

Care and management of the potential thoracic organ donor: scoping review protocol*Cuidados y manejo del potencial donante de órganos torácicos: protocolo de revisión del alcance**Cuidados e manejo do potencial doador de órgãos torácicos: protocolo de revisão de escopo***Luiz Gustavo Torres Dias da Cruz^{1*}**

ORCID: 0000-0001-5550-6082

Marisa da Silva Santos¹

ORCID: 0000-0002-2174-6800

Bernardo Rangel Tura¹

ORCID: 0000-0002-6890-0705

Tereza Cristina Felipe**Guimarães¹**

ORCID: 0000-0003-4196-882X

¹Instituto Nacional de
Cardiologia. Rio de Janeiro, Brazil.**How to cite this article:**

Cruz LGTD, Santos MS, Tura BR,
Guimarães TCF. Care and
management of the potential
thoracic organ donor: scoping review
protocol. Glob Acad Nurs.
2026;7(3):e569.
<https://dx.doi.org/10.5935/2675-5602.20200569>

***Corresponding author:**luiz.cruz@uerj.br**Submission:** 05-07-2026**Approval:** 05-29-2026**Abstract**

The aim was to map the clinical practices, management strategies, and care protocols used in the maintenance of potential thoracic organ donors, focusing on interventions that contribute to the viability and effectiveness of donation. A scoping review will be conducted according to the guidelines of the Joanna Briggs Institute and the PRISMA-ScR extension, searching the MEDLINE, Embase, Scopus, CINAHL, and Cochrane Library databases, without language restrictions, with a time frame of 10 years (2015-2025). The selection will be carried out by two independent reviewers in a two-stage process. The protocol is registered on the INPLASY and Open Science Framework platforms. Mapping of available evidence on the management of potential thoracic organ donors, identification of knowledge gaps, and scientific publication of findings will be carried out. The results will support, in a future stage of the doctoral project, the updating of an institutional care plan and the development of a panel of indicators, structured based on the Consolidated Framework for Implementation Research model. It is expected to contribute to increasing the availability of thoracic organs, reducing the waiting list, and strengthening the Intra-Hospital Committees for Organ and Tissue Donation for Transplants.

Descriptors: Organ Donation; Heart Transplantation; Lung Transplantation; Scoping Review; Implementation Science.

Resumen

El objetivo fue mapear las prácticas clínicas, las estrategias de manejo y los protocolos de atención utilizados en el mantenimiento de potenciales donantes de órganos torácicos, centrándose en las intervenciones que contribuyen a la viabilidad y efectividad de la donación. Se realizará una revisión exploratoria según las directrices del Instituto Joanna Briggs y la extensión PRISMA-ScR, buscando en las bases de datos MEDLINE, Embase, Scopus, CINAHL y Cochrane Library, sin restricciones de idioma, con un marco temporal de 10 años (2015-2025). La selección la llevarán a cabo dos revisores independientes en un proceso de dos etapas. El protocolo está registrado en las plataformas INPLASY y Open Science Framework. Se realizará un mapeo de la evidencia disponible sobre el manejo de potenciales donantes de órganos torácicos, la identificación de lagunas de conocimiento y la publicación científica de los hallazgos. Los resultados servirán de base, en una etapa futura del proyecto doctoral, para la actualización de un plan de atención institucional y el desarrollo de un panel de indicadores, estructurado según el modelo Consolidated Framework for Implementation Research. Se espera que contribuya a aumentar la disponibilidad de órganos torácicos, reducir la lista de espera y fortalecer los Comités Intrahospitalarios de Donación de Órganos y Tejidos para Trasplantes.

Descriptores: Donación de Órganos; Trasplante de Corazón; Trasplante de Pulmón; Revisión de Alcance; Ciencia de la Implementación.

