To comprehend the evolution of education-service-community integration (ESCI) in the municipality of Bragança Paulista, SP, through the Teaching-Health Public Action Organizational Contract (Coapes), a case study was conducted. An intentional sample of ten members from the Local Management Committee participated in semi-structured interviews, conducted virtually, recorded, and transcribed in full. The narratives underwent thematic content analysis. The results indicated that the implementation of IESC and Coapes was successful. The sustainability and achievements in contractualization are related to strategies such as approaching, institutional dialogue, equal value, and transparency, resulting from technical discussions, understanding of the process, format selection, sensitization, and actor engagement. The combination of these elements, along with new projects and attitudes, points towards the consolidation of IESC in the territory, which presents challenges to be overcome.

**Keywords:** Teaching-care integration services. Training of human resources in health. Problem based learning. Contracts. Brazilian National Health System.
Introduction

The Brazilian National Health System (SUS) is one of the largest and most complex public healthcare systems in the world, providing the Brazilian population with healthcare as a citizenship right. Among its various responsibilities, SUS is tasked with organizing the training of human resources in the healthcare field. The responsibility for formulating policies for management, training, qualification, and regulation of healthcare professions is directed to the Ministry of Health (MS)\textsuperscript{1-3}.

Significant government initiatives have been implemented to reorient professional training and work within SUS. These initiatives include the National Policy for Permanent Health Education (Pneps), the National Program for the Reorientation of Professional Training in Health (Pró-Saúde), the Education through Work Program for Health (Pet-Saúde), the Program for the Valorization of Basic Care Professionals (Provab), the More Doctors Program (PMM), and the Organizational Contract of Public Action for Education and Health (Coapes)\textsuperscript{4}.

With the establishment of SUS and its democratic principles, healthcare in Brazil underwent significant changes, posing challenges for Higher Education Institutions (HEIs). These challenges particularly concern the training of healthcare professionals and a shift in pedagogical models, which now incorporate health policies and adopt teaching, learning, and assessment methodologies that enable students to become self-directed, ethical, humane, and competent learners\textsuperscript{5}.

Since 2001, the Ministry of Education (Mec) has published successive editions of the National Curricular Guidelines (DCN) for the 14 existing healthcare professional categories at the time. The DCN results from a political, institutional, cultural, and educational process aimed at developing pedagogical projects and curricula for healthcare courses, with a focus on promoting a broad and humanistic education that integrates SUS as a learning environment\textsuperscript{6,7}.

According to Zarpelon et al.\textsuperscript{9}, the curriculum design for healthcare education should be guided by the education-service-community integration (ESCI) to facilitate the convergence of teaching and service and eliminate the dichotomy between teaching and healthcare delivery. ESCI represents collective work between healthcare service teams, professors, students, healthcare workers, SUS managers, and social control, which includes service users. This collaboration aims to enhance the quality of education and individual or collective healthcare delivery, as well as the satisfaction of healthcare Workers\textsuperscript{9}.

Through collaborative efforts of the Ministry of Health and Mec, the Interministerial Ordinance n. 1127 was published on August 4, 2015. This document establishes Coapes as part of Pneps, focusing on the participatory development of education within and for SUS. It encourages local dialogues that inform the creation of ESCI, allowing stakeholders to discuss, agree on, and organize practice settings, recognize their responsibilities, and emphasize education, research, extension, Permanent Health Education (EPS), and SUS\textsuperscript{10}.
It is envisioned that Coapes, through contractual agreements, will facilitate negotiations and decisions among SUS stakeholders (managers, workers, and users) and healthcare education (managers, educators, and students). Coapes aims to promote shared responsibility for education, improving healthcare indicators, and thereby facilitating access to and learning opportunities within SUS, with a focus on professional development. This is particularly relevant in addressing the existing gap between theory and practice in professional healthcare education in Brazil\textsuperscript{8,11,12}.

