

# **Evaluation and monitoring of interprofessional work and education:** scoping review protocol

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## Highlights

- Planning to map indicators for the evaluation and monitoring of interprofessional work and education.
- Indicators will provide visibility to interprofessional actions that are carried out.
- Indicators will provide technical and political legitimacy for interprofessionality.
- Indicators will promote the institutionalization and sustainability of interprofessionality.

#### **Graphical Abstract**



#### Abstract

The literature identifies interprofessional work and education as promising approaches for improving the quality and effectiveness of health services and professional training. Interprofessional practices, both in the domains of work and education, are those developed based on effective communication among professionals from different fields and between these professionals and service users, integrating the actions of professionals and students from diverse backgrounds, with a focus on the health needs of users, families, and communities, as well as on the comprehensiveness of care. This study aims to describe the planning of a scoping review that will map the indicators adopted for the evaluation and monitoring of interprofessional work and education in health, as well as the processes involved in their development. This is a scoping review protocol structured in five stages: (a) formulating the review question; (b) mapping studies from the literature and other sources; (c) selecting the studies; (d) extracting the data; and (e) collating, summarizing, and presenting the results. It is expected that the results of the scoping review planned from this protocol will enable the identification and description of indicators used to assess and monitor interprofessionality in the health field. The identification of these indicators represents a preliminary stage to support future processes of construction, adaptation, and validation of measures aligned with the principles and guidelines of the Brazilian Unified Health System (Sistema Único de Saúde – SUS), as well as the development of health workforce and education management policies that incorporate an interprofessional perspective.

Keywords: Patient Care Team. Interprofessional Relations. Health Indicators.

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## INTRODUCTION

Contemporary health systems exhibit increasing complexity and face significant challenges in adequately responding to the health needs of individuals and populations<sup>1</sup>. In this context, international organizations such as the World Health Organization (WHO) and the Pan American Health Organization (PAHO) have encouraged the incorporation of interprofessional health and education practices, given their recognized potential to promote comprehensive, user- and population-centered health care<sup>2,3,4</sup>.

Since the 1960s, teamwork in health care has been proposed, and from the 2000s onward, it has gained renewed prominence accompanied by collaboration and interprofessional education<sup>5</sup>. The literature identifies interprofessional work and education as promising approaches for improving the quality and effectiveness of health services<sup>6</sup> and professional training in the health field<sup>7</sup>.

Interprofessional practices, both in the domains of work and education, are those developed based on effective communication among professionals from different disciplines and between these professionals and service users, integrating the actions of professionals and students from diverse educational backgrounds, with a focus on the health needs of users, families, and communities, as well as on the comprehensiveness of care<sup>8</sup>. Reeves et al. (2010)9 employ a contingency approach to interprofessional work and analyze four modalities: teamwork, collaboration, coordination, and networked work. The contingency perspective emphasizes that there is no single model for interprofessional health practices; rather, these should be analyzed according to the profiles of users' and populations' health needs, as well as the working conditions in which professionals and teams operate<sup>9,10</sup>.

Teamwork represents the most structured and integrated form of interprofessional work, characterized by frequent interaction, interdependence of actions, shared goals, clarification of roles, and collective responsibility for care<sup>8,11</sup>. Collaboration, in turn, represents a more flexible form of interprofessional work, with a lower degree of role sharing and understanding, but guided by cooperation and the reduction of hierarchical barriers<sup>10</sup>. Networked work expresses a broader and less interdependent form of integration, in which actions are generally more predictable and may occur asynchronously<sup>8,9</sup>. Within this conceptual spectrum, the WHO describes interprofessional collaboration as the health practice that occurs when professionals from different backgrounds work in an integrated manner with users, families, and communities, incorporating other relevant social actors to achieve common health goals<sup>2</sup>.

Professional training grounded in Interprofessional Education (IPE) fosters the development of competencies - understood as knowledge, skills, and attitudes - that contribute to interprofessional work<sup>2,12,13</sup>. IPE is an educational approach in which students and professionals from different health fields learn interactively, with the explicit objective of improving interprofessional collaboration and the quality of health care7. This definition highlights three structural elements of IPE: it involves two or more health and related professions; it encompasses shared learning through interaction, employing active teaching and assessment methodologies; and it explicitly articulates the intention to promote interprofessional learning - stated in the educational activity's objectives, content, and teaching and assessment methods<sup>7,14</sup>.