Resumo

Objetivou-se mapear as práticas clínicas, estratégias de manejo e protocolos assistenciais utilizados na manutenção do potencial doador de órgãos torácicos, com foco em intervenções que contribuam para a viabilidade e a efetividade da doação. Será conduzida uma revisão de escopo conforme as diretrizes do Joanna Briggs Institute e a extensão PRISMA-ScR, com buscas nas bases MEDLINE, Embase, Scopus, CINAHL e Cochrane Library, sem restrição de idioma, com recorte temporal de 10 anos (2015-2025). A seleção será realizada por dois revisores independentes em dupla etapa. O protocolo está registrado nas plataformas INPLASY e Open Science Framework. Mapeamento das evidências disponíveis sobre o manejo do potencial doador de órgãos torácicos, identificação de lacunas do conhecimento e publicação científica dos achados. Os resultados subsidiarão, em etapa futura do projeto de doutorado, a atualização de um plano de cuidados institucional e o desenvolvimento de um painel de indicadores, estruturados com base no modelo Consolidated Framework for Implementation Research. Espera-se contribuir para o aumento da viabilidade de órgãos torácicos, a redução da lista de espera, o fortalecimento das Comissões Intra-Hospitalares de Doação de Órgãos e Tecidos para Transplantes.

Descritores: Doação de Órgãos; Transplante de Coração; Transplante de Pulmão; Revisão de Escopo; Ciência da Implementação.



Introdução

The organ and tissue donation process in Brazil is among the most structured in the world, both in terms of access and volume of procedures, placing the country among the four largest systems in absolute number of transplants performed¹. The main regulation governing this system, Law No. 9,434/1997, which has been in effect for 27 years, introduced fundamental structuring concepts: the creation of the National Transplant System (SNT), provisions for the removal and use of organs and tissues, the mandatory accreditation of transplant teams, the single list of recipients, the responsibilities of federated entities within the scope of the Unified Health System (SUS), the establishment of State Transplant Centers, and the adoption of the presumed consent (opt-out) model in place of the consent (opt-in) model^{2,3}.

The Intra-Hospital Commissions for Organ and Tissue Donation for Transplants (CIHDOTT) were established a few years after the enactment of Law No. 9,434/1997. The first specific regulation dates to Ministry of Health Ordinance No. 1,752, of September 23, 2005, which mandated the creation of these commissions in hospitals with more than 80 beds. The regulatory framework was subsequently consolidated by Ordinance No. 2,600, of October 21, 2010, and regulated by Decree No. 9,175, of October 18, 2017³.

The CIHDOTTs (Intrahospital Commission for Organ and Tissue Donation and Transplantation) are classified into three categories: CIHDOTT 1, in hospital units with ventilatory assistance and up to 200 deaths/year; CIHDOTT 2, in trauma, neurology, and neurosurgery referral units, or non-oncological hospitals with up to 1,000 deaths/year; and CIHDOTT 3, in non-oncological units with more than 1,000 deaths and/or a transplant program. These commissions are responsible for ensuring that donation processes occur in an institutionalized manner, respecting the principles of safety, quality, and traceability, and coordinating with Organ Procurement Organizations (OPOs) and state centers¹⁻⁴.

In Brazil, thoracic solid organ transplants are less frequent than other types of transplants, following the global trend⁴. The high complexity of the surgical procedure, the infrastructure required for postoperative follow-up of heart and lung recipients, and the need for highly specialized multidisciplinary teams condition this scenario. The low utilization rate of lungs constitutes one of the most critical points in the Brazilian donation process: while the international average exceeds 20% of viable donors, in the state of São Paulo, this rate is less than 5%, a fact largely attributed to the insufficient quality of care provided to potential donors in most hospitals in the country^{4,5}.

In 2023, 4,035 viable organ donors were made available to the National Transplant System (SNT). The utilization of thoracic organs corresponded to 10.5% (424) of the total viable organs for heart transplantation and 1.93% (78) for lung transplantation. If the goal established in 2007, of converting 40% of donors to heart grafts and 20% to lung grafts, were achieved, the waiting list would be met with a wide margin^{4,6}.

