

# Collaborative interprofessional practice in emergency services: specific and shared functions of physiotherapists

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Considering the dynamic and complex characteristic of emergency services, as well as the recommended collaborative interprofessional health practice, this study aims at identifying specific and shared functions of physiotherapists who work in this environment. A documentation analysis was used to map actions, and Delphi technique was carried out for consensus purposes. Twenty-six functions were identified: five of them were specific to physiotherapists, twelve were shared with doctors and nurses, and nine showed no consensus. On the one hand, this shows an expansion of the professions' scope of practice and constitution of common functions among all three professionals, particularly between physiotherapists and doctors. On the other hand, there are potential conflicts due to lack of a definition of one third of the functions. Professional boundaries are flexible, which can contribute to a comprehensive approach of the patients' needs and to effective collaborative teamwork.

**Keywords:** Interprofessional relationships. Patient care team. Collaborative behavior. Physiotherapy. Emergency service.

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## Introduction

Collaborative interprofessional practice has been recommended worldwide to improve the quality of care and as an alternative to the reorganization of specialized jobs, since it is more comprehensive and effective in healthcare, besides having a better quality<sup>1</sup>. This practice is a complex process where professionals with different backgrounds work together and share expertise, knowledge and skills in order to foster care with an impact on people's health<sup>2</sup>. Studies show the need for collaborative interprofessional work to achieve a patient-centered holistic care with adequate cost and quality<sup>3</sup>. Among professionals who work in healthcare institutions, collaborative interprofessional practice increases patient and professional satisfaction, and is cost-effective, improves patient outcomes and can lead to quality improvement in healthcare to the population<sup>4,5</sup>.

Emergency services can be considered the place where collaborative interprofessional practice is essential to patient safety and an effective care development. This is due to the fact that it is a dynamic environment where the patient's clinical condition changes fast<sup>6</sup>. In emergency services, specialized teams provide highly complex patient care. This increases risks of mistakes in units; therefore, communication, collaboration and coordination are essential to an effective care<sup>7,8</sup>.

In the current situation of emergency services, improvement of collaborative interprofessional practice can positively contribute to the quality of care, since these units are an important component of healthcare, becoming a gateway to a more technological care. Several factors contribute to it, such as increased demand due to a higher number of traffic accidents and urban violence<sup>9</sup>, and insufficient care network structure and lack of hospital beds for hospitalization<sup>10</sup>, which contribute to overloading emergency services<sup>11,12</sup>.

The quality of care can be compromised, since studies show a connection between overcrowded emergency services and increased mortality in these services<sup>13</sup>. In this overcrowded scenario, non-medical functions have increased in emergency services as a result of the growing demand and the need to maintain the quality of care<sup>14</sup>. Diseases or aggravations that should be treated in services with corresponding complexity levels are now treated in emergency services because points of healthcare are isolated, fragmented and with little communication. This reduces the care network ability to provide continuous care to the population<sup>15</sup>.

Historically, work teams in emergency services used to be comprised of doctors and nurses qualified for acute clinical and surgical situations. In the last decades, they included physiotherapists<sup>16</sup>, which resulted in an intense debate regarding its benefits<sup>17-19</sup>.

The inclusion of new professionals to care for patients in emergency services does not automatically result in collaborative interprofessional practice. Collaborative interprofessional practice requires the establishment of favorable conditions, such as effective communication; diverse competencies of the members of each team category; function flexibility according to each profession's specificities; and teamwork culture with mutual respect, commitment, trust, camaraderie, and knowledge, activities and new skills share<sup>20</sup>.

The team members' functions also need to be clearly determined<sup>20-22</sup>. There are conflicts related to the different professional roles<sup>23</sup>. They are mainly caused by strict boundaries in professional functions and unawareness of the scope of practice and of each area's responsibility<sup>23,24</sup>, as well as of the difficulty to contribute to other professionals, rivalries and resentments among the areas of work<sup>25</sup>.

The scope of practice refers to the list of competencies developed in each area's professional education, which enables their deployment when faced with situations that require professional care<sup>26,27</sup>. This study adopts the theoretical framework of interprofessional education and practice, particularly Barr's competency typology<sup>26,27</sup>. This framework analyzes, under the interprofessional perspective, three types of competencies: complementary, which are specific to each area of work; common, which are shared among different professional categories; and collaborative, which base collaboration among professionals from different areas. Therefore, there are areas where professional health functions overlap. On the one hand, this can cause conflicts<sup>28</sup>. On the other, it can build partnerships among professionals who acknowledge the specificities of each area and the constitution of a common and collaborative field of responsibilities in healthcare.

In this context, it is evident that collaborative interprofessional practice requires acknowledging the functions of nurses, physiotherapists and doctors who work more intensely and frequently in emergency teams.