At the global level, interprofessionality began to take shape in the 1970s, driven by WHO initiatives to promote a comprehensive approach to the health needs of users within health systems. This movement culminated in the publication, in 2010, of the "Framework for Action on Interprofessional Education and Collaborative Practice"<sup>2</sup>, which spurred the expansion of discussions to countries beyond the United Kingdom and Canada — nations that had already accumulated successful experiences and whose work has helped consolidate the theoretical and conceptual foundations of interprofessionality<sup>15</sup>.

In Brazil, the incorporation of the interprofessional approach was notably marked by the introduction of the interprofessional curriculum proposed by the Federal University of São Paulo (UNIFESP), Baixada Santista Campus, in 2006¹6. Several other IPE initiatives were subsequently implemented in higher education institutions, often involving integrated curricula. This movement stimulated further efforts to strengthen interprofessionality in the Brazilian context, such as the International Colloquia on Interprofessional Education and Work in Brazil (Ciets) and the establishment of the Brazilian Network of Interprofessional Education and Work (ReBETIS), both supported by PAHO and the Brazilian Ministry of Health¹5.

Brazil has consolidated itself as a favorable environment for the development of interprofessionality since the creation of the Unified Health System (Sistema Único de Saúde – SUS), through initiatives such as the Family Health Strategy (Estratégia Saúde da Família – ESF), the National Policy on



Continuing Education in Health (Política Nacional de Educação Permanente em Saúde – PNEPS), and the Multiprofessional Teams for Primary Health Care (e-Multi). These initiatives seek to promote the sharing of knowledge, co-responsibility in health care, and comprehensiveness of care, as proposed by the interprofessional approach, which is understood to be aligned with the principles and guidelines of SUS. Furthermore, Brazil has also implemented public policies that induce changes in professional training, such as the Education through Work for Health Program (PET-Saúde) and the Multiprofessional Residency Programs<sup>17,18</sup>.

Despite these national advances, many of these initiatives have occurred in a fragmented and isolated manner, often demonstrating weaknesses in institutional sustainability that have frequently led to their discontinuation<sup>19</sup>. The institutionalization of interprofessional practices remains incipient in both health care delivery and professional education<sup>20</sup>. This fragility is also reflected in the scarcity of consolidated instruments and indicators that allow for the systematic evaluation and monitoring of interprofessionality. Such a gap limits the consolidation of interprofessional work and education in the country as structuring strategies for health, management, and educational practices.

Indicators will enable the monitoring and assessment of the effective implementation of teamwork, collaboration, and IPE, their impact on the comprehensiveness of care, and their association with other health indicators.

Interprofessionality indicators should measure the presence of Donabedian's Triad — structure, process, and outcome — as it relates to interprofessional actions in both health care and education<sup>21</sup>. This framework allows for an integrated analysis of

institutional conditions, interprofessional practices, and the effects produced in health care and training.

Additionally, the effects of interprofessional health and education practices will also be analyzed through the incorporation of the Triple Aim framework as a guiding principle or goal of interprofessional work and education<sup>22</sup>. The Triple Aim is a strategy designed to optimize the performance of health systems, and when aligned with interprofessionality, it emphasizes improving population health, enhancing patient experience, and reducing costs. However, in the Brazilian context of chronic underfunding of SUS, the cost-reduction dimension will not be examined.

The Quadruple Aim will also be adopted, adding the goal of improving the work experience of health professionals, along with the Quintuple Aim, which includes the enhancement of health equity among the populations served and among health workers themselves<sup>22,23</sup>.

Given the structural underfunding that has historically characterized SUS, incorporating evaluative models inspired by the Quintuple Aim represents an opportunity to strengthen policies and practices that promote fairer, person-centered care, supported by interprofessional teams.

Thus, this protocol aims to describe the planning of a scoping review that will map the indicators adopted for the evaluation and monitoring of interprofessional work and education in health, as well as the processes involved in their development. The choice of a scoping review is justified by its ability to comprehensively synthesize and map available evidence on an emerging topic, allowing for the identification of knowledge gaps and informing future research and public policy development.