The five-year survival rate after heart transplantation is 68.1%, and 58% for lung transplantation, significant rates when compared to mortality on the waiting list and that associated with debilitating chronic diseases that indicate the procedure^{4,7}.

Implementation Science offers promising tools for improving health outcomes, including theoretical models such as the Consolidated Framework for Implementation Research (CFIR), knowledge translation strategies, and frameworks for assessing implementation fidelity. International systems, such as the UK's National Health Service (NHS), already incorporate these tools in the use of evidence-based clinical protocols, with favorable results in reducing care variability⁸.

Among the theoretical frameworks of Implementation Science, the doctoral project of which this review is a part will adopt, in a subsequent stage, CFIR, based on the assumption that implementation is a social process intrinsically linked to the context in which it occurs. The model is organized into five major domains and advocates that, for implementation to be effective and efficient, it is necessary to define the context, the scenario, and the interventions involved. From this perspective, implementation constitutes one of the processes aimed at putting an intervention into use within an organization. The findings of this scoping review will provide the necessary evidence base for this stage^{9,10}.

Given the persistent gap in the utilization of thoracic organs in Brazil, as evidenced by data from the Brazilian Transplant Registry, and the absence of comprehensive syntheses on donor management practices, this scoping review is justified^{11,12}.

The study aims to map the clinical practices, care protocols, and management strategies used in maintaining potential thoracic organ donors, focusing on interventions that contribute to the viability and effectiveness of donation.

Methodology

This scoping review will be conducted in accordance with the guidelines of the JBI Manual for Evidence Synthesis and the principles of PRISMA-ScR (Preferred Reporting Items for Systematic Reviews and Meta-Analyses extension for Scoping Reviews)^{8,13}. The protocol is available on the INPLASY (International Platform of Registered Systematic Review and Meta-analysis Protocols; DOI: 10.37766/inplasy2026.5.0015) and OSF (Open Science Framework, <https://osf.io/h7ayc> and DOI: <https://doi.org/10.17605/OSF.IO/8VWR>) platforms, ensuring transparency and methodological traceability. As this is a literature review, the study does not require review by a Research Ethics Committee, in accordance with Resolution No. 466/2012 of the National Health Council¹⁴.

Research Question and PCC Strategy

The guiding question was structured based on the PCC mnemonic (Population, Concept, and Context), as recommended by the JBI for scoping reviews, as shown in Chart 1.



Chart 1. PCC Strategy Applied to Scope Review. Rio de Janeiro, RJ, Brazil, 2026

PCC Strategy	Quais são os cuidados e estratégias clínicas descritos na literatura para o manejo do potencial doador de órgãos torácicos em contexto hospitalar?
Population (P)	Potential donors of thoracic organs (heart and/or lung) in the context of brain death
Concept (C)	Care encompassing clinical, hemodynamic, and ventilatory domains; medical and nursing interventions to maintain the potential donor
Context (C)	Hospitals, primarily ICUs and services linked to CIHDOTTs

Chart 2. Eligibility criteria. Rio de Janeiro, RJ, Brazil, 2026

Criterion	Inclusion	Exclusion
Participants/ Sources	Studies addressing the care of potential heart and/or lung donors in the context of brain death; primary studies (quantitative, qualitative, or mixed), reviews, case reports; publications in Portuguese, English, or Spanish.	Studies on donors of cardiac arrest (DCD); studies with pediatric populations (< 18 years); documents without a description of clinical care; letters to the editor, abstracts without full text, or expert opinions without empirical basis.
Concept	Clinical maintenance interventions: hemodynamics, ventilation, vasoactive drugs, laboratory monitoring; nursing protocols, intensive care medicine or transplant teams.	-
Context	Hospital setting: ICU or units linked to CIHDOTTs; publications in the last 10 years (2015–2025).	-