The recommendation to analyze the functions of physiotherapists in emergency services is linked to a broader study that analyzes the actions of nurses, physiotherapists and doctors of care teams who work in emergency services<sup>(c)</sup>. This is motivated by the need for better understanding interprofessional work in emergency services under the context of Brazilian National Health System (SUS), taking into account an increased integration in the scope of Healthcare Network (RAS).

<sup>(c)</sup> Broader research called: Identification of common and specific activities of emergency service professionals and their contribution to collaborative interprofessional practice.

This study is justified by the contribution that mapping professional functions in emergency services can bring to improve the work of teams. Acknowledging each profession's specific actions helps clarify their respective roles. This should contribute to a more resolute and harmonic interprofessional relationship. Clear roles will also help towards the definition of common objectives that express an integrated care project with impact in the patient's quality of care. Under the professional education scope, it should contribute to the academic planning of undergraduate Nursing, Physiotherapy and Medicine courses, as well to multiprofessional residency.

This research followed the guidelines of the National Health Council Resolution 466/2012 and started after the approval of Research Ethics Committee (CAAE: 55715116.5.0000.5392). All the participants were instructed regarding the research and signed a consent document.

This study's objective was to map specific and shared functions of physiotherapists who work in emergency teams.

## Method

This exploratory transversal study was conducted in two phases: the first one was a documentation analysis and the second one used Delphi technique.

In the documentation analysis, official documents were searched for labor regulation of physiotherapists in emergency services, professional education and Brazilian public policies on emergency services. Several sources were consulted, where the following keywords were used: "emergency" and/or "urgency", "functions", "role", "activities" and "competencies". All windows and links on the websites related to the Brazilian Physiotherapy regulation were carefully searched using an inclusion criterion of reference to functions of physiotherapists in emergency services. Data collection was conducted from July to November 2016.

The documentation search started in 2002, which was the year of publication of the National Education Council/Higher Education Chamber Opinion 1.133, which concerns National Curricular Guidelines of undergraduate Physiotherapy courses<sup>29</sup>. Sources used in data collection for the "professional physiotherapist practice regulation" theme were websites of regulatory bodies, such as Federal Council of Physiotherapy and Occupational Therapy (COFFITO)<sup>30</sup>, and all 16 websites of Regional Council of Physiotherapy and Occupational Therapy (CREFITO)<sup>31</sup>. Information on professional education was taken from the National Curricular Guidelines of the undergraduate Physiotherapy course<sup>29</sup>. Information on public policies was taken from the Brazilian Ministry of Health's Virtual Health Library<sup>32</sup> and from the websites of the Brazilian Association of Physiotherapists<sup>33</sup>, Brazilian Association of Physiotherapy Research and Postgraduate Studies<sup>34</sup>, and

Brazilian Association of Physiotherapy Education<sup>35</sup>. The Brazilian legislation that rules Physiotherapy practice, Decree-law 938<sup>36</sup>, of October 13, 1969; the National Curricular Guidelines of Physiotherapy<sup>29</sup>, which describe the competencies to be built in undergraduate courses; and COFFITO<sup>30</sup> and CREFITO<sup>31</sup> Resolutions and Ordinances were also consulted.

However, the search strategy previously described did not identify documents related to the regulation of Physiotherapy specialization in emergencies nor that describe the professional practice in emergency services, despite evidence of functions of these professionals found in national and international literature<sup>37-41</sup>.

Due to this negative result, we decided to conduct another search for functions listed in areas related to emergency services, such as cardiovascular, respiratory and intensive care physiotherapies, described on COFFITO's website<sup>30</sup>. Except for repetitions, physiotherapists' functions were listed in all three specialties previously mentioned. Subsequently, we proceeded to the next phase of the study.

In the second phase, the identified functions were used in a survey to be applied using Delphi technique. The objective was to reach a consensus as to specific and shared activities of physiotherapists in emergency services.

Delphi technique enables to reach a consensus in a group of experts in the knowledge area as to a certain phenomenon; in this case, physiotherapists' functions in emergency services. As to the number of experts, literature does not mention an ideal number, but suggests a minimum of five is enough to control agreement, which is recommended from 50% to 80%<sup>42</sup>. A minimum of 80% of consensus and seven experts was determined for this study. Experts were selected through non-probability sampling, called snowball sampling, which uses reference chains, i.e. one professional refers another who works in emergency services and so on<sup>43</sup>. The criteria were: professionals needed to have at least two years of experience in emergency services and accept to be part of the study. This selection system was adopted because there is no Physiotherapy specialty in emergencies, hindering the curricula database search. The first contact was made via email with a physiotherapist well-known among her peers for her experience in emergency services both in practice and in education of new professionals.

The survey sent to experts through Google® Forms verified if a particular function was conducted by physiotherapists in emergency services or not. If so, experts were expected to answer if it was specific or shared with doctors, nurses or both. The survey also had an open-ended question to which experts could add non-listed functions.

