

Interprofessionality in undergraduate Collective Health courses: a study on different learning scenarios

César Augusto Paro^(a)
Roseni Pinheiro^(b)

This article aimed at understanding how interprofessionality is applied in different learning scenarios in an undergraduate Collective Health course. It was an exploratory qualitative investigation based on observations of educational experiences of undergraduate Collective Health students from Universidade Federal do Rio de Janeiro, Brazil. Four practice areas were observed and 15 undergraduate students from different course periods were interviewed. Documents related to theoretical and practical disciplines were analyzed. Some experiences showed unique relationships between work and education processes that enabled an articulation between knowledge and practice in order to provide concrete answers to situations found in interprofessional practice. However, the distance between the academic world and the world of the work resulted in barriers to an effective collaborative interprofessional work.

Keywords: Professional Public Health education. Public Health practice. Undergraduate Collective Health course. Internships. Interprofessionality.

^(a) Pós-graduando do Programa de Pós-Graduação em Saúde Coletiva (Doutorado), Instituto de Estudos em Saúde Coletiva, Universidade Federal do Rio de Janeiro. Avenida Horácio Macedo, s/no, Cidade Universitária. Rio de Janeiro, RJ, Brasil. 21941-598. cesaraugustoparo@iesc.ufrj.br

^(b) Departamento de Planejamento e Administração em Saúde, Instituto de Medicina Social, Universidade do Estado do Rio de Janeiro. Rio de Janeiro, RJ, Brasil. rosenisaude@gmail.com

Introduction

The idea of having an undergraduate Collective Health course has been discussed for over two decades in Brazil. Until then, Collective Health education occurred in different undergraduate health courses, and *stricto* and *lato sensu* postgraduate courses¹.

The proposal of an undergraduate Collective Health education is justified by the need for anticipating public health officer education, aiming at building a professional workforce that could contribute to consolidating the Healthcare Reform:

Brazilian National Health System (SUS) needs undergraduate Collective Health students with a professional profile that qualifies them as strategic agents with a specific identity not provided by other available undergraduate courses. Therefore, instead of overlapping other members of the health team, this new agent organically joins Collective Health workers². (p. 26)

A public health officer is a professional with knowledge of diseases, aggravations, risks and decisive factors related to aspects that collectively simplify or hinder their occurrence or progress, keeping a personalized care of sick people to those who are traditionally graduated to do so³.

Bachelors in Collective Health are expected to provide: "Specific and interprofessional competencies for professional practice in systems, programs and services, as well as in other social and intersectoral spaces where actions are developed under a comprehensive care perspective"⁴ (p. 2).

This requires interprofessional education, where students "from two or more professions [...] learn from, with and about one another" with the objective of cultivating effective collaborative skills and improving health results⁵ (p. 10). This strategy aims at providing learning opportunities with other professional categories to develop attributes and skills required in collective teamwork, reverberating in an effective and comprehensive healthcare⁶.

Interprofessional interactivity in education can be developed in different ways, from joint seminars to interaction in practice, as provided by the courses' curricula⁶. Fields of practice have a great potential of enabling health education to fulfill its "ethical role in teaching and preparing health professionals"⁷ (p. 141) and providing an education where students can: "[...] understand the extended dimension of health, the articulation of multiprofessional and interdisciplinary knowledge and practice, and the alterity with users towards innovation of practice in all healthcare scenarios"⁸ (p. 52).

Silva et al.⁹ question how the intersection between practical scenarios and undergraduate Collective Health courses has been occurring and how the expected public health officer competencies can be developed in these learning scenarios. They argue that fields of practice in public health officer education should not be considered mere spaces for the development of technical skills, but rather spaces for understanding the praxical dimension of their work object. In this sense, taking into consideration the political dimension of the professional practice expressed in their reflective, challenging, interdisciplinary and critical ability, the difficulty in restricting this practical field to the realm of skills, techniques and application of a theory becomes evident.

The pedagogical process applied in different learning scenarios should be focused on sharing experiences through a dialog-based supervision aimed at institutional changes, active appropriation of knowledge, finding innovative ways of organizing health work and strengthening team actions¹⁰.