Chart 3. Database search strategies. Rio de Janeiro, RJ, Brazil, 2026

Database	Search Strategies
MEDLINE	((("organ procurement"[Title/Abstract] OR "donor selection"[Title/Abstract] OR (((Organ"[All Fields] OR "organ s"[All Fields] OR "organism"[All Fields] OR "organism s"[All Fields] OR "organisms"[All Fields] OR "organs"[All Fields]) AND ("thoracal"[All Fields] OR "thoracal"[All Fields] OR "thorax"[MeSH Terms] OR "thorax"[All Fields] OR "thoracic"[All Fields] OR "thoracics"[All Fields])) AND "Donation"[Title/Abstract])) AND ("heart transplantation"[Title/Abstract] OR "lung transplantation"[Title/Abstract])) NOT "donation after cardiac death"[Title/Abstract]) AND ((humans[Filter]) AND (2015:2026[pdat]))
Scopus	((TITLE-ABS("organ procurement") OR TITLE-ABS("donor selection") OR (((ALL(Organ) OR ALL("organ s") OR ALL(organism) OR ALL("organism s") OR ALL(organisms) OR ALL(organs)) AND (ALL(thoracal) OR ALL(thoracal) OR INDEXTERMS(thorax) OR ALL(thorax) OR ALL(thoracic) OR ALL(thoracics))) AND TITLE-ABS(Donation)))) AND (TITLE-ABS("heart transplantation") OR TITLE-ABS("lung transplantation"))) NOT TITLE-ABS("donation after cardiac death") AND ((humans[Filter]) AND (2015:2026[pdat]))
CINAHL (Ebsco)	((((TI "organ procurement" OR AB "organ procurement") OR (TI "donor selection" OR AB "donor selection") OR ((Organ OR "organ s" OR organism OR "organism s" OR organisms OR organs) AND (thoracal OR thoracal OR (MH thorax+) OR thorax OR thoracic OR thoracics)) AND (TI Donation OR AB Donation))) AND ((TI "heart transplantation" OR AB "heart transplantation") OR (TI "lung transplantation" OR AB "lung transplantation")))) NOT (TI "donation after cardiac death" OR AB "donation after cardiac death")) AND ((humans[Filter]) AND (2015:2026[pdat]))
Embase	((('organ procurement':ti,ab OR 'donor selection':ti,ab OR (((Organ OR 'organ s' OR organism OR 'organism s' OR organisms OR organs) AND (thoracal OR thoracal OR thorax/exp OR thorax OR thoracic OR thoracics)) AND Donation:ti,ab)) AND ('heart transplantation':ti,ab OR 'lung transplantation':ti,ab)) NOT 'donation after cardiac death':ti,ab) AND ((humans[Filter]) AND (2015:2026[pdat]))
Cochrane Library	((("organ procurement":ti,ab OR "donor selection":ti,ab OR (((Organ OR "organ s" OR organism OR "organism s" OR organisms OR organs) AND (thoracal OR thoracal OR [mh thorax] OR thorax OR thoracic OR thoracics)) AND Donation:ti,ab)) AND ("heart transplantation":ti,ab OR "lung transplantation":ti,ab)) NOT "donation after cardiac death":ti,ab) AND ((humans[Filter]) AND (2015:2026[pdat]))

Eligibility Criteria

The inclusion and exclusion criteria were defined based on the PCC strategy and are systematized in Chart 2.

Sources of Evidence and Search Strategies

The search will be conducted in the following databases: MEDLINE, Embase, Scopus, CINAHL, Cochrane Library, and Virtual Health Library (VHL). The search strategy

was developed using MeSH and DeCS descriptors, combined with Boolean operators, and is presented in Chart 3.

