacher education in academic graduate programs in the area of Health Teaching.	Strategic Project of the Ministry of Health/Ministry of Education - CAPES

Pró-Ensino na Saúde is a set of strategies that aim at strengthening teacher education and knowledge production in the area of health teaching. The strategies are: the professional Master's degree in health teaching, Notice no. 24/2010, and the Notice that allowed medical and multiprofessional health residency programs to submit projects of courses offering two degrees - residency and professional Master's degree (Figure 1).

Figure 1. Organizational Chart of *Pró-Ensino na Saúde*

This study aimed to understand the inductive potential of the program Pró-Ensino na Saúde, specially its component developed by means of CAPES Notice no. 24/2010, in the perspective of an education policy for academic graduate programs and for the development of research about health teaching. The study covered the period from 2011 to 2016 and characterized the 31 approved projects and the conceptions of the projects' coordinators about their potentialities and challenges.

## Method

The study used mixed methods by means of an integration between the quantitative and qualitative approaches. It utilized the model of methodological integration of the dialogic type, and it was constructed in the perspective of data triangulation. We sought convergence, comprehensiveness and reflexivity in the analysis of the collected data, based on the theoretical framework and, subsequently, on documental analysis, interviews and content analysis<sup>4</sup>.

The study had a national scope and investigated the development of 31 projects approved in Notice no. 24 - Pró-Ensino na Saúde, of the Ministry of Health/CAPES (Coordination for the Improvement of Higher Education Personnel) (Frame 2).

**Frame 2.** Projects approved in Notice no. 024/2010 – Ministry of Health/CAPES.

TITLE	INSTITUTION	ACRONYM
Higher education training in health professions	Universidade de São Paulo	USP
Evaluation of students and teaching environment in health courses	Universidade de São Paulo	USP
Education policies in physical education and collective health: Physical activity/body practices in the SUS	Universidade Federal do Rio Grande do Sul	UFRGS
Innovation in university teaching: An educational proposal for the transformation of the teaching and learning process of the health courses of Universidade Federal de Viçosa	Universidade Federal de Viçosa	UFV
Pedagogical organization of teachers' work in the area of health	Faculdade de Medicina de São José do Rio Preto	FAMERP
Development of general and specific competencies in various teaching and learning scenarios of medicine, dentistry and nursing students: Current situation of curricula, implementation and evaluation of active methodologies	Universidade Federal do Ceará	UFC
Teaching, health and development: A network of knowledge and practices	Faculdades Pequeno Príncipe	FPP
Inclusion of distance technologies combined with face-to-face technologies in health teaching	Universidade Federal do Rio Grande do Sul	UFRGS
Interactive educational technologies for the potentialization of health education	Universidade de São Paulo	USP
Education for university teaching in the area of clinical research in infectious diseases	Fundação Oswaldo Cruz	FIOCRUZ
Human resources education project in the master's and doctoral level in health professionals' education with emphasis on health teaching to the SUS	Universidade Federal de Mato Grosso	UFMT
Teacher education in the SUS context: Policies, actions and knowledge construction	Universidade de São Paulo	USP
Teaching in the area of health	Pontifícia Universidade Católica do Rio Grande do Sul	PUCRS
Study of health professionals' education in the context of curricular innovations, of teachers' pedagogical qualification and of teaching-service integration in the SUS network	Universidade Federal do Rio de Janeiro	UFRJ
Implementation of the Teaching and Research Nucleus in Health Education (NEPES) of Faculdade de Medicina do ABC (FMABC)	Faculdade de Medicina do ABC	FMABC
Health teaching: Paths to overcome challenges in professional education to the SUS	Universidade Federal de Santa Catarina	UFSC
Health teaching evaluation: Educating multipliers for quality actions	Universidade de Campinas	UNICAMP

it continues

Frame 2. continuation

TITLE	INSTITUTION	ACRONYM
Education and health: Epistemological and methodological bases of the education of professionals to the National Healthcare System	Universidade Federal do Piauí	UFPI
Strengthening of health teaching in the SUS context: An interdisciplinary proposal of Universidade de Brasília in the Central-West Region	Universidade de Brasília	UnB
Project for the creation of the research line in health teaching of the Graduate Program in Health Sciences of UFG	Universidade Federal de Goiás	UFG
Health teaching: An integrative proposal for the National Healthcare System	Universidade Federal de Ciências da Saúde de Porto Alegre	UFCSPA
Integration between university, health services and community in the School of Medicine of Botucatu – UNESP: Building new education and research practices	Universidade Estadual Paulista	UNESP
Project for the development of a research line and health teaching support in the professional master's degree in collective health of the School of Medical Sciences of Santa Casa de São Paulo	Faculdade de Ciências Médicas da Santa Casa de São Paulo	FCMSCSP
Integration between university and health policy: Inter-sectoriality and health teaching	Pontifícia Universidade Católica do Rio Grande do Sul	PUCRS
Integrated education: Assistance, teaching and innovation in laboratory medicine and health	Universidade do Estado do Rio de Janeiro	UERJ
Education and health in the promotion of children's and adolescents' health: An interdisciplinary context	Universidade Federal de Pernambuco	UFPE
A study of the relation between the rational use of complementary propedeutics and the practice of the person-centered clinical method	Universidade Federal de Minas Gerais	UFMG
Laboratory for the research, teaching and management of knowledge, education and work in the area of health	Universidade Federal do Ceará	UFC
Evaluation of the biological potential of propolis extracts from the region of Brejo Grande/SE for application to the National Healthcare System	Universidade de Caxias do Sul	UCS
Professional education for comprehensive care: Articulating education, evaluation and integration with the SUS	Universidade Federal de São Paulo	UNIFESP
Pró-Ensino na Saúde EEUSP/UEMS – Teacher education for health teaching and healthcare	Universidade de São Paulo	USP

Data production occurred through the documental analysis of the 31 projects and through semi-structured interviews conducted with 17 coordinators who were contacted and participated in this stage of the study.