Sotero and Freitas\textsuperscript{13} conducted a literature review on cooperation agreements following the Coapes ordinance, indicating a limited increase in agreements that define and specify ESCI. Costa\textsuperscript{7}, in a study of Coapes in two different healthcare regions in Rio Grande do Norte, reported that, despite the contract’s signature, there was a prevailing lack of interest and knowledge among the involved parties, illustrating strong local political opposition to contractualization.

On the other hand, Fadel et al.\textsuperscript{14} showed that, in their studied context, despite the weaknesses revealed by Coapes, equity of access and the guarantee of practice settings, as established by the contract, as well as the transparency of the process, were its main achievements.

Cardoso et al.\textsuperscript{15} emphasize that ESCI should be a focal point in places with Coapes and/or similar contractual agreements. They suggest the creation of a collective co-management space between educational institutions and healthcare service management, allowing everyone to collaborate in the joint planning of activities.

Despite Coapes being a component of Pneps and a key factor in strengthening ESCI to foster participatory processes in education and professional development, there remains a significant gap in the lack of dialog spaces capable of effectively promoting education within and for SUS\textsuperscript{6,16}.

Following an extensive search for studies demonstrating strategies for monitoring, evaluation, and management of ESCI through Coapes, there was a scarcity of published research on the topic. Given the significance of ESCI and Coapes as avenues for change and strengthening SUS, there is an opportunity to develop a scientific field and produce new knowledge.

Thus, the present study aims to understand how ESCI has developed through Coapes. To achieve this, it seeks to capture the perceptions of the members of the Local Management Committee of Coapes regarding ESCI within the context of SUS in Bragança Paulista, SP.
Methodology

This case study was based on the methodology proposed by Yin\(^\text{17}\), which proved to be particularly suitable as it sought to analyze a contemporary phenomenon with limited control over the behavioral events involved.

The municipality of Bragança Paulista is the headquarters of the Bragança Health Region (RS) and, according to the 2022 Census, has a population of 176,811 inhabitants. It is the most populous municipality among those that make up the region and houses the largest number of public health facilities and educational institutions\(^\text{18}\).

Bragança Paulista was chosen as the research setting due to its use of practice scenario mapping, unique projects for strengthening ESCI, and being the coordinating municipality of the Regional Coapes established in 2016. This scenario has, in turn, included the participation of all 11 municipalities in the Bragança RS and ten educational institutions since 2019. Currently, it offers 11 undergraduate courses, two residency programs (medical and multiprofessional), and four technical vocational education courses.

The Local Management Committee of the Regional Coapes is characterized as a space for discussion, monitoring, and evaluation of contractual execution, consisting of 67 members representing municipalities, educational institutions, social control (user segment), and the EPS of the coordinating municipality.

This study employed a qualitative, descriptive, and exploratory approach, using an intentional sample\(^\text{19}\), selected based on the choice of ten Local Management Committee members who had a direct role in the research setting. The distribution of interviewees aimed for a homogeneous sample familiar with the subject to address the needs of the study’s objectives and represent different actors and institutions. Therefore, the study included five representatives from educational institutions (managers, teachers, and students), one representative from technical education (teacher), one representative from the Residency Program (student), and three representatives from SUS (EPS, management, and social control), with a predominant presence of participants from the education sector.

After ethical approval, the researchers presented the study in a meeting of the Local Management Committee of the Regional Coapes and later made formal contact via email with potential participants. Respecting the need for social distancing imposed by the COVID-19 pandemic, interviews were conducted virtually, utilizing video conferencing tools to ensure video and audio quality and information security.

An electronic form was prepared, including access to the Informed Consent Form (ICF) and the Authorization for Image and Audio Use Form (AU), which participants were asked to agree to. The form also included items for categorizing the sample’s demographic and professional data, considering the sociodemographic and professional information of the ten interviewees.
The individual interviews were conducted using a semi-structured script, addressing specific questions related to the understanding and development of ESCI in the daily activities of SUS and educational institutions based on the experience of Coapes. This approach allowed the interviewees to freely express their opinions on topics that emerged in connection with the main subject. The average duration of the interviews was 25 minutes, totaling 253 minutes of recorded material.