Selection of Sources of Evidence

The screening will be conducted by two independent reviewers in two sequential stages: (1) reading titles and abstracts and (2) reading the full text. The search results will be exported to Rayyan Intelligent Systematic



Review® software, where duplicates will be removed and peer review will be performed. Disagreements will be resolved by consensus or by consulting a third reviewer. The entire process will be recorded and reported in a PRISMA-ScR flowchart. Exclusions made after reading the full text will be duly justified and recorded.

Data Mapping Process (Charting)

Data extraction will be performed independently by two reviewers using a standardized form developed and previously tested by the team. The variables mapped include: authors, year and country of publication, study design, donor profile (population), type of intervention or care (concept), care context, main results, and recommendations. In accordance with JBI guidelines for scoping reviews, no formal assessment of the

methodological quality of the included studies will be performed; however, methodological characteristics will be described to contextualize the level of evidence available. Disagreements in data extraction will be resolved by consensus or by a third reviewer. The charting instrument is systematized in Chart 4.

Summary of Results

The mapped data will be synthesized through descriptive analysis, with the results presented in figures, tables, charts, and diagrams that depict the findings in relation to the objective and the question of the review. A narrative summary will complement the synthesis, describing patterns, trends, and gaps identified in the evidence regarding the management of potential thoracic organ donors.

Chart 4. Data mapping tool (charting). Rio de Janeiro, RJ, Brazil, 2026

Variable	Description
Authors and year	Source Identification
Country/location of the study	Geographic Context
Design	Type of study (quantitative, qualitative, mixed, review, case report)
Population	Profile of the potential donor and eligibility criteria used
Central concept	Type of intervention/care described (hemodynamics, ventilation, vasoactive drugs, monitoring)
Context	Care setting (ICU, Organ and Tissue Donation Committee, general hospital)
Main results	Conversion rate, complications, organ viability
Recommendations	Guidelines or procedures proposed by the authors

Expected Results

The direct products of this scoping review are: (1) mapping of clinical practices and management protocols for potential thoracic organ donors available in the literature between 2015 and 2025; (2) identification of knowledge gaps in the area; (3) presentation at events in the areas of transplantation, intensive care and nursing; (4) scientific publication of the findings in an indexed journal.

In a subsequent stage of the doctoral project, the findings of this review will support: (a) the updating of an existing institutional care plan for the management of potential thoracic organ donors; and (b) the development of a panel of clinical and operational indicators for monitoring outcomes. These stages will be conducted based on the CFIR (Consolidated Framework for Implementation Research) model, in conjunction with multidisciplinary working groups and consultations with experts, and constitute distinct products of this protocol.

Final Considerations

This scoping review represents the first stage of a doctoral project aimed at improving the management of potential thoracic organ donors in Brazil. As an independent product, it seeks to synthesize available evidence and identify gaps that can guide clinical practices in the CIHDOTTs (Intrahospital Commission for Organ and Tissue

Donation and Transplantation). It is expected that the results will contribute to increasing the utilization rates of donor hearts and lungs, reducing the transplant waiting list, and consolidating evidence-based healthcare practices within the SUS (Brazilian Unified Health System).

Inherent limitations of the methodology include the potential heterogeneity of the included studies due to their thematic scope and the lack of a formal assessment of the methodological quality of the studies, a characteristic intrinsic to scoping reviews. Publication bias cannot be ruled out either.

The authors declare that generative artificial intelligence tools (Claude, Anthropic) were used to support the refinement of scientific writing, the structuring of the text translation, and the adaptation to submission guidelines. The conception of the study, the methodological definition, the critical analysis of the content, and the intellectual responsibility for the work rest entirely with the authors.

Financing

This study is linked to the Postgraduate Program in Health Technology Assessment at the National Institute of Cardiology (INC/MS), developed within the scope of the Professional Doctorate funded by PAHO/DGITIS.