The documental analysis of the projects was started in November 2012 and concluded in November 2015. It enabled to collect information that expressed trends in human resources education and research in the area of health teaching in the level of academic graduate programs, in view of the theoretical framework of the national policy for health professionals' education.

The projects were systematically read to identify relevant information for their characterization. In the second stage, in order to further characterize the studied dimensions, we decided to conduct semi-structured interviews. Our intention, with the interviews, was to highlight the coordinators' personal dimensions and perceptions about the Program, their conceptions and motivations towards the project, and to characterize critical nodes and potentialities of the objectives, both immediate and/or proposed in the long run, in relation to academic graduate education and research production in the area.

The following criteria were adopted to select coordinators: the geographical region where the projects were carried out and coordinators' adherence (Frame 3).

**Frame 3.** Regional distribution of the interviews conducted with the coordinators of Pró-Ensino na Saúde Projects.

REGIONS	PROJECTS	INTERVIEWS
SOUTHEAST	17	12
SOUTH	8	2
NORTHEAST	4	2
CENTRAL-WEST	2	1
TOTAL	31	17

Source: Coordinators of Pró-Ensino na Saúde Projects.

After the seventeen [17] project coordinators signed the consent document, the interviews were scheduled according to the availability of the parties. They were conducted face-to-face [13] and by Skype [4], from October 2015 to April 2016. The interviews were recorded and subsequently transcribed by the researcher.

The script of the interviews was prepared considering qualitative indicators (motivation, challenges, critical nodes, difficulties, perspectives and strengths) and the most significant findings of the documental analysis. This enabled to contextualize the emerging issues captured in the documents with the coordinators' perceptions.

The interviews and the documental analysis configured a field that we explored with tools from content analysis - thematic type. We identified units of context and register, as well as thematic nuclei present in the documents and in expressions captured in the interviews<sup>4,5</sup>.

The study was approved by the Research Ethics Committee under record no. 492,974 of 12/13/2013.

## Results and discussion

The results and discussion will be presented in two topics. The first deals with the characterization of the projects based on the documents and on the coordinators' voices. Potentialities for education, research and as an inductive policy were approached in the second topic.

### Characterization of the projects: documents and coordinators' voices

The documental analysis of the 31 projects, followed by the interpretative analysis of the findings, allowed to identify eight themes related to the main characteristics of the Pró-Ensino na Saúde projects developed in Brazil: regional situation, institutional motivation and participation, adherence of Graduate Programs, aggregation to the Evaluation Areas of CAPES, thematic area, participant team, and educational proposal.

The projects were developed in four of the five geographical regions of Brazil. The South and Southeast regions concentrated 80.7% of the projects, and more than half are located in the Southeast (50.4%/16). The Central-West region approved the smallest number of projects (6.4%/2) and no records were found about the North region.

Despite the direct absence of the North region in relation to the projects, it participated by means of partnerships established with three higher education institutions: the Federal University of Santa Catarina (UFSC), with a graduate program in the state of Pará, the Medical School of the University of São Paulo (FM/USP), with research groups in Macapá (state of Amapá), and the Federal University of São Paulo (UNIFESP), with a Research Nucleus in Pará. Figure 2 indicates that regional asymmetries and inequalities were present in Pró-Ensino na Saúde.

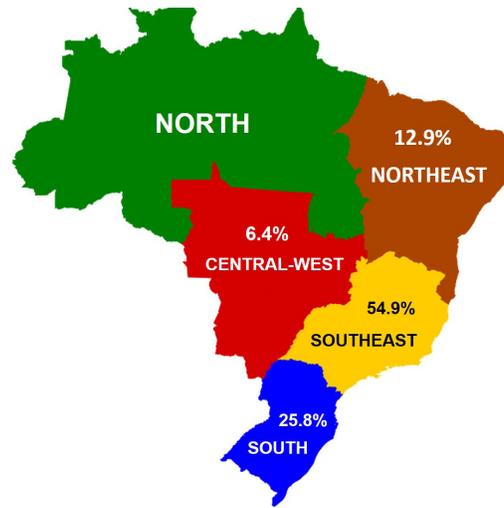


Figure 2. Geographical distribution of Pró-Ensino na Saúde projects in 2010.

Source: Pró-Ensino na Saúde Projects, 2010.

Regional asymmetries and inequalities are important governmental concerns that have been discussed and fought by means of strategic actions present in different political agendas. One example is the current National Plan for Graduate Programs (PNPG / 2011 - 20), whose guidelines contain the fight against asymmetries in the context of the Brazilian mesoregions. The identification of asymmetries is part of the evaluations of the National System of Graduate Programs.