As a reflective tool, a field diary was used to record perceptions and considerations regarding interactions with the interviewees and to establish boundaries and risks related to the method and one of the researchers professional relationship with the study area.

To ensure the confidentiality of participants’ identities, transcriptions were identified by alphanumeric extensions, with “E” (Interviewee), followed by ascending cardinal numbers in the order of the interviews (E1...E10).

The content analysis of the interviews began with pre-analysis, organizing and floating reading of the produced material according to the criteria of exhaustiveness, representativeness, homogeneity, relevance, and exclusivity, following the qualitative approach.

Subsequently, the materials were explored to recognize singularities, define guiding axes, context units, and registration units, based on categorization, which is considered the central element of content analysis. Categorization involved the classification of elements that group together based on defined criteria and form a set of meanings.

The research followed the guidelines of Resolution n. 466/2012 of the National Health Council and was approved by the Ethics Committee under CAAE 15095219.1.0000.5505, Opinion No. 5.143.303 dated December 3, 2021.

Results

Following the sample categorization, the sociodemographic and professional profile of the ten participants was outlined as follows: 80% were female; 70% were of white ethnicity and aged between 40 and 59 years; 70% held a postgraduate degree, with 40% having completed a Lato sensu (MBA/Specialization) and 30% a Stricto sensu (Master’s/Doctoral) program.

Regarding their field of work, 50% worked in Educational Institutions affiliated with Coapes, 30% in the SUS, and 20% in both. In terms of their area of expertise, 40% were educational institution managers, 40% were teachers in training practices, 20% were professionals in the EPS, 20% were students in the healthcare field, 10% were SUS managers, and 10% were health councilors (user segment).

Regarding their involvement in ESCI, 60% had been involved for a period ranging from 2 to 4 years, and 20% for 11 years or more; 80% had some form of training in the management area, predominantly with specialization/MBA degrees.
To adhere to Bardin’s methodology for content analysis, an initial pre-analysis of the interview material was conducted. This included the review and literal transcription of the recordings, as well as organization and floating reading. From this process, three categories and their respective subcategories emerged.

The first category, “Integration of Teaching-Service-Community in the Context of Health Education and Work”, featured three subcategories: Different Perceptions of Integration of Teaching-Service-Community and Its Importance for Education in/for the SUS, Indissociability between Teaching, Research, and Extension, and Challenges in Creating Spaces for Preceptorship and Preceptor Training.

Discussions about ESCI expanded and strengthened with the Coapes, as evidenced by the subcategory Different Perceptions of Integration of Teaching-Service-Community and Its Importance for Education in/for the SUS:

From a pedagogical and academic perspective, I see this initiative (ESCI) as extremely important... as you work with this type of approach with students in training, it will enable us to produce healthcare professionals who are more skilled, better prepared for proper integration into the SUS, and who have a more critical perspective, closer to public health actions. (E10)

Similar results have been observed in current literature, emphasizing the need to reintegrate ESCI into academic life as a guiding principle for changes in health education through permanent spaces for reflection and dialogue. This demonstrates that through collective reflection and intervention, it is possible to teach and learn in the context of healthcare services.

The second subcategory, Indissociability between Teaching, Research, and Extension as a fundamental axis of the Brazilian university, was identified in the discussions as challenges to achieving this closeness and the importance of opportunities that enable such connection:

[...] I understand that in Coapes, we already anticipate extension and research activities, and now with this movement of integrating extension into the curriculum, we observe the movements of universities and educational institutions to include extension... but I think university extension is still very incipient, and I believe that we need to start integrating teaching-service-community in our discussion committees... (E3)
This indicates a thoughtful approach to strengthening the relationship between teaching, research, and extension, potentiated with the genesis of Coapes. However, attention should be paid to issues highlighted by De-Paula et al.\textsuperscript{25} regarding the integration of extension into teaching and research, with a focus on involvement in different territories, promoting institutional interest in engaging the academic community and providing quality services to society.