## METHODOLOGY

The scoping review to be conducted follows the framework proposed by Arksey and O'Malley (2005)<sup>24</sup> and the JBI Methodology (2024)<sup>25</sup>, which establish five stages: (a) formulating the review question; (b) mapping studies from the literature and other sources; (c) selecting studies; (d) extracting data; and (e) collating, summarizing, and presenting the results. The review will also use the Preferred Reporting Items for Systematic Reviews and Meta-Analyses Extension for Scoping Reviews (PRISMA-ScR), which includes 22 essential items for reporting the methodology and results of a scoping review<sup>26</sup>.

This protocol is registered in the Open Science Framework (OSF) under DOI 10.17605/OSF.IO/YAGV4. Should any modifications to this protocol be necessary, both the changes and their justifications will be described in the publication of the final review report.

The PCC mnemonic (Population, Concept, and Context) was used to define the scoping review question: What indicators are used to monitor and evaluate interprofessional work and education, and how are they constructed/developed? The following aspects were considered:

• P (Population): Health professionals (techni-



cal vocational education at the secondary level and higher education in health), health managers, health field faculty members, and health service users

- *C (Concept)*: Indicators used for the monitoring and evaluation of interprofessional work and education, as well as their construction and/or development. Indicators are defined as summary measures that explicitly quantify components of structure, process, and outcome related to interprofessional work in health care and interprofessional education in training and continuing education<sup>21</sup>.
- *C* (*Context*): Interprofessional work and education.

Studies published in any time frame and written in English, Portuguese, or Spanish were included. The following sources of evidence were considered: primary studies employing quantitative, qualitative, or mixed methods; literature reviews; and theoretical or conceptual essays. Exclusion criteria included: publications from conference proceedings, editorials, theses, and dissertations; duplicate studies indexed across databases; and studies focusing on a single profession — even if within the

health field and mentioning interprofessionality — since, in the literature on this topic, definitions of interprofessional work and IPE necessarily refer to two or more professions.

To develop a comprehensive search strategy, an initial limited search was conducted in April 2024 in Web of Science, PubMed/MEDLINE, ERIC, and EMBASE to identify articles that could inform the selection of relevant descriptors in titles and abstracts. Indexed terms were also examined in *Descritores em Ciências da Saúde* (DeCS), Medical Subject Headings (MeSH), CINAHL Headings, and Emtree. Indexed descriptors, synonyms, and other free-text terms related to the three main concepts of the review question — interprofessional work, interprofessional education, and indicators — were selected.

Descriptors corresponding to the same main concept were connected using the Boolean operator OR, forming a single syntax for each concept. The three search syntaxes (one for each main concept in the review question) were then combined using the Boolean operator AND, resulting in the final search strategy. A librarian from the proposing institution assisted in developing the search strategy, which is presented in Table 1.

**Table 1 -** Descriptors corresponding to the key terms of the review question that composed the search strategy for database searches. São Paulo/SP, 2024.

Main terms of the review question	Descriptors	Syntax
Interprofessional Practice	("Interprofessional relations" OR "Inter-professional" OR "Cooperative behavior" OR "Patient care team" OR "Interdisciplinary communication" OR "Interdisciplinary communication" OR "Interdisciplinary communication" OR "Multidisciplinary communication" OR "Multidisciplinary communication" OR "Multidisciplinary communication" OR "Multiprofessional communication" OR "Multiprofessional communication" OR "Multiprofessional communication" OR "Multiprofessional communication" OR "Interdisciplinary care team" OR "Multiprofessional care team" OR "Interdisciplinary care team" OR "Multidisciplinary care team" OR "Multiprofessional care team" OR "Multiprofessional care team" OR "Multiprofessional care team" OR "Multiprofessional care team" OR "Cross-disciplinary care team" OR "Collaborative care team" OR "Interprofessional care team" OR "Cross-disciplinary care team" OR "Collaborative care team" OR "Interprofessional collaboration" OR "Interprofessional cooperation" OR "Interdisciplinary work" OR "Inter disciplinary work" OR "Multidisciplinary work" OR "Multidisciplinary work" OR "Multiprofessional work" OR "Multiprofessional work" OR "Multiprofessional work" OR "Multiprofessional work" OR "Transprofessional work" OR "Transdisciplinary work" OR "Transprofessional work" OR "Transdisciplinary work" OR "Transprofessional work" OR "Multidisciplinary teamwork" OR "Interdisciplinary teamwork" OR "Multidisciplinary teamwork" OR "Multiprofessional teamwork" OR "Transdisciplinary teamwork" OR "Multiprofessional teamwork" OR "Transdisciplinary teamwork" OR "Multiprofessional teamwork" OR "Transdisciplinary teamwork" OR "Transdisciplinary teamwork" OR "Transdisciplinary teamwork" OR "Transdisciplinary teamwork" OR "Tran	[1]
Interprofessional Practice	("Interdisciplinary education" OR "Inter disciplinary education" OR "Inter-disciplinary education" OR "Multi-disciplinary education" OR "Multi-disciplinary education" OR "Multi-disciplinary education" OR "Interprofessional education" OR "Multi-professional education" OR "Interprofessional education" OR "Interprofessional education" OR Multi-disciplinary education OR "Interprofessional education" OR Multi-professional education OR "Multi-professional education" OR Multi-professional education OR "Multi-professional education" OR Multi-professional education OR "Interprofessional education" OR "Interprofessional education" OR "Interprofessional education" OR "Multi-professional education" OR "Interprofessional edu	
Indicators	("Educational measurement" OR "Health metrics" OR Framework OR Indicators OR "Performance measurement" OR "Performance indicators" OR Measures OR "Accreditation standards" OR "Practice standards" OR effect* Of effectiveness OR "Outcome Measures" OR "Outcome Assessment, Health Care" OR "Outcomes Assessment")	
Final search strategy	[1] AND [2] AND [3]	

