

BMJ Open Telehealth use in primary healthcare collaborative interprofessional practice: protocol for a scoping review

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ABSTRACT

Introduction Telehealth is a growing topic, with potential to improve access to primary healthcare. However, there is a lack of knowledge regarding how telehealth could facilitate interprofessional collaboration that is recommended to strengthen the comprehensive approach of primary healthcare. The objective is to identify the characteristics and applications of telehealth services related to the interprofessional collaborative practice of primary healthcare professionals.

Methods and analysis This review will cover studies including as target population those health professionals who work in telehealth services; as concept, telehealth in relation to collaborative interprofessional practice; and as context, primary healthcare. A scoping review will be carried out according to the Joanna Briggs Institute methodology. Databases to be searched include MEDLINE, CINAHL, Embase, Eric, Scopus, LILACS and Web of Science. All identified records will be grouped, duplicates will be removed, titles and abstracts will be selected by two independent reviewers, and the full text of selected articles will be evaluated in detail. A data extraction tool developed by the reviewers will be used for data extraction. The results will be presented in data map format in a logical way, in a diagram or in a tabular format, accompanied by a descriptive summary.

Ethics and dissemination No ethical approval is required for this study. A manuscript based on this scoping review will be submitted to a journal and we hope it will contribute to scientific knowledge on the interprofessional field and key research findings will be sent to key events on interprofessional practice and education.

Systematic review registration This scoping review was registered in the Open Science Framework (<https://doi.org/10.17605/OSF.IO/2BV8D>).

INTRODUCTION

Telehealth is a broad term that refers to the use of different information and communication technologies for the remote delivery of health services. Its aim is bringing together and integrating health professionals, teams and services to increase patients' access to healthcare, especially to those whose access is unavailable or limited.¹ In this sense, it is understood as a device that improves the quality of access to health

STRENGTHS AND LIMITATIONS OF THIS STUDY

- ⇒ We will use a methodological framework proposed by the Joanna Briggs Institute (JBI) for the scoping review.
- ⇒ Relevant sources will be retrieved in full into the JBI System for Unified Management Document, Assessment and Review Information.
- ⇒ The research follows the Preferred Reporting Items for Systematic Reviews and Meta-analyses for Scoping Reviews.
- ⇒ The different types of concepts related to telehealth and interprofessional collaboration can make it difficult to search the publications and synthesise the results.

services. Through telehealth, professionals and health teams from different geographical locations can collaborate and share evaluation methods, diagnosis, treatment, monitoring and screening, and carry out interconsultations and matrix support in order to monitor and take care of patients.²

Telehealth can provide additional opportunities for patients to receive interprofessional care, in order to improve self-management and adherence to treatments.³ As the population ages and the prevalence of long-term conditions increases, telehealth is increasingly being used on team-based care delivery. Telehealth shows an effective way to tackle difficult problems by enabling virtual meets, through which interprofessional teams and patients can share decisions and agree on a healthcare plan.²

Morgan *et al* define interprofessional collaboration (IPC) as an active and ongoing partnership, often among people from diverse backgrounds with distinct professional cultures and possibly representing different organisations or sectors, who work together to solve problems or provide services. In this context, they establish interprofessional collaborative practice as a term used to describe the elements of IPC implemented in the practice setting and

belonging to an umbrella hierarchy term of the IPC.⁴ Reeves *et al* argue that IPC is a more flexible form of interprofessional work, being similar to teamwork in that it requires shared responsibility and interdependence among individuals, in addition to clarity of roles and goals.⁵

Telehealth, combined with IPC with different health areas, working together to support the patients' integral treatment, becomes powerful in improving the team ability and interprofessional integration⁶; it is capable of producing answers to several health problems in different meeting modalities and not just face-to-face.