National literature related to the fields of practice of undergraduate Collective Health students is still scarce, since it is still undergoing an innovation process. Since comprehensive care is an essential axis in Collective Health, being constituted in the health work routine through interactions, the analysis of how this routine is incorporated into the education of undergraduate Collective Health students and of how it reflects and transforms the health work routine, contributing to a collaborative interprofessional practice, is justified. In order to do so, it is assumed that, in their daily activities, institutions are spaces where education is materialized, expressing forms of creation and appropriation of collective life production and/or reproduction. This idea, which brings another analytical perspective into health education, favors the participation of social agents and their practices in the health services routine¹¹.

This article aimed at understanding how interprofessionality is applied in different learning scenarios in undergraduate Collective Health education.

Methodological approach

This is a qualitative, exploratory and phenomenological research¹². It was conducted with agents and institutions involved in the undergraduate Collective Health course of Institute of Collective Health Studies, *Universidade Federal do Rio de Janeiro* (IESC/UFRJ). The course was implemented in 2009. It is full time, with a workload of 3,285 hours, 657 of which are activities in fields of practice.

Regarding practical experience, transversal theoretical and practical activities are taught in all periods. They are called *Atividades Integradas em Saúde Coletiva* (Aisc). Aisc aim at developing and assessing the necessary competencies to work as a public health officer in different learning scenarios (Chart 1).

Chart 1. Aisc's focus.

Aisc	Focus	Learning scenario
I	Health system overview	CAP, Caps, CER, maternity hospital, UBS and UPA
II	Social movements and organizations, third sector	Health councils and social movements
III	Primary healthcare	UBS
IV	Health access and therapeutic itineraries	Therapeutic itineraries
V	Tertiary care, hospitals, epidemiological surveillance	DVS/CAP and NVEH
VI	Health planning, health diagnosis	UBS territory-area
VII	Experience and practice in specific practical scenarios	DVS/CAP, MP, PSE, UBS and VISA
VIII		

Legend: CAP (*Coordenadoria de Atenção Primária*): Primary Care Coordination; Caps (*Centro de Atenção Psicossocial*): Psychosocial Care Center; CER (*Coordenação de Emergência Regional*): Regional Emergency Coordination; MP (*Ministério Público*): Public Prosecutor's Office; NVEH (*Núcleo de Vigilância Epidemiológica Hospitalar*): Hospital Epidemiological Surveillance Center; PSE (*Programa Saúde na Escola*): School Health Program; UBS (*Unidade Básica de Saúde*): Psychosocial Care Center; UPA (*Unidade de Pronto Atendimento*): Emergency Care Unit; VISA (*Vigilância Sanitária*): Brazilian Sanitary Surveillance.

In order to collect and analyze findings, a methodological triangulation perspective was adopted to enrich understanding of the phenomenon selected in this study. The investigation techniques used were: documentation analysis, participant observation and interview.

In documentation analysis, the following were selected and analyzed: the courses' Political-Pedagogical Project (PPP), the disciplines' syllabus, assessment reports of the disciplines' activities, and minutes of university-service meetings and of the university's commissions.

Participant observation was conducted with the researcher following the educational process of four learning scenarios where students were inserted in this research's field phase. The institutional journal¹³ was adopted as a data registration tool. This practice was designated as an opportunity to reflect, think about experiences, and understand Collective Health education and its path towards the desire of a comprehensive care. This journal had two writing moments: the initial registration and its rewriting after rereading it. Subsequently, it was shared in a group of subjects that were also involved in its establishment, in order to intervene, analyze and clarify the instituted relationships¹⁴.

The interviews were conducted with an intentional sample of 15 students from fields of practice who were not included in the participant observation. The script was made up of a trigger question, "How was your experience in the practice scenario?" The researcher tried to make sure the following elements were explored in the reflective description of this experience in the field of practice: relationship with the service team, relationship with service users, insertion into the team's work

processes, main activities developed, guidance towards SUS principles, development of a critical analysis of the actions taken, protagonism in the development of activities, and teaching-service integration. Interviews were electronically recorded and subsequently transcribed.

Experiences were studied through observation and systematic analysis, comparing multiple theoretical strands that permeate the knowledge and practice involved in educational processes. This was based on the EnsinaSUS observational proposition suggested by *Laboratório de Pesquisas sobre as Práticas de Integralidade em Saúde* (LAPPIS)¹⁵.