Source: Authors (2024).



The electronic databases selected for the study search were PubMed/MEDLINE, LILACS, SCIELO, Web of Science, Scopus, Embase, and CINAHL. Access to the studies was obtained through the Federated Academic Community (Comunidade Acadêmica

Federada – CAFe) via the CAPES Journal Portal, managed by the Brazilian Ministry of Education. Table 2 presents the number of studies retrieved from each database using the complete search strategies, conducted on May 22, 2024.

**Table 2 -** Number of studies retrieved using the complete search strategies in each database. São Paulo/ SP, 2024.

Database	Search strategy	N
Web of Science	("Educational measurement" OR "Health metrics" OR Framework OR Indicators OR "Performance measurement" OR "Performance indicators" OR Measures OR "Accreditation standards" OR "Performance "Teather OR effectiveness OR "Outcome Assessment" OR "Outcome Assessment" OR "Performance measurement" OR "Performance indicators" OR "Measures OR "Accreditation standards" OR "Practice standards" OR effect (OR effectiveness OR "Outcome Assessment" OR "Health metrics" OR Framework OR Indicators OR "Performance measurement" OR "Performance indicators" OR "Accreditation standards" OR "Practice standards" OR effectiveness OR "Outcome Assessment" OR "United outcome Measures" OR "Outcome Assessment, Health Care" OR "Outcome Assessment" OR "Healthcare Quality Indicator") (Abstract) AND ("Interdisciplinary education" OR "Interdisciplinary education" OR "Multi-disciplinary education" OR "Multi-disciplinary education" OR "Multi-professional education" OR "Multi-disciplinary education" OR "Multi-professional education" OR "Interdisciplinary education" OR "Multi-disciplinary educ	1656

to be continued...