Recognizing this need, it becomes essential to implement educational strategies aimed at developing teaching skills, so that educators can promote professional education aligned with the SUS while minimizing conflicts in the daily healthcare service environment.

The third subcategory, Challenges in Creating Spaces for Preceptorship and Preceptor Training, demonstrates that while such spaces have been encouraged in the context of the Regional Coapes, challenges still exist that need future investment, as observed in the reports about the Preceptorship and Supervision Program in Internship and Residency Activities in the municipality. Despite being established in 2019, it still raises expectations and concerns among the involved stakeholders:

\[...\] in many courses, especially in the more elite ones, the figure of the preceptor is still not accepted... so it is already difficult to access the service... you face resistance from those who think you will hinder practice, and you also face significant resistance from many educators who do not allow a preceptor to work in an external setting... So, I think in the short term, maybe there should be more integration, bringing preceptors closer to educators. (E2)

This circumstance should not be considered an anomaly, as paradigm shifts do not occur rapidly; they require continuous effort and resilience. For example, Mendes et al.\textsuperscript{26} refer to the integration of the university with healthcare services, noting a range of challenges to be overcome, especially those related to the training process and the relationship of the social actors involved (educators, students, preceptors, and the community itself).


As evident in the subcategory Communication as a Facilitator of Integration of Teaching-Service-Community and the Organizational Public Action Teaching-Health Contract, the study area has made significant progress in this regard:
...I see a much more open dialogue, an intention... I see an intention from the municipality that welcomes us as a school unit (c) (to do the best for that student, regardless of their course – Medicine, Nursing, Dentistry – in such a way that the municipality can later absorb that student as a professional... someone with good training, firm competencies and skills to work in the municipality, and this clearly influences the community itself. So, I think this connection is very noticeable with Coapes, in recent years. It was a very noticeable thing! (E5)

Cardoso et al. believe that planning and communication are essential factors in avoiding conflicts that hinder the realization of ESCI. Therefore, actions to reduce student turnover, better distribution of students in practice settings, promotion of stronger bonds, as well as learning and collaboration in the workplace, must be consistently reinforced.

The subcategory Challenges in Implementing the Integration of Teaching-Service-Community and the Organizational Public Action Teaching-Health Contract highlights issues related to the physical structure of healthcare services. Inadequate infrastructure, lack of materials, and equipment for care were mentioned as recurring problems. However, the challenges extend beyond structural issues:

> Sometimes, the academy brings a lot of criticism to the system (SUS)... a lot of evaluation and little collaboration. (E3)

It is considered that unpreparedness regarding pedagogical and professional practices on the part of healthcare teams, as well as the resistance of the teaching staff to modify their teaching methods and engage in healthcare services, demonstrate different goals between the educational institution and healthcare provider, posing a potential challenge to the realization of ESCI.

The subcategory Strategies for Monitoring, Evaluation, and Management of Integration of Teaching-Service-Community is among the responsibilities assigned to the Local Management Committee of Coapes and emerged as a subcategory.

The document analysis of the records of eight meetings held between 2019 and 2022 (with the exception of 2020 when actions were suspended due to the COVID-19 pandemic) was conducted based on documents provided by the Local Management Committee of the Regional Coapes. However, no evidence of monitoring and evaluation indicators was found in the documents. Nevertheless, nuances of how this activity has been structured were identified in the statements of the Local Management Committee members:

(c) Family Health Unit (FHU), located in a housing complex belonging to the “Programa Minha Casa Minha Vida”, created in 2016, in partnership with one of the partner HEIs and which has a hybrid health team, made up of teachers and preceptors and by professionals from the municipality’s SUS Network, which in a territory with a high level of social vulnerability has been a training space, based on the premises of EPS and ESCI.
Sometimes, we have a problem here and there, but I think it’s also punctual. I believe it’s organized. We always have student evaluations, in terms of their work, the internship site, as well as evaluations from the professionals. So, there’s always feedback on how these internships have been, during their course. (E9)

Among the mechanisms mentioned, it is observed that the regulation of practice settings is established and that actions are defined through mapping, planning meetings, especially for internships. Monitoring has used satisfaction surveys as the primary mechanism to understand the perceptions of those involved and guide future activities.