Data analysis favored understanding and interpretation of the subjects' experiences in practice scenarios, as well as the experiences registered in the field journal. Documentation analysis helped contextualize the course, the sociocultural dynamics and the pedagogical methods, as well as how interprofessionality is positioned in instructions. The other two techniques were able to help identify the agents, scenarios and relationships that occur in education practices and in the analysis of how interprofessionality emerges in education. Data from these interviews and from the field journal were analyzed based on the field of activity suggested in EnsinaSUS's thematic area "interdisciplinary and interprofessional integration of user-centered knowledge and practice."¹⁵

Results were presented in a descriptive way, and the discussion and interpretation of data were developed based on theoretical references from Collective Health, Social and Human Sciences, and Pedagogy.

This research was approved by IESC/UFRJ's Research Ethics Committee under Certificate of Submission to Ethical Analysis number 51085215.0.0000.5260.

Results and discussion

Contextualization based on documentation analysis

In terms of ethical and political propositions, the analyzed course's PPP presents a Collective Health education proposal oriented towards a coherent ethical and political guidance related to the comprehensive care project, given the need for innovative arrangements¹⁶:

A pedagogical structure that disrupts the traditional disciplinary structure is suggested, creating another one based on the contract among the educational institution, the services and the population, observing common objectives among them. The educational institution's role is to ensure the necessary knowledge to establish this contract in order to transform health practices, teaching people who, in this construction, develop their competencies as professionals committed to transforming the healthcare profile and the consolidation of practices that are more fitting to the population¹⁷. (p. 5)

Comprehensive care is explicitly indicated as one of the competencies one is supposed to learn during the course and to become part of the graduate's profile. The Collective Health conceptual field is expected to "act in order to ensure comprehensive care in all complexity levels of the system, acknowledging health as everyone's right"¹⁷ (p. 13). Interprofessionality is highlighted in Collective Health work. It is expected that it can "take integrated actions with other health professions in different contexts and work environments"¹⁷ (p. 15).

Comparison between PPP and the current programs of the disciplines show there were several changes related to learning scenarios since the beginning of the course, in 2009, to the present day. These changes even included the programmatic proposal of some of these Aisc. Regarding the fact that constant changes impair the maintenance of a proposal, hindering the creation of a tradition that could contribute to strengthening a connection between health services and universities, these changes can be a sign of dynamism and search for transformations in learning scenarios in order to better adapt

the proposal to the course. In the institutional political field, alternation among political currents when managing services and discontinuities in the development of interinstitutional agreements hamper the establishment of common projects between universities and health services. This can bring negative consequences to the development of an education based on comprehensive care¹⁸.

Activities developed by Aisc I and III require an observational role from students, with visits, with or without tutors, to health services and health-related social movements. These disciplines work with observation scripts. Preparing reports on the students' observations is part of the assessment. From Aisc IV to VIII, students are required to play an active role in the learning scenarios. In Aisc IV, they are responsible for delineating a therapeutic itinerary of a subject that is or has been ill to a specific aggravation of their choice. In Aisc V, students become part of the routine of epidemiological surveillance services. In Aisc VI, creating a health diagnosis and plan is suggested for a specific location with field activities. Finally, in Aisc VII and VIII, students choose a learning scenario in order to be able to perform practical in-service activities throughout a year. In other words, the responsibility and complexity of tasks developed by students in Aisc become increasingly higher. Consequently, students become more independent, being more prominent in their own development. This, in turn, requires greater interprofessional collaboration in the activities they need to perform.

Regarding Aisc that require an interventive role, at times, this practice is articulated with the service's activities (Aisc V and some fields of Aisc VII/VIII). Alternatively, it suggests entirely innovative activities that are not usually conducted by the service (Aisc IV and VII, and some fields of Aisc VII/VIII). Despite bringing innovative contributions to Collective Health work, these activities have an incipient institutional relationship with health management or care services. This hinders the contribution of students to joint practice with professionals who comprise health services. In another analytical level, the difficulty in performing these activities in health services (e.g. therapeutic itinerary and quick health estimate) can be taken into consideration, given professionals do not usually handle these actions, regardless of their relevance.

Aisc's workload increases over the periods. In the first four periods, it is sixty hours, changing to 120 hours in Aisc V and VI. Finally, the last two Aisc are comprised of 180 hours. The fixed theoretical workload of thirty hours in all Aisc shows a commitment towards the existence of spaces of reflection and systematization of experiences in learning scenarios, as well as in-depth theoretical-conceptual content required to focus on practical activities. This moment is conducted between students and teachers responsible for the disciplines, except professionals involved in the service students are inserted into. Reflection spaces that include agents from learning scenarios are not present in all Aisc. This could be an important space to reflect upon interprofessional practice of students in these fields.