# ... continuation- Table 2.

Database	Search strategy	N
PubMed/ Medline	((("Educational measurement" Title/Abstract] OR "Health metrics" Title/Abstract] OR "Performance measurement" Title/Abstract] OR "Performance indicators" Title/Abstract] OR "Performance indicators" Title/Abstract] OR "Performance indicators" Title/Abstract] OR "Performance indicators" Title/Abstract] OR "Practice standards" Title/Abstract] OR effect* Title/Abstract] OR "Practice standards" Title/Abstract] OR effect* Title/Abstract] OR "Outcome Sassessment, Health Care" Title/Abstract] OR "Outcomes Assessment" Title/Abstract] OR "Outcomes Assessment, Health Care" Title/Abstract] OR "Multi-disciplinary education" Title/Abstract] OR "Multi-disciplinary education" Title/Abstract] OR "Multi-disciplinary education" Title/Abstract] OR "Multi-disciplinary education" Title/Abstract] OR "Interprofessional education" Title/Abstract] OR "Interprofessional education" Title/Abstract] OR "Transdisciplinary education" Title/Abstract] OR "Multi-disciplinary education" Title/Abstract] OR "Interprofessional learning"  Title/Abstract] OR "Multi-disciplinary education" Title/Abstract] OR "Interprofessional learning"  Title/Abstract] OR "Multi-disciplinary education" Title/Abstract] OR "Interprofessional learning" Title/Abstract] OR "Collaborative earning" Title/Abstract] OR "Interdisciplinary communication" Title/Abstract] OR "Interdisciplinary communication" Title/Abstract] OR "Interdisciplinary communication" Title/Abstract] OR "Multi-disciplinary communication" Title/Abstract] OR "Multi-disciplinary communication" Title/Abstract] OR "Multi-professional communication" Title/Abstract] OR "Multi-professional communication" Title/Abstract] OR "Multi-professional care team" Title/Abstract] OR "Multi-professional care team" Title/Abstract] OR "Multi-professional care te	456
Embase	('educational measurement':ab,ti OR 'health metrics':ab,ti OR framework:ab,ti OR indicators:ab,ti OR 'performance measurement':ab,ti OR 'performance indicators':ab,ti OR measures:ab,ti OR 'accreditation standards':ab,ti OR 'practice standards':ab,ti OR effect*:ab,ti OR effectiveness:ab,ti OR 'outcome measures':ab,ti OR 'outcome assessment, health care':ab,ti OR 'outcomes assessment':ab,ti) AND (('interdisciplinary education':ab,ti OR 'multidisciplinary learning':ab,ti OR 'interprofessional relations':ab,ti OR 'interprofessional':ab,ti OR 'interprofessional':ab,ti OR 'interdisciplinary eommunication':ab,ti OR 'multidisciplinary communication':ab,ti OR 'multidisciplinary care team':ab,ti OR 'multidisciplinary work':ab,ti OR 'multidisciplinary work':ab	520

to be continued...



Database	Search strategy	N
SCOPUS	(TITLE-ABS-KEY ( ("Educational measurement" OR "Health metrics" OR framework OR indicators OR "Performance measurement" OR "Performance indicators" OR measures OR "Accreditation standards" OR "Practice standards" OR effect* OR effectiveness OR "Outcome Measures" OR "Outcome Assessment, Health Care" OR "Outcomes Assessment" ) ) AND TITLE-ABS-KEY ( ("Interdisciplinary education" OR "Inter disciplinary education" OR "Multi-disciplinary education" OR "Multi-disciplinary education" OR "Multi-disciplinary education" OR "Multi-grofessional education" OR "Multi-grofessional education" OR "Multi-grofessional education" OR "Multi-grofessional education" OR "Multi-disciplinary education" OR "Cooperative behavior" OR inter et aem "OR "Interdisciplinary communication" OR "Multi-disciplinary communication" OR "Multi-disciplinary communication" OR "Multi-disciplinary communication" OR "Multi-disciplinary communication" OR "Multi-grofessional communication" OR "Interdisciplinary care team" OR "Multi-disciplinary care team" OR "Multi-disciplinary care team" OR "Multi-grofessional care team" OR "Multi-grofessional care team" OR "Multi-grofessional care team" OR "Interprofessional care team" OR "Cross-disciplinary care team" OR "Multi-grofessional care team" OR "Interprofessional care team" OR "Cross-disciplinary work" OR "Interprofessional care team" OR "Multi-grofessional care team" OR "Cross-disciplinary work" OR "Interprofessional work" OR "Interprofessional work" OR "Multi-gr	944
CINAHL	TI ( ("Educational measurement" OR "Health metrics" OR Framework OR Indicators OR "Performance indicators" OR Measures OR "Accreditation standards" OR "Practice standards" OR effect" OR effectiveness OR "Outcome Measures" OR "Outcome Assessment") OR BAI ("Educational measurement" OR "Health metrics" OR Framework OR Indicators OR "Performance measurement" OR "Performance indicators" OR Measures OR "Accreditation standards" OR Practice of OR "Outcome Assessment") OR "Accreditation standards" OR "Practice of OR "Outcome Assessment" OR "Performance indicators" OR "Outcome Assessment, Health Care" OR "Outcome Assessment") AND TI ( ("Interdisciplinary education" OR "Interdisciplinary education" OR "Interdisciplinary education" OR "Interdisciplinary education" OR "Multi disciplinary education" OR "Multi disciplinary education" OR "Multi professional education" OR "Multi disciplinary education" OR "Multi-professional education" OR "Multi-professional education" OR "Multi-professional education" OR "Interprofessional education" OR "Multi-professional education" OR "Interprofessional education" OR "Multi-disciplinary education" OR "Interprofessional education" OR "Interprofessional" OR "Multi-disciplinary education" OR "Interprofessional education" OR "Interprofessional" OR "Multi-gionary education" OR "Multi-gionary education" OR "Interprofessional education" OR "Interprofessional" OR "Multi-gionary education" OR "Multi-gionary education" OR "Multi-gionary education" OR "Interprofessional education" OR "Interprofessional or on the professional education" OR "Interprofessional or on the professional education" OR "Interprofessional education" OR "Interdisciplinary education" OR "Interprofessional education" OR "Multi-disciplinary education" OR "Interprofessional education" OR "Multi-gionary education" OR "Multi-gionary education" OR "Multi-gionary education" OR "Multi-gionary education" OR "Interdisciplinary education" OR "Interdisciplinary education" OR "Multi-gionary education" OR "Multi-gionary education" OR "Multi-gi	1200