These policies deserve special attention within the healthcare system, as they strengthen the need to correct the regional inequalities that influence the establishment of some demands, such as number of professionals for the area of health and reductions in inequalities of access to health services and actions. In addition, they interfere in the opening of seats and in the creation of jobs<sup>6</sup>.

Pró-Ensino na Saúde accepted the submission of proposals for interinstitutional projects. A total of 32 higher education institutions participated, of which five participated in more than one project (USP - 6 projects, UFSC - 3 projects, UFRGS, PUCRS and UFC - 2 projects each), in some of them as the main institution and in others as co-institutions.

We noticed that public higher education institutions predominated, both among leading institutions (27 out of 31) and among participant institutions (eight out of 11). Among the leading institutions, seven established a partnership with other institutions, of which five were carried out with projects from the South region (Frame 4).

Institutional interest was considered significant. It can be related to the society's increasing demand for higher levels of schooling/qualification, and also to governmental incentives, like funding and scholarships.

We believe that the participation of 32 higher education institutions and of the researchers who answered the public call corroborated the presuppositions contained in the Pró-Ensino na Saúde Notice and, thus, provided a foundation to the possible creation of this scientific area or sub-area<sup>7,8</sup>. The participation of educational institutions in Pró-Ensino na Saúde certainly contributed to the education of professionals who experience high-quality teaching-learning processes.

We found that 59 Graduate Programs participated in Pró-Ensino na Saúde. The majority of the projects established a link with only one Graduate Program; however, one of the projects (UFRJ) was linked to six programs.

**Frame 4.** Participation of public and/or private higher education institutions according to the link with Pró-Ensino na Saúde Projects, 2010.

LEADING HIGHER EDUCATION INSTITUTION		PARTICIPANT HIGHER EDUCATION INSTITUTION		ACADEMIC UNITS
PUBLIC	PRIVATE	PUBLIC	PRIVATE	
FMRP/USP				School of Medicine of Ribeirão Preto
FM/USP1			Faculdade Evangélica do Paraná	School of Medicine Faculdade Evangélica do Paraná
FM/USP2				School of Medicine School of Dentistry
EERP/USP				School of Nursing of Ribeirão Preto
EE/USP				School of Nursing
UNIFESP				Interdisciplinary Graduate Program in Health Sciences Graduate Program in Nursing Graduate Program in Health Sciences Teaching
UNESP				School of Medicine of Botucatu
UNICAMP				School of Medical Sciences
FAMERP				Undergraduate Program in Nursing
FMSCMSP				Social Medicine Department
FMABC				All the programs of Faculdade de Medicina do ABC
UFRJ				School of Medicine / Graduate Program in Medical Clinic, and in Radiology Anna Neri School of Nursing / Graduate Program in Nursing Institute for Collective Health Studies / Graduate Program in Collective Health Psychiatry Institute / Graduate Program in Psychiatry Nucleus of Educational Technology for Health / Graduate Program in Sciences and Health Education
UERJ				Instituto de Biologia Roberto Alcântara Gomes Policlínica Piquet Carneiro School of Medical Sciences Graduate Program in Human and Experimental Biology
FIOCRUZ				Instituto de Pesquisa Clínica Evandro Chagas - IPEC
UFMG				Complementary Propedeutics Department/School of Medicine
UnB				Psychology Institute / Faculdade de Ceilândia
UFV				Office of the Vice-Provost for Teaching Nutrition and Health Department Medicine and Nursing Department
UFRGS <sup>1</sup>		USP UFES		School of Physical Education - UFRGS School of Physical Education and Sports - USP Center for Physical Education and Sports - UFES
UFRGS <sup>2</sup>		UFPR UFSC		Graduate Program in Pharmaceutical Sciences of the Pharmacology School of UFRGS Graduate Program in Pharmacology of UFSC Graduate Program in Pharmaceutical Sciences of UFPR
	PUCRS <sup>1</sup>			Graduate Program in Medicine and Health Sciences and S. of Medicine
	PUCRS <sup>2</sup>			Graduate Program in Social Work of PUCRS Graduate Program in Psychology of PUCRS
UFCSPA				Graduate Program in Health Sciences Departments: 1. Health Education and Information / 2. Collective Health / 3. Nursing / 4. Physiotherapy
	UCS	UFPEL		Graduate Program in Biotechnology

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Frame 4. continuation

LEADING HIGHER EDUCATION INSTITUTION		PARTICIPANT HIGHER EDUCATION INSTITUTION		ACADEMIC UNITS
PUBLIC	PRIVATE	PUBLIC	PRIVATE	
UFSC		UFPA	Universidade Comunitária Regional de Chapecó	UFSC: Graduate Program in Nursing / Graduate Program in Dentistry / Graduate Program in Public Health / Pediatrics Department UFPA: School of Nursing / Graduate Program in Dentistry / Graduate Program in Education UNOCHAPECÓ: Undergraduate Program in Nursing and Master's Degree in Social Policies and Regional Dynamics
	FPP	UEL UFSC		Center for Health Sciences / Univ. Estadual de Londrina Center for Health Sciences / Univ. Federal de Santa Catarina Faculdades Pequeno Príncipe do Complexo Pequeno Príncipe
UFC <sup>1</sup>				School of Medicine - Graduate Program in Medical Sciences; School of Pharmacology, Dentistry and Nursing - Graduate Program in Dentistry and Graduate Program in Nursing ;
UFC <sup>2</sup>			Escola de Formação em Saúde da Família Visconde de Sabóia	Community Health Department of the School of Medicine of Fortaleza and School of Medicine of Sobral
UFPI				Center for Human Sciences and Languages
UFPE				Graduate Program in Children's and Adolescent's Health
UFG				School of Medicine of UFG
UFMT				Nursing Programs: Sinop; CUR; Araguaia Campus; and Unemat - Cáceres Campus. UFMT: Collective Health Institute / School of Nutrition Hospital Universitário Julio Muller – Nursing Board of Directors
27	04	08	03	
31			11	

Source: Pró-Ensino na Saúde projects, 2010.