In primary care, the most capillary level of healthcare and considered the preferred entry point for users to the health system, the additional benefits of telehealth are associated with the promotion of self-care, reduction in the number of home visits, with consequent cost reduction, saving patients' time, improving clinical outcomes and better access to specialised services.⁷ The organisation structure presented in the primary healthcare (PHC) units that includes patients and families assigned to the teams can contribute to IPC. PHC units thus emerge as the most efficient means of combating the fragmentation of actions in the health system, through interprofessional actions that overcome the team scope, bringing together patients and the community.⁸

A recent study observed that the purpose of providing telehealth services in primary care is varied, including monitoring the disease, supervising and giving a second opinion, as well as training professionals and patients. However, the study identified that there are challenges to the implementation of telehealth in primary care related to equipment and internet network, regulation and license to perform telehealth, and the resistance of professionals to this approach.⁹

In this perspective, it is essential to understand the characteristics related to the use of telehealth in the context of IPC in PHC units. The results of this review may help to understand the gaps in telehealth related to interprofessional teams in PHC, and ultimately, may contribute to formulate strategies to enforce and expand the use of telehealth by professionals, teams and health services.

The aim of this study is to identify the characteristics and the applications of telehealth related to collaborative interprofessional practice in PHC settings.

To define the characteristics related to the use of telehealth in the context of IPC, we will verify the properties of the type of telehealth tool reported in each study, as well as the experience of the interprofessional team members who participated and technology model used for management of healthcare of the patients in a PHC context.

To describe the characteristics related to IPC, we will use key references in the area, such as the 2010 WHO Framework for Action on Interprofessional Education and Collaborative Practice, document to address the issue of interprofessionalism and address mechanisms that determine how collaborative practice is implemented and executed, as institutional mechanisms, work culture and environment.¹⁰ Regarding the main concepts of collaborative processes, D'Amour *et al* in their review describe sharing, partnership, interdependency and power as important factors, such as

elements based on the key elements of collaboration, which are the construction of a collective action and the construction of a team life that integrates the perspectives of each professional.¹¹ In addition, we will use the determinants of successful collaboration according to San Martín-Rodríguez *et al*, which include systematic, organisational and interactional determinants, such as social and cultural factors, the professional and the education system, the organisational structure of institutions, the organisation's philosophy, the administrative support, the team resources as the availability of time to interact and of spaces to meet, the need for adequate financial investments and the physical proximity of professionals in the workplace, an appropriate coordination and communication mechanisms, willingness to collaborate, trust, communication and mutual respect of the professionals.¹²

To describe the characteristics related to telehealth, we will use the WHO's concept, which is the provision of health services by professionals in the area, in which distance is a critical factor, using information and communication technology resources for the diagnosis, treatment and prevention of diseases, for research, evaluation and continuing education of health professionals, with the aim of promoting the health of patients and their communities. The use of these resources, although comprehensive, is carried out unevenly throughout the world. Barriers such as high costs, precarious infrastructure and lack of technical knowledge are those found in developing countries. While in developed countries, the barriers involve legal issues of privacy and security, priorities of health systems and lack of demand.¹³ We will also use as a reference the document Estrategia y Plan de Acción sobre eSalud (2012–2017) of the Pan American Health Organization, which defines telehealth as the use of information and communication technologies to provide health services, especially when distance makes it difficult to provide these services.¹⁴

A preliminary search was carried out in the Open Science Framework (OSF), Cochrane Database of Systematic Reviews, Joanna Briggs Institute (JBI) Evidence Synthesis and Epistemonikos databases, and no current or ongoing systematic or scoping reviews about the topic were identified, which also corroborates the need to carry out this scoping review.

METHODS AND ANALYSIS

This article reports on a protocol of a scoping review following the JBI methodology for scoping assessments¹⁵ to answer the review question: What are the characteristics and applications of telehealth in relation to IPC among health professionals in the context of PHC units? The present protocol followed the Preferred Reporting Items for Systematic Reviews and Meta-Analyses Extension for Protocols¹⁶ (online supplemental appendix 1). This protocol of scoping review has been registered in the OSF (<https://doi.org/10.17605/OSF.IO/2BV8D>).

Data sources

To identify publications in both peer-reviewed and grey literature, and provide a broad overview of the use of telehealth related to collaborative interprofessional practice, we will undertake a scoping review. Although scoping reviews differ from systematic reviews, which focus on the effectiveness of a particular intervention, scoping reviews can also follow methodological frameworks, such as the one provided by the JBI.¹⁵ Relevant peer-reviewed literature will be identified through systematic search in selected electronic databases: MEDLINE via PubMed, CINAHL, Embase, Eric, Scopus, Latin American and Caribbean Health Science Literature Database (LILACS), Web of Science and grey literature databases such as DART-E, NLTD, and Open Access Thesis and Dissertations (OATD).