to be continued...



#### ... continuation - Table 2.

Database	Search strategy	N
Lilacs	(("Educational measurement" OR "Health metrics" OR framework OR indicators OR "Performance indicators" OR measures OR "Accreditation standards" OR "Practice standards" OR effect* OR effectiveness OR "Outcome Assessment, Health Care" OR "Outcomes Assessment")) AND (("Interdisciplinary education" OR "Inter disciplinary education" OR "Multi-disciplinary education" OR "Multi-disciplinary education" OR "Multi-disciplinary education" OR "Multi-disciplinary education" OR "Multi-professional education" OR "Multi-professional education" OR "Multi-professional education" OR "Multi-disciplinary education" OR "Multi-goressional education" OR "Multi-disciplinary education" OR "Multi-goressional education" OR "Coss-disciplinary education" OR "Multi-goressional education" OR "Coss-disciplinary education" OR "Multi-goressional education" OR "Multi-goressional education" OR "Coss-disciplinary education" OR "Multi-goressional education" OR "Inter-professional education" OR "Inter-professional" OR "Cooperative behavior" OR "Patient care team" OR "Interdisciplinary communication" OR "Multi-disciplinary communication" OR "Multi-disciplinary communication" OR "Multi-disciplinary communication" OR "Multi-goressional communication" OR "Multi-goressional communication" OR "Multi-goressional communication" OR "Multi-goressional communication" OR "Interdisciplinary care team" OR "Multi-goressional communication" OR "Multi-goressional care team" OR "Multi-goressional comparation" OR "Multi-goressional work" OR "Multi-goressional teamwork" OR "Multi-goressional teamwork" OR "Multi-go	67
Scielo	(("Educational measurement" OR "Health metrics" OR Framework OR Indicators OR "Performance measurement" OR "Performance indicators" OR Measures OR "Accreditation standards" OR "Practice standards" OR effect* OR effectiveness OR "Outcome Measures" OR "Outcome Assessment, Health Care" OR "Outcomes Assessment") ) AND (("Interdisciplinary education" OR "Inter disciplinary education" OR "Multi disciplinary education" OR "Multi disciplinary education" OR "Multi-disciplinary education" OR "Multi-disciplinary education" OR "Multi-professional education" OR "Cross-disciplinary education" OR "Trans-disciplinary education" OR "Multi-professional education" OR "Cross-disciplinary education" OR "Trans-disciplinary education" OR "Multi-professional learning" OR IPE OR "Collaborative learning" OR IPECP) ) AND (("Interprofessional relations" OR "Inter-professional" OR "Cooperative behavior" OR "Patient care team" OR "Interdisciplinary communication" OR "Interdisciplinary communication" OR "Multidisciplinary communication" OR "Multiprofessional communication" OR "Multiprofessional communication" OR "Multiprofessional communication" OR "Multiprofessional communication" OR "Interdisciplinary care team" OR "Multiprofessional care team" OR "Multiprofessional care team" OR "Multiprofessional care team" OR "Interprofessional conduction" OR "Interprofessional care team" OR "Interprofessional conduction" OR "Interprofessional care team" OR "Interprofessional conduction" OR "Interprofessional conduction" OR "Interprofessional conduction" OR "Interprofessional conduction" OR "Interdisciplinary work" OR "Interdisciplinary work	54
	1 Table destruction (1)	489

Source: Authors (2024).