It is possible to infer that these academic units had a significant participation in Pró-Ensino na Saúde. It is important to consider, in this analysis, that health teaching is an area of knowledge that is still being consolidated. This hinders the definition of indicators in the evaluation processes of CAPES, which may have an impact on Graduate Programs. Pedrosa and Lustosa<sup>2</sup> argue that this situation can negatively influence or discourage graduate programs and researchers from studying issues related to the theme, as some academic pleas are linked to individual academic productivity or that of groups which are already consolidated.

The academic graduate programs' higher interest in participating and offering seats and disciplines was associated with the existence of professionals who were seeking qualification in the area of health teaching and did not have, up to that time, graduate programs or research lines associated with the theme. Studies<sup>9,10</sup> have shown that there is a significant gap in the education of qualified human resources to work in undergraduate and graduate programs in the area of health and related areas.

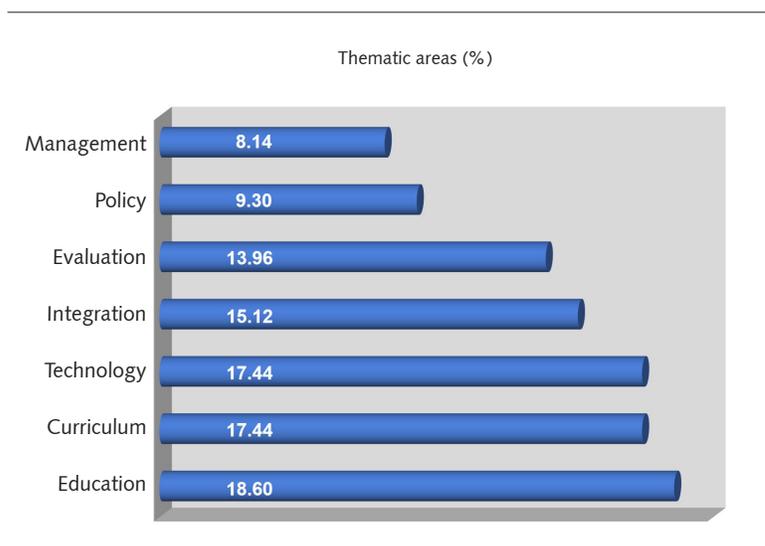
Concerning the aggregation level of the evaluation areas established by CAPES, 15 areas of knowledge, out of the 48 classified by CAPES, were registered in the scope of the graduate programs

participating in Pró-Ensino na Saúde. The areas were: Life Sciences (Health and Biological); Exact, Technological and Multidisciplinary Sciences (Multidisciplinary); and Humanities (Human, Social and Applied). Of the Large Areas, the most prevalent was the Health Sciences (76.3%), within which the highlights were the following areas of knowledge: medicine (23.73%) and nursing (16.95%). The areas of education (5.08%), teaching and interdisciplinary (1.7% each) had a low representativeness among the participant graduate programs.

It is possible to infer that this diversity results from the fact that there was not a specific area for health teaching in 2010, when Pró-Ensino na Saúde was launched. The evaluation area called "Teaching" was created in CAPES in the following year, incorporating all the Graduate Programs of the former Teaching Area of Sciences and Mathematics<sup>11</sup>. Pró-Ensino na Saúde prioritized seven thematic areas within the large diversity of themes pertaining to health teaching, namely:

- 1) Health teaching management
- 2) Curriculum and teaching-learning process in health education
- 3) Health teaching evaluation
- 4) Teacher education and development in health
- 5) Integration between universities and health services
- 6) Health and education integration policies
- 7) Face-to-face and distance technologies in health teaching

The projects revealed a greater interest in the thematic areas: "Teacher education and development in health" (18.6% / 16 projects), "Curriculum and teaching-learning process in undergraduate and graduate health programs" and "Face-to-face and distance technologies in health teaching" (17.44% / 15 projects each). The areas that generated the least interest were "Health teaching management" (8.14%) and "Health and education integration policies" (9.3%), approached by seven and eight projects, respectively (Figure 3).