In order to guarantee the necessary transversality and provide an interdisciplinary dialog, Aisc would integrate all other content given in the course. Nevertheless, the curricular organization itself does not enable it. This is due to the fact that Aisc are not often integrated into other disciplines in the same term, being just another one in the schedule. The only difference between them and the other disciplines is the planned practical workload, which results in dissatisfied field preceptors.

Although interdisciplinarity officially has a framework and a great potential to emerge given the diversity of agents and knowledge used in each field of practice when determining Aisc, in this suggested curricular structure, no experience where the work of Collective Health course's students is articulated with students from other health courses is observed. This is an issue that can be seen towards an education articulated with other knowledge, enabling concrete experiences of clinical expansion.

Interprofessional practices in different learning scenarios

Charts 2 and 3 respectively show the observed interviewed students and fields of practice. Data related to interprofessional practices that emerged in the interviewed students' testimonies and in the observed teaching practices is described below.

Chart 2. Interviewee characterization.

No.	Aisc	Course period	Sex	Age	Previous university/ technical education	Previous health employability
11	I	1 st	Feminine	17	No	No
12	I	1 st	Masculine	30	Nutrition and Dietetics/ Administration Technician	No
21	II	3 rd	Feminine	21	No	No
22	II	3 rd	Feminine	20	No	No
41	IV	5 th	Feminine	21	Health Management Technician	No
42	IV	5 th	Feminine	36	Letters	UBS and hospital administration
51	V	5 th	Feminine	35	No	Hospital administration
52	V	5 th	Feminine	28	Nursing Technician, Nursing	Health surveillance, hospital assistance
61	VI	7 th	Feminine	22	No	No
62	VI	7 th	Feminine	21	No	No
71	VII	7 th	Feminine	21	No	No
72	VII	7 th	Feminine	24	No	No
73	VII	7 th	Masculine	21	Business Management Technician	No
74	VII	7 th	Feminine	21	No	No
75	VII	7 th	Masculine	25	No	No

Note: *Participants were identified with letter "E" followed by a specific two-digit number (the first one refers to the discipline and the second one refers to the interview order).

Chart 3. Characterization of the observed agents and learning scenarios.

Aisc	Learning scenario	No.	Teacher(s)	Graduate students	Service professionals
III	UBS	4	3	Seventeen from the third period (split in pairs/trios for observation)	UBS manager, family's health team and technical-administrative professionals
V	NVEH of a university hospital and its sections: epidemiology, cancer record and mortality vigilance	8	3	Four from the fifth period (two sections with one graduate student each, and one with two)	Head of service, nurses, public health officers, Collective Health residents and technical-administrative professionals
VII	Public Prosecutor's Office for Collective Protection in Health	7	1	Two from the seventh period (working in two different shifts)	Prosecutor and five advisors
VII	PSE central coordination in the Municipal Health Department, municipal school and reference UBS	6	1	Three from the seventh period (working together)	Program technicians and coordinator, school teachers and management, UBS professionals and management

Legend: N = number of observations.

The activities developed within the fields of practice, particularly those focused on intervention, required graduate students to act directly with other agents of the management and service networks:

We [from the health surveillance sector] had to contact the service asking them to request patient information to the doctor. Or when there was an inconvenient collection (in a period that it is not possible to identify virus via lab tests), I used to contact the service, and they would forward me to the community health agent responsible for the case (the individual) so that I could talk to them and ask them to visit the individual again. (E52, Aisc V-DVS)

This occurred even intersectorally when partnerships with agents from other governmental or non-governmental cabinets were necessary:

Interns went to the UBS to be able to identify a potential psychotherapeutic care for a deaf child. After several unsuccessful attempts to find in SUS a psychologist who could provide care in sign language, interns started to talk to the territory's social facilities that could offer the service. They found two NGOs working with this population and visited them. (Field journal, 07/25/2016, Aisc VII-PSE)

Graduate students need to engage with other professionals to provide services, including care and management professionals from the health system and other sectors. These situations are typical of the health sector routine, since in real complex situations, "professional practice requires a combination of knowledge and perspectives to be accomplished in interprofessional practice"¹⁹ (p. 29). Multiprofessional teamwork refers: "[...] to the recomposition of different work processes that, in order to be assimilated, should collectively preserve technical differences and specificities of each work and articulate interventions made by team members."²⁰ (p. 162).