The publications identified were imported into the Rayyan – Systematic Review platform, which enables the removal of duplicate studies, organization, and management of the literature review screening process, conducted by pairs of reviewers independently and blinded. The study selection process begins with the screening of titles and abstracts based on the inclusion criteria, research question, and review objectives. Subsequently, the selected articles are read in full using the same eligibility criteria. Any disagreements between reviewers are resolved by a third re-

searcher. If the authors are unable to access a study during the full-text reading phase, an email is sent to the corresponding author to request the complete article. The references of the studies selected for fulltext reading are also reviewed to assess their relevance for inclusion, considering the study objective.

The selected studies will then undergo a data extraction stage, conducted in a double-blind process, with any conflicts resolved by a third reviewer. The data collected will be stored in a Microsoft Excel spreadsheet, containing the variables detailed in Table 3 below.

**Table 3 -** Variables and respective definitions to be extracted from the studies. São Paulo/SP, 2024.

Variables	Definition
Author	Names of the authors who conducted the study, as stated in the authorship.
Year	Year of study publication.
Country	Country where the study was conducted.
Objective	Objective of the study as described in the abstract or introduction. If not explicitly stated, it will be inferred from the introduction, methodology, and results.
Population, sample, and participants (social actors, stakeholders)	Details of the participants involved in the study, as described in the methodology and results.
Type of service or educational setting	Description of the context in which the study was conducted, specifying the type of service (e.g., primary healthcare unit, hospital, clinic, among others) if the study addresses health practice and/or work settings, or the educational setting (e.g., university, laboratory, teaching hospital, among others) if it addresses an educational context.
Reference framework	The theoretical or conceptual framework adopted by the study authors to support the development of the indicators.
Indicators adopted for monitoring and evaluation of interprofessional practice and education	Description of the indicators as presented in the study.
Methods for constructing the indicators	Methodology described in the study for the development/construction of the indicators.
Effects of interprofessional practice and education according to the Quintuple Aim <sup>22</sup>	Effects associated with interprofessional health practice and/or education related to aspects of the Quintuple Aim (improvement in population health, enhancement of patient experience, improvement of healthcare professionals' work experience, and promotion of health equity).

Source: Authors (2024).

The reflexive thematic analysis technique proposed by Braun and Clarke (2020)27 will be applied, comprising the following stages: (1) familiarization with the dataset; (2) coding; (3) generation of initial themes; (4) developing and reviewing themes; (5) refining, defining, and naming themes; and (6) final reporting. The analysis will be grounded in the theoretical and conceptual framework of interprofessional work and interprofessional education (IPE) as developed by

Scott Reeves and collaborators (2010, 2016, 2017, 2018)<sup>6,7,9,11</sup>, D'Amour *et al.* (2008)<sup>28</sup>, and the Brazilian production of Marina Peduzzi and collaborators (2020)<sup>8</sup>.

The results of this scoping review will be presented in diagrammatic and summary-table formats and organized into analytical themes. The final version of this review will be structured and written according to the PRISMA-ScR checklist and flow diagram guidelines<sup>25,26</sup>.

## **EXPECTATIONS AND HYPOTHESES REGARDING THE RESULTS**

This scoping review aims to fill a gap — scientific, technical, and political — by identifying studies that address indicators capable of evaluating and monitoring teamwork, collaboration, and interprofessional education (IPE).

Among the indicators identified, it is expected that limitations will emerge concerning their precision in measuring what they propose to assess, reflecting conceptual and terminological weaknesses, given that the interprofessional approach in health and education practices has not yet achieved consensus in the literature. Such limitations include the imprecision of concepts related to teamwork, collaboration, and interprofessional networking, as well as distinctions between interprofessional, multiprofessional, interdisciplinary, and transdisciplinary work and education. This recurrent terminological ambiguity in research and literature on the topic may compromise the validity of the proposed measures. Furthermore, considerable variability in the scope of the indicators is anticipated, encompassing

different levels of measurement — from professional interactions to institutional, local, municipal, state, or national dimensions — often without clearly defining the scope of application for each.

In addition, through reflexive thematic analysis, it is likely that indicators with distinct focuses will be identified, corresponding to the structure, process, or outcomes of interprofessional work and education.

It is also hypothesized that studies addressing indicators will mention their effects on health or interprofessional education practices, allowing the classification of such effects according to the Triple Aim, Quadruple Aim, and Quintuple Aim frameworks. A predominance of effects related to improved population health is expected, with fewer references to enhanced patient experience, improved healthcare professionals' work experience, or increased health equity within the population.