**Figure 3.** Thematic areas prioritized by the Pró-Ensino na Saúde projects, 2010.

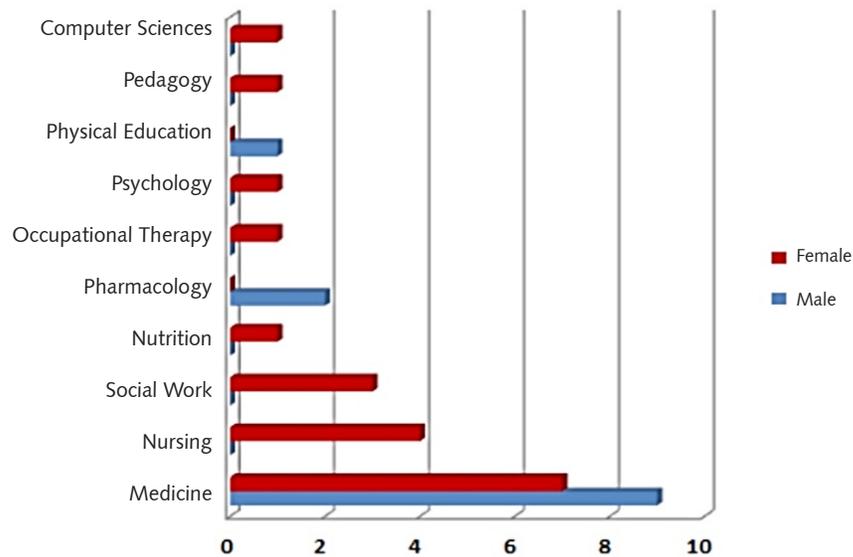
Source: Pró-Ensino na Saúde Projects, 2010

The coordinators' views emphasized the understanding that education, curriculum and technology are structural areas in the teaching-learning process and influence the educational process, both in terms of teaching and in terms of service. The interest in the thematic area "Health teaching evaluation" was associated with knowledge and aptitude exams developed on an annual basis with students in the last year of the program, particularly medicine students, by governmental entities and associations.

The thematic area "health teaching evaluation" was the one that received the largest interest in projects from the Southeast and Central-West regions. In the South region, the highlight was the area "teacher education and development in health". The fact that the areas "health teaching evaluation" and "teacher education and development in health" were not approached by any project in the Northeast region caught our attention. In this region, the thematic area "integration policies among health, education, science and technology" was the one that received the highest interest.

In the coordinators' perspective, the importance given to the thematic area "integration policies among health, education, science and technology" in the Northeast region is related to the social, economic and political context of the region, which, traditionally, has been largely interested in health services and in programs and initiatives that induce social transformation, such as the Family Health Strategy, Pró-Saúde, PET-Saúde, among others.

In relation to the academic background of the coordinators of the projects, we found that the position of teachers-researchers predominates (64.29%). As for their profession, eight professions of the area of health and two of related areas were represented. Medicine was predominant in both genders (Figure 4).



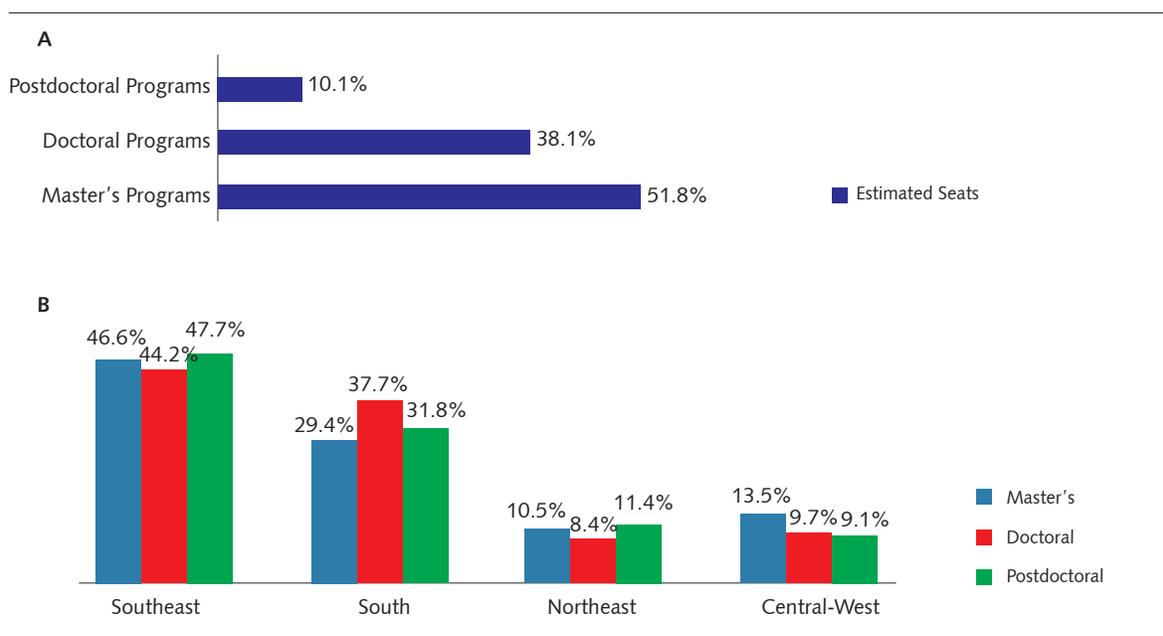
**Figure 4.** Profession of the coordinators of Pró-Ensino na Saúde projects according to gender, 2010.

Source: Pró-Ensino na Saúde Projects, 2010

A study conducted about professional Master's degrees has described the profile of fifty teachers from seven programs. The results of this study were similar to our findings, both regarding the female gender and the fact that medicine predominates among the education areas, not to mention the participation of a great variety of health professions and related areas. The authors of this study argue

that the inclusion of other professionals apart from those of the area of health is a trend that has been observed as a way of stimulating interdisciplinarity in programs, enriching knowledge production in the perspective of different and complementary types of knowledge<sup>12</sup>.