Therefore, the ability to combine knowledge from different disciplines and act with other professionals in the health service routine is essential to health work, resulting in a more effective care:

Three nurses from a UBS talked to us because they were going to perform an activity aimed at this audience [elderly]. They wanted a guidance, to know how they could approach this. It was an interesting space I had to question some issues. [...] "you are bringing elderly in, how about the ones who cannot come or have difficulties moving? Do you have any control over these individuals who are not able to move? Or those who are still responsible for the family's financial issues?" (E52, Aisc V-DVS)

Students are able to contribute to interprofessional practices where they are inserted based on the knowledge they have been building throughout the undergraduate course, corroborating with the perspective of Macêdo et al.²¹ Their perspective dictate that "students presence in certain scenarios contributes to the introduction of significant changes to that reality, including related to users' autonomy" (p. 245).

When preceptors consider graduate students as members of their team, they designate tasks to them, who are able to provide specific contributions to the service, considering the level of concrete possibility these interns can perform:

When I saw something wrong [during healthcare inspection], I spoke up. I would say to someone from the team, "Isn't that wrong?" And then they would say, "It is." I took pictures [to create the visit report]. [...] In the beginning, I did not know what was wrong, what to search for. After that, I would do it right, taking pictures of what was wrong. (E72, Aisc VII-VISA)

Oftentimes, records showed graduate students felt part of the service's multiprofessional team they were inserted in, as illustrated below:

The team I am plotted in is very good. [...] And my relationship with them is very very good because we communicate all the time. [...] They welcomed me in a very good way. I was introduced as being one of them. The [UBS] manager said, "See, this is your team, such team." Therefore, I have nothing to complain about, from the doctors to the community health agent. (E73, Aisc VII-UBS)

By feeling part of the team and promoting effective contributions to the service, both agents (interns and preceptors) are satisfied with their in-service job:

At the end of the final presentation the intern developed in service that semester, she concludes thanking all professionals for such a warm welcome. One of the preceptors replies congratulating the graduate student as to the responsibility she had in the activities and comments she and the other graduate students "bonded" and that they can come back to the service whenever they need. (Field journal, 07/27/2016, Aisc VI-NVEH)

This feeling of belonging to the field of practice graduate students are inserted into enables them to bond with the team in order to work together, promoting a harmonious action. Nevertheless, some accounts also show difficulties in developing relational competencies:

In the discipline's assessment narrative, one of the interns commented, "during this period, I remembered how impatient I am, how much I need to learn to work in groups and that not everyone works the same way." (Field journal, 08/16/2016, Aisc VII-PSE)

During supervision, students mentioned the observation script had some elements that cannot be observed. In order to be included in the sector report, they would need to question directly the sector's employee. They commented "it is annoying" to keep asking professionals things not all of them are available to answer. (Field journal, 04/26/2016, Aisc III)

Acknowledgement of different working styles, as indicated in the first report, is essential to integrating team members. This enables to delineate dialog strategies and interaction possibilities to create a common ground.

The second report shows the relationship with other professionals. The fact that the report requires graduate students to reach UBS professionals in order to fill it out makes sense later on, when they develop interventional activities and need to effectively relate to these agents. Therefore, the relationship with other professionals is an interesting element to be trained from early education. Anyway, the criticism that "not all of them are available" shows that service professionals usually do not understand the importance of this activity in the student's education.

Situations like this are a result of low articulation between educational institutions and practice scenarios:

I think the tutor could have followed this [in-service activities] closer, since this spark [issue between preceptor and intern as to what activities should be performed] had already occurred, she could have become closer to us [...] I missed her there, I think she should go there at least a month, because she just went once, in the beginning, and then when there was a problem. [...] sometimes we had the impression we were sort of abandoned. (E51, Aisc V-DVS)

In several analyzed situations, lack of follow-up from tutors in practice was identified, leaving the activity under the service responsibility only. There was also reference to a continuous unsystematic tutoring process where tutors are only present when they are informed of some concrete problem in practice. This lack of approach by tutors in the service routine mentioned above is criticized by students:

In the discipline's final presentation, one of the graduate students criticized the rare approach of tutors, "why do you only want to see what we have done in the end of the Aisc?" They recommend "tutors should provide support throughout the activity, not only in the end" and argument preceptors are often too busy for them. (Field journal, 07/20/2016, Aisc V-NVEH)