Considering the clear need for a collective co-management space to organize ESCI and strengthen Coapes, it is essential that, among the aspirations for expansion and improvement identified, the strengthening of the Local Management Committee should include proposals to advance in monitoring and evaluating the actions developed, to create strategies that reduce contradictions, strengthen EPS, and maintain the commitment to mutual and collaborative responsibilities, respecting and valuing the principles of the SUS15.

From the last category, “Importance of the Community for Education in/for the SUS”, two subcategories emerged: ESCI as a Right and Duty of the Community and Community Participation in Decision-Making Processes of the Brazilian National Health System.

The subcategory ESCI as a Right and Duty of the Community is based on the discourse of Pereira et al.27, emphasizing that popular participation, as a fundamental and democratic characteristic in SUS decisions, goes far beyond the role of being a mere evaluator of healthcare satisfaction. This reiterates that society should be involved in discussions about decisions related to the formulation, execution, and evaluation of national and local health policies, considering, in this context, education in/for the SUS.

The following content demonstrates that ESCI is part of the discussions of the Municipal Health Council and that the community’s role in understanding that ESCI is both a right and duty of citizenship, and that this participation is not always respected and valued by education and healthcare:

[...] I believe it was a good process... transparency has always been very visible, changes were always presented, any feedback was always presented at the Municipal Health Council. So, my perception is that it worked, and I believe it is still working. (E7)

The results presented suggest that the local reality aligns with the aspirations presented by Fadel et al.14, where the concrete operationalization of ESCI is necessary to promote dialogic spaces between education, SUS, and the community—establishing a horizontal relationship, collaborative work processes, common interests, and alignment of needs.
While the subcategory Community Participation in Decision-Making Processes of the SUS emerged, there is still a gap in the community’s understanding that ESCI is a right and duty of citizenship and that this participation is not always respected and valued by the education and healthcare sectors:

[...] It was a necessary action... the population itself really needed this interaction, because the school, healthcare, and the community needed to work together. So, in my perception, it was of utmost importance... (E7)

[...] In terms of this connection with the community... it’s still a difficult culture! It’s already difficult for healthcare professionals to engage with the community, imagine an educational professional trying to build a connection with the community... and sometimes they don’t recognize the meaning and importance of it... and that is also a hindrance! (E3)

Silva et al. 28 emphasize the importance of community participation in ESCI, stating that not giving the community a voice in science is a disservice to the discourse, action, and reaction of SUS and the social and educational role of the university as a democratic, progressive, and liberating institution. Thus, the active involvement of healthcare service users should be viewed as a guiding principle for policies and social engagement, changing paradigms in the training of healthcare professionals to be more sensitive and capable of critical and reflective work in response to user needs.

Connecting literature with local reality, it becomes evident that the constant involvement of the community in ESCI and Coapes coordination spaces should always be a priority, as it allows for participation in official decision-making spaces, including the possibility of developing in students the ability to actively listen to SUS users.

**Final Considerations**

The study retrieved the understanding that professional training in the healthcare field should occur through the construction of pedagogical projects aligned with the principles and assumptions of the SUS. This recognition emphasizes the need for dialogical relationships between decision-making instances in educational and healthcare institutions, in favor of effective EPS and the operationalization of Community-Based Education as a means to sustain the lifelong learning process.

The Coapes is highlighted as an instrument to bring institutional relations closer by promoting the participation and commitment of the parties involved in realizing ESCI. However, over recent years, there has been minimal scientific evidence regarding its contributions in directing training for the SUS.
The research shows that, like in most parts of the country, the realization of ESCI has not yet been fully consolidated in the studied scenario. Nevertheless, significant progress and the relevance of Coapes in this process have been noted.