## Results

The search for physiotherapists' actions in emergency services-related areas (cardiovascular, respiratory and intensive care physiotherapies) on COFFITO's website identified 54 professional functions.

In the second phase of the study, the expert panel was comprised of 7 expert judges, mostly men (71.4%), with an average of: 7 years of education time, 30.6 years of age, and 4.7 years of experience in emergency services.

The form sent to experts included all 54 functions of emergency services-related areas. Three rounds were conducted to obtain 80% of consensus both in specific and shared functions with doctors and nurses.

Among all functions, 38 were excluded and 10 were included, suggested by experts, resulting in 26: five of them were specific (Chart 1), six were shared with doctors and nurses (Chart 2), one shared with nurses, five shared with doctors (Chart 3) and nine of them did not reach a consensus as to their identification as either specific or shared (Chart 4).

**Chart 1.** Specific and shared functions of physiotherapists in emergency services. São Paulo (SP), Brazil, 2017.

<b>Specific functions of physiotherapists</b>
Prescribe and conduct cardiovascular physiotherapy intervention, respecting clinical safety limits
Determine a physiotherapy diagnosis and prognosis
Prescribe and employ adjuvant physiotherapy methods, techniques and/or resources, if beneficial
Determine the conditions for hospital physiotherapy discharge and prescription
Register physiotherapy assessment, diagnosis, prognosis, intervention, evolution, interconsultation, interoccurrences and discharge on medical records

**Chart 2.** Physiotherapists' functions shared with nurses and doctors in emergency services. São Paulo (SP), Brazil, 2017.

<b>Functions shared with doctors</b>
Manage spontaneous ventilation, oxygen therapy, inhalation therapy, invasive and non-invasive, as well as natural and/or artificial, mechanical ventilation
Work in a multiprofessional team in rehabilitation of individuals with cardiovascular and metabolic dysfunctions
Assess and monitor cardiorespiratory parameters, including in situations where a critical or potentially critical patient needs to be moved
Interpret complementary exams
Apply infection prevention and control measures in the hospital environment
Participate in the team and in health support procedures

The only function shared exclusively with nurses was to position patients in hospital beds in order to favor respiratory mechanics

**Chart 3.** Physiotherapists' functions shared with doctors in emergency services. São Paulo (SP), Brazil, 2017.

<b>Physiotherapists' functions shared with doctors.</b>
Assess the health condition of a critical or potentially critical patient under invasive ventilatory support in order to perform weaning and extubation
Assess the non-invasive ventilation support and a critical or potentially critical patient's health conditions for their removal
Assess and monitor a critical and potentially critical patient's natural and artificial airway
Favor gasometrical control through invasive and non-invasive ventilatory adjustments
Identify asynchrony between patients and ventilators by graphically assessing and monitoring the ventilator

**Table 4.** Physiotherapists' functions in emergency services that did not reach a consensus among experts as to being specific or shared. São Paulo (SP), Brazil, 2017.

<b>Physiotherapists' functions with no consensus</b>
Apply methods, techniques and resources of pulmonary expansion, discharge removal, muscle strengthening, cardiorespiratory reconditioning of critical or potentially critical patients
Favor desensitization to conduct non-invasive ventilation
Perform physical and functional assessment and monitor individuals with cardiovascular, metabolic and/or muscle dysfunction
Know the cardiorespiratory and vasomotor responses to changes in posture, physical effort and other physiotherapy interventions, and monitor them during prescribed activities
Stimulate consciousness level through proprioceptive stimuli and changes in posture
Stimulate temporal and spatial awareness
Correct asynchrony between patients and ventilators
Establish the functional cardiorespiratory ability and stratify the individual's cardiovascular risk
Keep the range of motion through positioning, and passive, active-assisted and active mobilization in hospital beds

## Discussion

This exploratory study aimed at identifying physiotherapists' functions in emergency services focused on collaborative interprofessional practice. It is necessary to elucidate the functions of professions that work in emergency services in order to reduce conflicts, care action fragmentation and its consequent omission, repetition and/or waste of resources. This improves the quality of care, enabling a holistic care oriented towards the health patient's needs<sup>3,21</sup>.

In Brazil, it is legally required to be professionally qualified in order to work in any health profession. Physiotherapy was regulated by Decree-law 938, of October 13, 1969<sup>36</sup>, according to the Federal Constitution, Art. 22, Item XVI, which establishes the Federal Government's reserved power over the organization of professions. However, this function was delegated to Professional Practice Inspection Councils, such as COFFITO<sup>30</sup> in Physiotherapy.