Consequently, interviewees question the qualification of teachers to work in practice scenarios:

This discipline is not structured to provide practical education; teachers are not quite prepared for that. They want to leave the field unattended. [...] the problem with the discipline is that it is sort of abandoned; "you go ahead and do it, in the end I give you a grade." The field of practice is always left behind, isn't it? We have to handle everything ourselves, right? We do not learn, we have to handle everything ourselves. (E61, Aisc VI)

Situations like the one presented above shows the teachers' lack of preparation towards the new learning focus suggested by comprehensive care and interprofessionality. As a mediator of teaching and learning processes, the way teachers conduct educational practices can simplify or hinder a significant learning based on these principles. Additionally, the teacher-student relationship has a significant role in consolidating how future health professionals will work²².

Most of practices observed in this research reveal the predominance of technical rationality in the teachers' work. This perspective moves away from a dialogic, critical and challenging concept of education²³. It does not consider the establishment of strategies to build attitudes, skills and values related to collaborative interprofessional experience and comprehensive care. This does not strengthen the necessary transformations to consolidate SUS, but rather the maintenance of a *status quo*.

Most of health professionals who also work as university teachers graduated in a traditional health education approach, characterized for being biomedical, uniprofessional and focused on procedures. Educating subjects in concrete situations in fields of practice aiming at comprehensive care and interprofessionality is a new challenging experience⁶. Therefore, in order to professionalize, qualify and raise awareness of university teachers, it is necessary to establish continuous teacher development programs. This way, educators can foster innovation and transformation of the health education process²².

Reports and observation of conflicts in service during the development of Aisc also revealed the traditional distance there is between universities and health services. This shows the need for permanent negotiation spaces between universities and services¹⁰ to discuss an education-service integration. Dialog enables to point out problems, difficulties and ways of intervening in the intersection between both worlds. "Tools to establish spaces and instruments to analyze the ongoing processes"²⁴ should be forged (p. 160). The existence of dialog spaces improves the relationship between universities and services, bringing concrete results like the one mentioned below. In the following account, we can see preceptors act in a more qualified way, strengthening the teaching and learning process:

One of the teachers commented that, this year, UBS employees are way more helpful and thoughtful with the developed activities. He argues that this may be because of the teachers' participation in the health team meetings, presenting the in-service discipline proposal before interns came in. (Field journal, 04/19/2016, Aisc III)

It is possible to identify in the data both positive and negative assessments of the education-service integration. These dissonances occurred because Aisc are rather diverse, with different ways of articulating with services and/or tutors, also performing activities in distinct ways. Additionally, other criticism is observed, particularly in Aisc V, which is the first interventional Aisc where students spend most of their workload in a health service. Therefore, it is possible that students feel the need for follow-up, since it is a new activity where they need to take the lead.

Low integration levels can be explained by how these articulation processes occur: without the involvement of agents from health services in the assessments, activity plan and production of knowledge related to the ongoing experience²⁴, let alone users'. Service professionals are only responsible for directly following up with students regarding something previously established by universities to the service.

Final remarks

Although Aisc declare in the institutional documents comprehensive care and interprofessionality are educational axes of graduate Collective Health students, not always does this ethical and political guidance become effective in educational practice.

Some of the analyzed experiences showed unique relationships between work and education processes, being positive not only to students' education but also to the quality of care provided. In these cases, the described and discussed learning scenarios were spaces of healthcare incorporation/production. They enabled students to understand the reality and hone their creative potential to articulate knowledge and practice in order to provide concrete answers to situations encountered in interprofessional practice. This was conducted through dialog and a combination of knowledge from different disciplines, and interdisciplinary/intersectoral mediation in the routine of practice. These elements seem to be one of the greatest potentials of this new Collective Health subject.

However, some of the fields of practice had obstacles to an effective collaborative interprofessional work resulting from the distance between the academic and the professional worlds. For an education on comprehensive care, it is necessary to forge new arrangements that try to overcome this distance and enable the creation of new institutionalities for a permanent negotiation between producing knowledge and meeting the population's health needs.

Authors' contributions

César Augusto Paro participated in the research development, creation of the manuscript, discussion of the work's results and in the review and approval of its final version. Roseni Pinheiro actively participated in the discussion of the work's results and in the review and approval of its final version.

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