The Pró-Ensino na Saúde projects promoted the offer of seats in the three education levels (Master's, doctorate and post-doctoral stage). We estimated the education of 436 professionals in health areas and related ones, distributed as follows: seats in the Master's level (226 / 51.8%), six of which were specified as professional Master's degrees, seats in doctoral programs (166 / 38.1%), and 44 (10.1%) seats in the post-doctoral stage. The Southeast (45.9%) and South (32.6%) regions offered the highest number of seats (Figure 5).



**Figure 5.** Estimated seats in academic graduate programs offered in Pró-Ensino na Saúde projects by geographical region, 2010.

Source: Pró-Ensino na Saúde Projects, 2010.

The results of this study indicate the strength of Pró-Ensino na Saúde in the perspective of a qualified education in the graduate level (academic programs). Oliveira<sup>7</sup> highlights the importance of this datum by stating that health teaching qualification does not meet the demands, and it is high time we instituted actions to change this reality, as both the professionals who work in the services and the teachers who teach in undergraduate programs have difficulties in playing their roles as educators and need specific pedagogical training.

### Potentialities for education, research and as an inductive policy in Pró-Ensino na Saúde

The analysis of the documents and of the interviewees' voices enabled to characterize the potentialities of Pró-Ensino na Saúde according to three themes: education, research and as an inductive policy.

In the context of education in *Pró-Ensino na Saúde*, two categories emerge from the coordinators' discourses: responses to the demand for education and educational paths.

The category responses to the demand for education encompasses, in its first dimension, the effective fulfilment of one of the objectives of the *Pró-Ensino na Saúde* Notice: "the education of masters, PhDs and the formation of post-doctoral stages in the area of Health Teaching".

The program's educational potential could be evaluated by comparing the quantitative data at two different moments: (1<sup>st</sup>) information contained in the *Pró-Ensino na Saúde* projects in 2010; and (2<sup>nd</sup>) information provided by 24 of the 31 coordinators about the number of graduate professionals or professionals in the stage of completion of their research in 2016<sup>(e)</sup>.

<sup>(e)</sup> To capture this datum, the coordinators were contacted repeatedly until June 2016 for us to obtain the totality of information. The data that arrived until August 4, 2016 were included in the present study.

The *Pró-Ensino na Saúde* Notice stimulated the graduation of, at least, six Masters and two PhDs in each project; thus, we estimated the graduation of, at least, 248 professionals: 186 Masters and 62 PhDs<sup>13,14</sup>. Data related to 24 projects showed that the number of graduate professionals estimated in the Notice was exceeded (248 to the 31 projects / 399 to 24 projects) – it is important to note that these data refer only to Master's and doctoral degrees.

The results showed that *Pró-Ensino na Saúde*, in the context of academic graduate programs, materialized a dimension of responses to education demands. The increase in the offer of academic graduate programs related to health teaching, together with the professionals' growing interest in them, indicates the need for new investments to meet this demand, as well as forms to articulate and stimulate the development of different modalities of permanent, professional and/or academic education<sup>15</sup>.

The establishment of an academic graduate education network including different levels of qualification and degrees in the area of health teaching plays a strategic role in the education of teachers and researchers in their interfaces with knowledge production and the exercise of transformative practices in the daily routine of healthcare<sup>6,16</sup>. A second dimension constitutes the responses to education demands in *Pró-Ensino na Saúde*. A factor that corroborates the perception of the existence of a low number of professionals in this field of knowledge is the professionals'/students' interest in participating in the program and developing research even without scholarships.

The professionals' high demand for the area of health teaching can be understood in different ways, from the higher offer of undergraduate programs, academic and institutional requirements that demand specific knowledge and qualification, to the need of educating and qualifying professionals in different regions of Brazil, with the aim of fighting regional asymmetries and inequalities.

Based on the 24 projects that informed the number of professionals who graduated in 2016, we found that the estimated number increased in all the studied regions concerning the Master's degree, and the increase was most significant in the Northeast and South regions. Regarding the doctoral degree, we found that the Southeast region surpassed the 2010 estimates by 144.8% (29 [2010] / 71 [2016]); likewise, the Northeast region also exceeded expectations by 7.7% (13 [2010] / 14 [2016]); the Central-West region met the initial estimate (14 [2010] / 14 [2016]); and the South region presented a 20.3% deficit (65 [2010] / 51 [2016]).

These results show that the education of professionals in the health area must be stimulated in order to reduce regional inequalities, and also to strengthen the constitution of pressure groups in favor of health teaching in Brazil.

The policies adopted in undergraduate and graduate programs, such as the programs Pró-Ensino na Saúde and PET-Saúde, which have been acting in the regional locus since 2005, the Program for Teacher Development in the Area of Health, the Professional Master's Degree in Health Teaching, and the Health Residencies associated with the Professional Master's Degree, demand extension, strengthening and sustainability.

Therefore, it is necessary to understand the policies that induce a reorientation of health education as if they were the nodes of a network, nodes that have their own specificities. However, the dimension of effective educational policy can be configured only in its totality.