The perceptions of the Local Management Committee representatives regarding how Coapes has been established suggest that the opportunity for dialogical relationships, combined with new projects and attitudes, is the most notable achievement. The regulation of student access to practice settings, unique teaching-health projects, and the shared responsibility of education when engaging with the SUS are concrete examples of the progress observed. Nevertheless, there is still much to be achieved.

Physical infrastructure, pedagogical practices, and the misalignment between education and healthcare have been identified as ongoing challenges. The absence of community involvement through social control representation in official academic decision-making spaces and the resistance of social actors, particularly in relation to the establishment of preceptorship and preceptor training spaces, demonstrate limitations to the different roles and responsibilities, highlighting the challenges to be overcome and requiring future investments.

Understanding how the monitoring and evaluation of ESCI has been structured reveals that the mapping of practice settings arises from planning meetings, technical visits, feedback, and the assessment of the perceptions and satisfaction of the social actors involved. Above all, creating mechanisms that allow the identification of progress, setbacks, and the use of quantitative and qualitative indicators is essential for a clearer understanding of the existing scenario and as a tool to guide new decisions and necessary adjustments.

The research provided a better understanding of the development of ESCI and Coapes in the municipality of Bragança Paulista, SP. Thus, it was concluded that the sustainability and achievements of the contract result from strategies such as approach, institutional dialogue, equal value, and transparency, resulting from technical discussions, process understanding, format selection, awareness, and engagement of the actors. These aspects can be explored in other territories and in future research. However, the study was limited to relying solely on the perception of the Local Management Committee of Coapes, preventing a comprehensive understanding of the topic in the chosen scenario. For future research, the challenge is to propose measurement and verification methods using evaluation techniques to demonstrate the analytical-explanatory nature of the integration between education, service, and the community, as well as its value in training for the SUS.
Contributions of the Authors
The authors actively participated in all stages of manuscript development, including the conception and design of the study, manuscript writing, discussion of results, critical content review, and approval of the final version.

Authors’ contribution
All authors actively participated in all stages of preparing the manuscript.

Conflict of interest
The authors have no conflict of interest to declare.

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References


We conducted a case study to understand the development of teaching-service-community integration (IESC) through the Organizational Contract for Public Education-Health Action (Coapes) in Bragança Paulista in the state of São Paulo. Online semi-structured interviews were conducted with ten members of the local steering committee selected using intentional sampling. The interviews were analyzed using thematic content analysis. The results indicate that the implementation of the IESC and the Coapes was successful. Sustainability and the success of contracting are related to strategies such as approximation, institutional dialogue and equal value and transparency, arising from technical discussions, understanding of process, format choice, awareness raising, and actor engagement. The combination of these elements in conjunction with new projects and attitudes signal pathways to the consolidation of IESC in the territory, which faces challenges that need to be addressed.

**Keywords:** Teaching-care integration services. Healthcare workforce training. Problem-based learning. Contracts. Brazilian National Health System.

Con el objetivo de comprender el desarrollo de la integración enseñanza-servicio-comunidad (IESC) en el municipio de Braganza Paulista (Estado de São Paulo), a partir del Contrato Organizativo de Acción Pública Enseñanza-Salud (Coapes), se realizó un estudio de caso. Una muestra intencional con diez integrantes del Comité Gestor Local participó en entrevistas semiestructuradas, realizadas en ambiente virtual, grabadas y transcritas integralmente. Los relatos pasaron por un análisis de contenido en la modalidad temática. Los resultados indicaron que la conducción de la IESC y del Coapes fue exitosa. La sostenibilidad y los éxitos de la contractualización están relacionados con estrategias tales como la aproximación, el diálogo institucional, la igualdad de valor y transparencia, provenientes de discusiones técnicas, comprensión del proceso, elección del formato, sensibilización y compromiso de los actores. La combinación de esos elementos, aliada a nuevos proyectos y actitudes, señala caminos para la consolidación de la IESC en el territorio que presenta desafíos que hay que superar.