References

1. Garcia CD, Garcia VD, Pereira JD, editors. Manual de doação e transplantes: informações práticas sobre todas as etapas do processo de doação de órgãos e transplante. Porto Alegre: Libretos; 2017.
2. Etheredge HR. Assessing global organ donation policies: opt-in vs opt-out. *Risk Manag Healthc Policy*. 2021;14:1985-98. <https://doi.org/10.2147/RMHP.S270234>
3. Brasil. Ministério da Saúde. Portaria nº 2.600, de 21 de outubro de 2009. Aprova o regulamento técnico do Sistema Nacional de Transplantes [Internet]. Diário Oficial da União. 21 out 2009 [citado em 13 mai 2026]; Seção 1:77. Disponível em: https://bvsms.saude.gov.br/bvs/saudelegis/gm/2009/prt2600_21_10_2009.html
4. Associação Brasileira de Transplante de Órgãos (ABTO). Dimensionamento dos transplantes no Brasil e em cada estado. Registro Brasileiro de Transplantes [Internet]. 2023 [citado em 9 jan 2025];29(1):1-100. Disponível em: <https://site.abto.org.br/wp-content/uploads/2024/04/rbt2023-restrito.pdf>
5. Organización Nacional de Trasplantes (ONT). Actividad de donación y trasplante cardiaco [Internet]. Madrid: ONT; 2019 [citado em 9 jan 2025]. Disponível em: <http://www.ont.es/infesp/Memorias/>
6. Organização Mundial da Saúde (OMS). Global observatory on donation and transplantation [Internet]. Espanha: OMS; 2018 [citado em 9 jan 2025]. Disponível em: <https://www.who.int/transplantation/observatory/en/>
7. Ferraz DLM, Cunha CBC, Mello MJG, Gallindo RM. Survival analysis in adult heart transplantation: experience from a Brazilian single center. *Braz J Cardiovasc Surg*. 2024;39(5):e20230394. <https://doi.org/10.21470/1678-9741-2023-0394>
8. Tricco AC, Lillie E, Zarin W, O'Brien KK, Colquhoun H, Levac D, et al. PRISMA extension for scoping reviews (PRISMA-ScR): checklist and explanation. *Ann Intern Med*. 2018;169(7):467-73. <https://doi.org/10.7326/M18-0850>
9. Damschroder LJ, Aron DC, Keith RE, Kirsh SR, Alexander JA, Lowery JC. Fostering implementation of health services research findings into practice: a consolidated framework for advancing implementation science. *Implement Sci*. 2009;4:50. <https://doi.org/10.1186/1748-5908-4-50>
10. Bomfim RA, editor. Introdução à ciência de implementação para profissionais da saúde [Internet]. Campo Grande: Editora UFMS; 2021 [citado em 9 jan 2025]. Disponível em: <https://repositorio.ufms.br/jspui/bitstream/123456789/3866/1/Introducao%20a%20Ciencia%20de%20Implementacao.pdf>
11. Cruz LGD, Guimarães TCF. Development of a multidisciplinary protocol for thoracic organ donation process. *Transplantation*. 2023;107(10 Suppl 1):22. <https://doi.org/10.1097/01.tp.0000993100.93360.52>
12. Cruz LGD, Marques DM, Nunes ASA, Castor NS, Carlos NS, Santana JS, et al. Actions for organ donation: strategies of a health-promoting university. *Transplantation*. 2024;108(9 Suppl). <https://doi.org/10.1097/01.tp.0001066932.62377.ad>
13. Aromataris E, Munn Z, editors. JBI manual for evidence synthesis [Internet]. Adelaide: JBI; 2020 [citado em 9 jan 2025]. <https://doi.org/10.46658/JBIMES-20-01>. Disponível em: <https://synthesismanual.jbi.global>
14. Brasil. Conselho Nacional de Saúde. Resolução nº 466, de 12 de dezembro de 2012 [Internet]. Brasília (DF): CNS; 2012 [citado em 9 jan 2025]. Disponível em: https://bvsms.saude.gov.br/bvs/saudelegis/cns/2013/res0466_12_12_2012.html