The second category is translated as educational paths to the professional action of teachers and preceptors in different teaching-learning scenarios, with reach and qualification for planning and management.

The findings show that health education stimulates the subjects of the educational process to reflect on and review the conceptual, legal and social-political bases that are established between the sectors of health and education. It is possible to notice, in the coordinators' discourses, their concern about teacher education in the context of the relations constituted between job market, educational and professional practices, and the programs' academic-administrative structure.

Research emerges among the potentialities of Pró-Ensino na Saúde. In the analysis of the coordinators' discourses, the following categories were identified: (1) interfaces between research lines, concentration areas and objects of study and (2) challenges for the recognition of the scientific area.

The investigation enabled to perceive interfaces between research lines, concentration areas and objects of study. The projects mentioned the existence or the proposal for the implementation of nine areas of concentration: Education and Health (2), Health Teaching (2), Collective Health, Teaching in the Area of Health, Education, Complementary Propedeutics, and Clinical investigation, as well as 87 research lines developed or in the stage of proposition, creation and implementation in the Graduate Programs that acted in the Pró-Ensino na Saúde projects.

We noticed that some of the projects (UNESP, FAMERP, FMSCMSP, UFRJ, UERJ, FIOCRUZ, UFMG, UnB, UFV and UFMT) were greatly interested in the creation / structuring / establishment / development of research lines in health teaching and related areas, as well as in the strengthening, consolidation and/or enlargement of research lines in this area in Graduate Programs that already existed (UNESP, UFRJ, FIOCRUZ, PUCRS, PUCRS, UFCSPA, UFRGS, UFC, UFPI and UFPE).

Many of these propositions were implemented in the period from 2011 to 2016. Thus, we infer that Pró-Ensino na Saúde had an effective impact on the creation and strengthening of research lines and Graduate Programs in the area of health teaching.

In order to learn about the comprehensiveness of the objects of the studies that were developed, between April and June 2016, the coordinators were asked to inform the titles of the studies carried out in the scope of their projects. We obtained answers from 24 coordinators out of the 31 who were contacted.

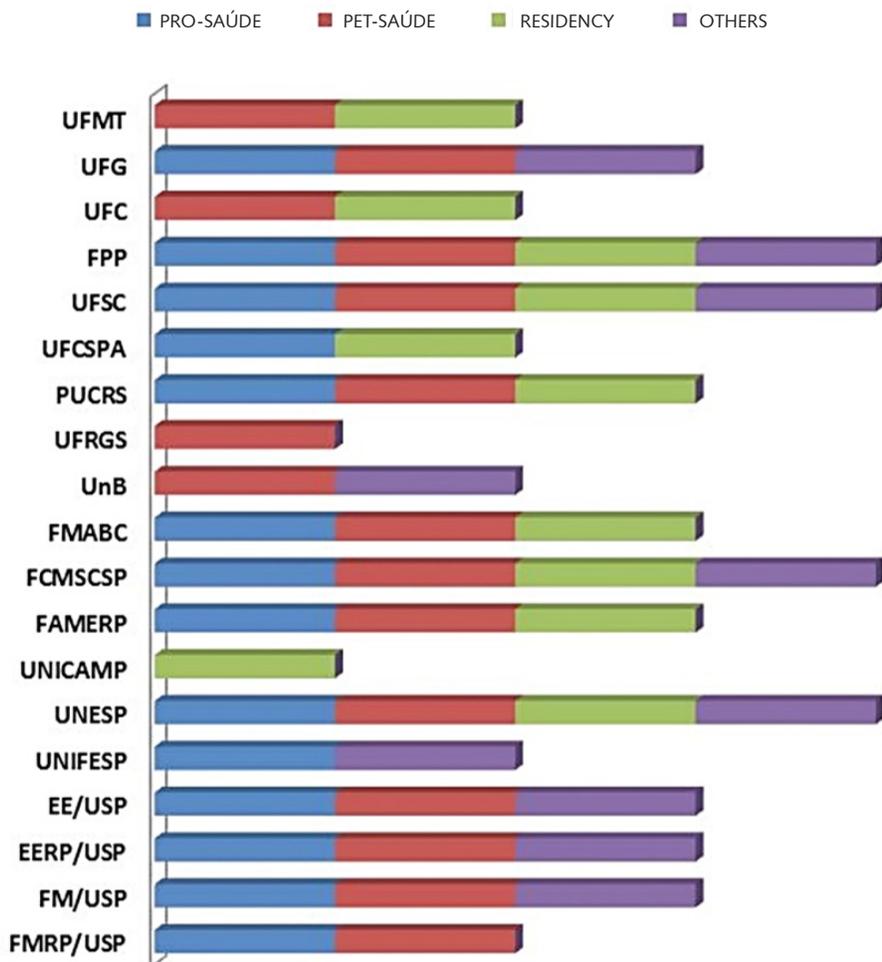
We analyzed the 395 themes informed in the studies. The reference adopted for the analysis were the thematic areas proposed in the 24/2010 Notice, and we related the developed themes to those areas. The initial criterion adopted to establish this relation was the reference, in the studies' titles, to the words: "management", "curriculum/teaching-learning", "evaluation", "education/teacher education", "integration/university and services", "policies" and "technologies". These terms were mapped in 177 titles.