The downsides of this professional regulation model are, among others, prevailing corporate interests that oftentimes do not meet SUS and the Brazilian population's health needs, and the legislation, which maintains corporate monopolies in labor regulation. Monopolies can disseminate conflicts, promoting competition among health professions<sup>44</sup>. Contrary to what this system fosters, collaborative practice requires that different health profession categories regularly work together to solve issues faced by service users and to provide support<sup>1,3</sup>. In practice, collaborative interprofessional practice requires regular negotiations among individuals, since they commonly have a limited knowledge of practice, competencies and responsibilities of other areas<sup>45</sup>.

Several professions throughout the world have been undergoing changes in their professional scope. In the United States, the Health Professions Regulation highlights the importance of these changes to improve the population's access to a cost-effective healthcare with better quality. In this country, the professional scope is determined by the State. The State determines the work functions and conditions of care professionals, the education and training requirements, certifications, licenses and supervision<sup>46</sup>. A restrictive scope of practice is a barrier to the provision of care to the population.

Other factors that can interfere in the development of collaborative practice in health institutions are incipient educational initiatives that develop the students' collaborative abilities<sup>47</sup>. The National Curricular Guidelines of undergraduate Physiotherapy, Speech-Language Pathology and Audiology, and Occupational Therapy courses describe highly-productive multiprofessional, interdisciplinary and transdisciplinary work in promoting health, based on the scientific conviction of citizenship and ethics as competencies to be developed in undergraduate students<sup>29</sup>.

Although COFFITO does not acknowledge Physiotherapy as a specialty to work in emergency services, physiotherapists are designated several functions in these units, both in Brazil and overseas<sup>37-41</sup>.

Among other specific functions, physiotherapists prescribe and employ physiotherapy methods, techniques or resources; provide physiotherapy diagnosis, prognosis and discharge; and fill out medical records. These functions comply with Decree-law 938, which sets forth the following physiotherapy activities: execute physiotherapy methods and techniques in order to restore, develop and preserve the patient's physical ability<sup>36</sup>.

Functions shared with doctors and nurses are mostly related to natural or artificial airway monitoring and mechanical ventilation care. National and international literature corroborates with this finding, showing work is shared among these three professionals<sup>48,49</sup>. Collaborative work and communication among these three professionals are essential for weaning patients from respirators. It is necessary to combine the patient's subjective knowledge with their clinical data, balance protocols and individual needs, and analyze physical and psychological aspects<sup>49</sup>.

Regarding the participation of physiotherapists life support procedures, literature also shows that cardiopulmonary resuscitation should be conducted by a multiprofessional team and that ventilation is one of the main interventions of these professionals in emergency services, being essential to the success of this therapeutic measure<sup>50</sup>.

Regarding the adoption of infection prevention and control measures related to healthcare, adherence of all health professionals is essential for patient safety<sup>51</sup>.

Despite lack of consensus on some functions, this study was interrupted considering that three Delphi technique<sup>42</sup> rounds are usually enough to obtain a potential consensus at the time and context of the study. It was also understood that changes in physiotherapy practice in emergency services are in progress in the country and in the international scenario, being influenced by the institution into where professionals are inserted.

This study's limitation was related to the lack of Physiotherapy specialty in emergency services, requiring the need to search for functions in related areas. This could have caused the omission of some activities conducted by physiotherapists, such as working with patients with peripheral musculoskeletal injuries or lumbar pain relief maneuvers, mentioned in the international literature but not by the judges who participated in this study<sup>52,53</sup>. Delphi technique is considered the right choice for this study especially due to scarcity of publications on this theme.

## Conclusion

Twenty-six functions were identified: five specific to physiotherapists, twelve shared with doctors and/or nurses, and nine with no consensus. On the one hand, this shows an expansion on the scope of practice of professions and the constitution of common functions among these three professionals, particularly between physiotherapists and doctors. On the other hand, it shows the existence of potential conflicts resulted by the uncertainty of one third of the functions.

Identification of physiotherapists' functions, both specific and shared with doctors and nurses, in emergency services evidences the professional boundaries' flexibility. This provides greater access to quality healthcare, since more patients can be taken care of, with greater collaboration among the three professionals involved in care. Professional remodeling is also an opportunity to change the care model under the collaborative interprofessional perspective centered in patients and their families.

Sharing functions with nurses and doctors is a two-way street: on one side, common competencies and interprofessional practice are acknowledged; on the other, the scope of practice of the professions that comprise emergency teams is expanded. Both sides enable to expand access to quality services with greater integration and collaboration.

By better understanding the patients' needs, professionals can work with more flexible boundaries, guided towards achieving the best quality of care, a greater patient satisfaction and work satisfaction, and an adequate use without wasting resources. However, in order to achieve this, besides expanding the professions' scope of practice, changes in health professionals education are also necessary, focusing on interprofessional education and on the professions' regulation system, in order to incorporate collaborative work.

### Authors' contributions

All authors actively participated in all the steps, i.e. in the discussion of the work's results and in the review and approval of its final version.

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