Regarding the indicator development process, although it should involve stakeholders in their intend-



ed use, it is likely that there will be no methodological standardization or participation of strategic actors (such as service users, workers, and managers).

Finally, it is expected that the results will highlight

the need to propose and validate indicators aligned with the principles, guidelines, and structural conformance of Brazil's Unified Health System (Sistema Único de Saúde – SUS).

## DISCUSSION

The results of this scoping review will contribute to defining indicators capable of assessing and monitoring interprofessionality within the scope of health and education policies and practices of the Brazilian Unified Health System (SUS). The limitations of interprofessional work and education have been associated with significant adverse events, such as medication administration errors, increased rates of falls, catheter loss, hospital-acquired infections, and prolonged hospital stays<sup>2,29</sup>.

Since 2010, the World Health Organization (WHO) has encouraged countries to adopt strategies and actions aimed at incorporating interprofessionality (interprofessional work and education) into health policies and educational curricula to strengthen health systems and improve population health outcomes<sup>2</sup>. Interprofessional Education (IPE) is an educational approach that develops competencies for collaboration and teamwork among students and professionals. Incorporating these competencies into the curricula of health professionals throughout their training (undergraduate, continuing professional development, and technical education) should be encouraged, fostering education that meets the complex health needs and demands of health systems<sup>30</sup>.

The fragmentation of health services and systems, coupled with the uniprofessional model of health professional training, fails to meet health needs both nationally and globally, affecting access and quality of care, and exacerbating inequities that were intensified by the COVID-19 pandemic<sup>1</sup>. The current scenario of health work and education demands new approaches that address these challenges and improve population health — an area where interprofessionality can make a difference, given the growing body of evidence demonstrating its effectiveness across multiple dimensions of care and training<sup>7,31</sup>.

In healthcare delivery, studies show that interprofessional work and collaboration improve users'

functional status and satisfaction, care processes, professional adherence to recommended practices, organizational climate, and resource utilization<sup>6,32,33</sup>. In health education, IPE has demonstrated positive effects on attitudes, perceptions, and readiness for collaboration among students and professionals, as well as enhanced understanding of professional roles, communication, and teamwork skills<sup>7</sup>.

Despite recognition of its importance, the literature indicates that the incorporation of interprofessionality faces political, institutional, structural, cultural, and financial challenges, which directly affect its success¹. The still incipient institutionalization of interprofessionality has led to fragmented and isolated initiatives, undermining the continuity of interprofessional teaching and practice. Studies on IPE implementation in different contexts reveal that lack of institutional support — and consequently, limited commitment to IPE — remains a persistent challenge. This is particularly critical because consolidating IPE requires a coordinated institutional structure capable of organizing, managing, and sustaining interprofessional initiatives systematically³⁴.

The WHO outlines institutional mechanisms that should incorporate interprofessionality to ensure its sustainability: governance models, structured protocols, shared operational resources, personnel policies, and supportive management practices<sup>2</sup>.

To support this incorporation, the definition of indicators will make visible the interprofessional actions carried out in both health practice and professional education, providing technical and political legitimacy and promoting the institutionalization and sustainability of interprofessionality within institutions. It is therefore expected that these indicators will lead to institutional recognition of ongoing interprofessional actions, contributing to the integration of this approach into the planning, management, and evaluation systems of SUS and educational institutions.



# CONCLUSION

The results of the scoping review planned based on this protocol will enable the identification and description of indicators used to evaluate and monitor interprofessional work and education. This represents a preliminary step that supports future processes of developing, adapting, and validating indicators aligned with the principles, guidelines, and structure of SUS, as well as the development of workforce and health education management policies that effectively incorporate interprofessionali-

ty. This is a strategy to consolidate interprofessional health practice and education as a guiding principle for achieving comprehensive health and service effectiveness, granting interprofessionality technical and political legitimacy.

Finally, identifying indicators and integrating them into SUS monitoring and evaluation systems may support financial, material, and human resource investments, thereby contributing to the sustainability of interprofessionality in health work and education.

#### **CRediT** author statement

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## **Declaration of competing interest**

The authors declare that they have no known competing financial interests or personal relationships that could have appeared to influence the workreported in this paper.

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