A relation was established in 169 of the 177 titles (in eight studies, the term "evaluation" was related to clinical and laboratorial evaluation, decontextualized from health teaching). The most recurrent themes were "education" (61), "evaluation" and "curriculum" (39 each), and the least cited term was "management" (5). We found that the majority of themes (359 out of 395) was related to the themes proposed in Pró-Ensino na Saúde, which shows comprehensiveness and diversity in what was researched, and the potentiality for interdisciplinary and multiprofessional research that this field of knowledge has. The themes evaluated as having low adherence to the field of health teaching (36) were identified as clinical, epidemiological and experimental.

The second category, (non) scientific recognition of health teaching as a field of research, was a concern expressed by the coordinators due to the little importance given to research that deals with the themes of health teaching and, consequently, the impact of this on the evaluation criteria of CAPES.

According to the coordinators, the limitations imposed on the field of knowledge of health teaching in the perspective of the developed studies were related to the difficulty in producing knowledge in an area that has not been recognized by CAPES yet, which hinders publication in renowned journals. The majority of these issues was mentioned in the report of the Evaluation Seminar of Pró-Ensino na Saúde projects, held in September 2013<sup>14</sup>.

As it was mentioned above, Pró-Ensino na Saúde is part of a group of inductive initiatives - programs and policies - developed in the areas of health and education (such as PROMED, Ver Sus, Pró-Saúde, PET-Saúde, Multiprofessional Residencies and Pró Residências, among others) and implemented by the Ministries of Health and Education by means of the National Policy for Health Education Management. The investigation showed that 19 higher education institutions, among those which participated in Pró-Ensino na Saúde, established or developed a partnership with these programs and policies. The highlight is the adherence to the Programs PET-Saúde and Pró-Saúde (Figure 6).



**Figure 6.** Programs and inductive policies developed in Higher Education Institutions mentioned in Pró-Ensino na Saúde projects, 2010.

Source: Pró-Ensino na Saúde Projects, 2010.

The higher education institutions' interest in participating in these initiatives can be understood as a result of the political movements targeted at the area of professional health education that have been occurring since the 1980s, mobilized to revise problems related to professional education in the area of health. Some of these problems are: the absence of teaching/service integration, teachers' low adherence to making changes related to this, conflicts of interest between the health system and the educational system, and a curricular model disconnected from healthcare scenarios and basic needs<sup>17</sup>.

We recognize that Pró-Ensino na Saúde has strengthened the educational process that has been undertaken by inter-ministerial actions. However, there was no consensus in relation to understanding Pró-Ensino na Saúde as a policy. When asked "Is Pró-Ensino na Saúde a policy or an initiative from a given government?", the coordinators conceive it as an isolated initiative and are concerned about the lack of a perspective of continuity and about its doubtful sustainability, both intra and extra-institutional.

This ambiguity seems to reveal that Pró-Ensino na Saúde, despite its contribution to the education of Masters, PhDs and post-doctors committed with the reorientation of health education, was still strongly recognized as a Program anchored on counter-hegemonic presuppositions regarding publication criteria, importance given to teacher education, and institutional recognition. Thus, it has become fragile due to the evaluative demands of the Brazilian graduate programs.

## Final remarks

In the context of this research, we argue that Pró-Ensino na Saúde has strengthened the university-service-community integration in the perspective of the consolidation of the SUS (Brazil's National Healthcare System), grounded on education and research in academic graduate programs.

Our analyses allow us to state that the induction promoted by Pró-Ensino na Saúde has strengthened the changes in the educational process that have been undertaken by inter-ministerial actions, having reached many academic strata in higher education institutions, like Graduate Programs, research groups and health services.

It is revealing when we see that the absence of a specific area for health teaching has demanded the search for and/or the construction of links between projects and Graduate Programs, fostering partnerships, inter/transdisciplinary articulations, permanent dialog and relation to knowledge diversity. It is expected that the education of qualified professionals who understand the teaching-learning process can promote effective transformations in the daily routine of academia and of the health service, influencing the practices of professionals who work in the field of health in Brazil.

We understand that, in spite of the challenges posed by sustainability, continuity and scientific-institutional recognition, Pró-Ensino na Saúde is an inductive policy that fosters collaborative networks and knowledge production. However, it still faces the challenge of establishing itself as an effective constituent of a public policy for health education and work.

In this context, the discontinuity of Pró-Ensino na Saúde will have a significant impact on the institutions' investment in the area of health education, reducing innovative potencies designed and fulfilled in the daily routine of the investigated experiences. Our study clearly reveals the need of continuity and sustainability. It is necessary to publish more notices and to induce evaluative processes with adequate metrics to the field of health education.

Inducing means fostering. Fostering means stimulating. Stimulating means doing. Doing means a permanent redoing, in the ethical horizon of a societal order in the service of life, democracy, justice and freedom.

### Authors' contributions

Sylvia Helena Arias Bahia, author of the doctoral thesis, participated actively since the proposition of the study object until the final version of the article, including active participation at the discussion of the results and at the revision and approval of the final version. Ana Estela Haddad and Nildo Alves Batista participated at the revision and expansion of the discussion of the results, as well as the final approval of the article. Sylvia Helena Souza da Silva Batista, doctoral advisor of the thesis, contributed significantly with the discussion of the results, the revision and the final approval of the article.

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