The search strategy aims to find primary studies, reviews, articles, public policies, protocols, guidelines, grey literature and experience reports. A JBI three-step process will be followed for developing the search. The first of these steps has been already undertaken and involved an initial database search on MEDLINE and CINAHL. This step aimed to capture the index terms used to describe the articles and keywords contained in the title and abstracts of retrieved papers, using the terms telemedicine AND interprofessional practice AND primary health care. A detailed description of this search strategy is available in online supplemental appendix 2. A second search using all identified keywords and index terms will then be undertaken across all selected databases (MEDLINE, CINAHL, Embase, Eric, Scopus, LILACS, Web of Science). The search strategy includes all identified keywords and indexed terms will be adjusted to each database and/or information source included. On the third and final step, the reference lists of the selected studies will be searched for additional studies as well as a search for unpublished studies (grey literature). The search of the grey literature will be undertaken on DART-E, NLTD and OATD using the terms telemedicine AND interprofessional practice AND primary health care. A search of articles, public policies, protocols and guidelines will be undertaken on Google Scholar and Bielefeld Academic Search Engine. In these last sources, the first 20 results will be selected and screened.

Articles in Portuguese, English, French and Italian are going to be considered because of the authors' language domain. No restrictions on the publication period will be imposed.

The reviewers intend to contact the primary study's authors for more information, if necessary.

Inclusion criteria

Participants

This review will consider studies that include health professionals who participate in telehealth activities.

Concept

We will consider studies that explore telehealth in relation to IPC.

Context

This review will include studies carried out in the context of PHC.

Types of study to be included

We will include study designs with quantitative, qualitative and mixed-methods approaches.

Screening

The titles and abstracts' full text of the selected citations will be evaluated by two independent reviewers. Any disagreements that arise between reviewers in each step of the selection process will be resolved by discussion with a third reviewer.

Data extraction

After the search, all documents identified will be separated into groups and managed by the EndNote Clarivate Analytics reference manager and any doubled documents will be removed. All records will be imported to Rayyan to recheck duplicates and perform the blinded selection process.¹⁷ Potentially relevant sources will be retrieved in full, and their citation details imported into the JBI System for Unified Management Document, Assessment and Review Information (JBI, Adelaide, Australia).¹⁸ The reasons for excluding full-text studies that are not in accordance to the inclusion criteria will be recorded and reported in the scoping review. The research outcome and the including process will be reported in the final scoping review and presented in a flow chart of Preferred Reporting Items for Systematic Reviews and Meta-analyses for Scoping Reviews.¹⁹

Table 1 Data extraction tool

Aspects of extracted data	
General information	Author Title Year of publication Journal Aim of study
Location	Country/city of origin
Design of study	Empirical research, including quantitative, qualitative or mixed-methods
Type of population	Participants' description
Characteristics of the study referred to	Telehealth concept addressed in the study Healthcare model addressed in the study Interprofessional collaboration
Limitations	Limitations reported by authors
Results	Results found
Relevant aspects	Important aspects for the scoping review

Data will be extracted from documents included in the scoping review using a data extraction tool (table 1) previously developed by the reviewers. The extracted data will include specific details according to the inclusion criteria and that will be relevant to the review question.

The data extraction tool will be modified and reviewed if necessary, during the data extraction process of each included study. Modifications will be detailed in the scoping review. The authors of the articles will be contacted to request missing or additional data, when necessary. As this study consists of a scoping review, any evaluation related to methodological quality will be undertaken.

Strategy for data synthesis

The results will be presented as a data map in a logical way, diagram or tabular format. A narrative abstract will come together with the tabulated and/or mapped results describing how the results on telehealth in relation to IPC among health professionals are related to the purpose of the review and the research question on the characteristics and properties in the context of PHC units. Results will be organised into categories.

Critical appraisal of included studies

The reviewers will perform the critical appraisal of included studies using the Prediction Model Study Risk of Bias Assessment Tool, if applicable. We will classify risk of bias as low risk, high risk or unclear for each domain.

Patient and public involvement

This scoping review has no direct involvement by patients or the general public.

Ethics and dissemination

A manuscript based on this scoping review will be submitted to a journal and we hope it will contribute to scientific knowledge on the interprofessional field and key research findings will be sent to key events about interprofessional practice and education.

Contributors GSB, ROV, HLFA, AEH, MP and VML conceived and designed the study and drafted the manuscript, which was edited and revised by all authors. GSB, ROV and VML made a substantial contribution to the conception and the design of the manuscript. GSB and ROV created electronic search strategies and constructed the data extraction tool. HLFA, AEH and MP provided methodological advice on telehealth and interprofessional collaboration and made important intellectual contributions to the manuscript. HLFA, AEH, MP and VML provided supervision. All authors read and approved the final version of the manuscript.

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Competing interests None declared.

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REFERENCES

- Dorsey ER, Topol EJ. State of telehealth. *N Engl J Med* 2016;375:154–61.
- Heuer A, Reid Hector J, Cassell V. An update on telehealth in allied health and interprofessional care. *J Allied Health* 2019;48:140–7.
- Taylor AM, Bingham J, Schussel K, et al. Integrating innovative telehealth solutions into an interprofessional team-delivered chronic care management pilot program. *J Manag Care Spec Pharm* 2018;24:813–8.
- Morgan S, Pullon S, McKinlay E. Observation of interprofessional collaborative practice in primary care teams: an integrative literature review. *Int J Nurs Stud* 2015;52:1217–30.
- Reeves S, Xyrichis A, Zwarenstein M. Teamwork, collaboration, coordination, and networking: why we need to distinguish between different types of interprofessional practice. *J Interprof Care* 2018;32:1–3.
- Tostes JG, da Silva Tostes CB, Cruz RP, et al. Teleconsultation and the challenges for maintaining health care in times of pandemic. *Rev Cienc Saude* 2021;11:5–9.
- Zanotto BS, da Silva Etges APB, Siqueira AC, et al. Economic evaluation of a telemedicine service to expand primary health care in rio grande do sul: teleoftalmo's microcosting analysis. *Cien Saude Colet* 2020;25:1349–60.
- Peduzzi M, Agreli H. Teamwork and collaborative practice in primary health care. *Interface-Comunicação, Saúde, Educação* 2018;22:1525–43.
- Beheshti L, Kalankesh LR, Doshmangir L, et al. Telehealth in primary health care: a scoping review of the literature. *Perspect Health Inf Manag* 2022;19:1n.
- World Health Organization. *Framework for action on interprofessional education and collaborative practice*. Geneva, 2010.
- D'Amour D, Ferrada-Videla M, San Martín Rodríguez L, et al. The conceptual basis for interprofessional collaboration: core concepts and theoretical frameworks. *J Interprof Care* 2005;19 Suppl 1:116–31.
- San Martín-Rodríguez L, Beaulieu M-D, D'Amour D, et al. The determinants of successful collaboration: a review of theoretical and empirical studies. *J Interprof Care* 2005;19 Suppl 1:132–47.
- World Health Organization. *National ehealth strategy toolkit*. Geneva, 2012.
- Pan American Health Organization (PAHO). *Estrategia y Plan de acción sobre eSalud (2012-2017)*. In: *51 Consejo Directivo CD51/13*. Washington, DC, 2011.
- Peters MDJ, Godfrey C, McInerney P, et al. Chapter 11: scoping reviews (2020 version). In: Aromataris E, Munn Z, eds. *JBI Manual for Evidence Synthesis*. JBI. 2020.
- Moher D, Shamseer L, Clarke M, et al. Preferred reporting items for systematic review and meta-analysis protocols (PRISMA-P) 2015 statement. *Syst Rev* 2015;4:1.
- Ouzzani M, Hammady H, Fedorowicz Z, et al. Rayyan-a web and mobile APP for systematic reviews. *Syst Rev* 2016;5:210.
- Munn Z, Aromataris E, Tufanaru C, et al. The development of software to support multiple systematic review types: the joanna briggs Institute system for the unified management, assessment and review of information (JBI SUMARI). *Int J Evid Based Healthc* 2019;17:36–43.
- Tricco AC, Lillie E, Zarin W, et al. PRISMA extension for scoping reviews (prisma-scr): checklist and explanation. *Ann Intern Med* 2018;169:467–73.