OBJN
ONLINE BRAZILIAN JOURNAL OF NURSING
ISSN: 1676-4285

REVIEW PROTOCOL

Time management practices in emergency medical services: scope review protocol

Práticas de gerenciamento do tempo nos serviços médicos de emergência: protocolo de revisão de escopo

Francielli Aparecida Araújo[1]
ORCID: 0000-0002-0111-0282

Ana Paula Amorim Moreira[1]
ORCID: 0000-0002-0111-0282

Maithê de Carvalho e Lemos Goulart[2]
ORCID: 0000-0002-0111-0282

Denise Figueira de Magalhães Boaretto[1]
ORCID: 0000-0002-0111-0282

[1]Universidade Federal Fluminense, Niterói, RJ, Brazil

[2]Universidade Federal Fluminense, Rio das Ostras, RJ, Brazil

Editors:
Ana Carla Dantas Cavalcanti
ORCID: 0000-0003-3531-4694

Paula Vanessa Peclat Flores
ORCID: 0000-0002-9726-5229

Corresponding author:
Francielli Aparecida Araújo
E-mail: francielliaraujo@id.uff.br

Submission: 12/30/2023
Approved: 07/28/2024

ABSTRACT:

Objective: To map evidence of best practices for managing waiting time for care in emergency services in the scientific literature. **Method:** Scope review protocol developed according to the methodology of the Joana Briggs Institute (JBI), having as question: "What are the best practices related to waiting time management in Emergency Medical Services?" Studies involving patients treated in urgency and emergency services were adopted as eligibility criteria using risk classification to determine the care priority. The searches will be conducted in the search bases MEDLINE/Pubmed, CINAHL PUBMED, EMBASE, BVS, Scopus, and Web of Science, among others, and search in the gray literature in the repository of the Brazilian Digital Library of Theses and Dissertations. All identified citations will be grouped in Endnote, and after the duplicates are removed, they will be imported into Rayyan software®. The Open Science Framework (OSF) platform recorded the scope review.

Descriptors: Screening; Time Management; Emergency Medical Services.

RESUMO:

Objetivo: mapear na literatura científica evidências das melhores práticas relacionadas a gestão do tempo de espera para atendimento nos serviços de emergência. **Método:** protocolo de revisão de escopo desenvolvido de acordo com a metodologia do *Joana Briggs Institute (JBI)*, tendo como pergunta: "Quais são as melhores práticas relacionadas ao gerenciamento do tempo de espera nos Serviços Médicos de Emergência?". Adotou-se, como critério de elegibilidade, os estudos envolvendo pacientes atendidos em serviços de urgência e emergência utilizando a classificação de risco para determinar a prioridade de atendimento. As buscas serão conduzidas nas bases de pesquisa MEDLINE/PubMed, CINAHL PUBMED, EMBASE, BVS, Scopus e Web of Science, entre outras e busca na literatura cinzenta no repositório da Biblioteca Digital Brasileira de Teses e Dissertações. Todas as citações identificadas serão agrupadas no Endnote e após a remoção das duplicatas, serão importados para o software Rayyan®. Foi realizado o registro da revisão de escopo na plataforma Open Science Framework (OSF).

Descritores: Triagem; Gerenciamento do Tempo; Serviços Médicos de Emergência.

INTRODUCTION

Urgency and Emergency Services aim to assist patients with acute and high-severity diseases, ensuring rapid and immediate assistance when there is imminent risk of death and having teams and equipment prepared for the necessary demands[1]. Such services are one of Brazil's most important components of health care since they are considered the entry doors of the Unified Health System (SUS)[2].

Emergency Care Units 24h (UPA 24h) are intermediate-level health services between basic health units, family health units, and tertiary care at the hospital level. This service should operate 24 hours a day, every day of the week, and is one of the components of the Urgency and Emergency Care Network(RUE)[3].

How to cite: Araujo FA, Moreira APA, Goulart MCL, Boaretto DFM. Time Management Practices in Emergency Medical Services: Scope Review Protocol. Online Braz J Nurs. 2024;23 Suppl 1:e20246762. https://doi.org/10.17665/1676-4285.20246762

The 24-hour UPAs are responsible for ensuring adequate patient reception, intervening in their clinical conditions, and facilitating counter-reference to other points of care in the Health Care Network (RAS), such as primary or specialized care services and hospital services intended for hospitalization. This approach aims to ensure continuity of treatment, with positive repercussions for both the individual and collective health status of the population[3].

Although they are essential for the health care of the population, the 24-hour UPA suffers from overload due to a variety of factors, such as high demand, issues related to the structuring of RAS, scarcity, and misadjustments in the allocation of human resources, lack of material resources, high rates of violence, and the lack of resources. traffic accidents, injuries, and aggressions in the population[2].

The definition of overcrowding is higher than 90% of the total capacity of the service, unavailability of beds, generating the allocation of patients in inadequate places, and the loss of quality and care efficiency, in addition to putting at risk the principles of patient safety[4]. Thus, to meet the high demand of patients in the UPA 24h, in 2004, the Ministry of Health (MS) implemented the Risk Classification (CR) reception to reorganize the work process in the emergency and emergency doors and meet the different specificities according to the degree of need[5].

CR is a dynamic procedure that detects patients requiring immediate intervention based on risk potential or health problems. MS recommends implementing a specific protocol to guide this process[5]. Several risk classification systems are used in urgency and emergency services, aiming to attend patients according to clinical criteria, not on a first-come basis. Patients are classified by color, thus determining the waiting time for each stratification.

The extension of waiting time between CR and medical care generates overcrowding of emergency and emergency services, which brings implications for the quality of care; worsens the working environment; increases the time needed to start the proper treatment of the patient; increases the cost of treatment for the health system; inadequate dimensioning of human resources to meet the demand; in addition to impacting on the physical structure that becomes inappropriate, since patients admitted in the corridors without adequate beds and shortage of materials/medicines/equipment; etc. Time management is fundamental for better results in urgent and emergency services.

Thus, the need arose to perform a scope review with the objective of mapping the scientific literature evidence of best practices related to managing waiting time for care in emergency services.

A preliminary survey was conducted at *the Medical Literature Analysis and Retrieval System Online (Medline/ PubMed), Joana Briggs Institute Synthesis, Prospero,* and in the *Cochrane Database* of systematic reviews, and no systematic or scope review and/or current or ongoing scope review protocols on the subject has been identified.

METHOD

The scope review will be based on the methodology of the recommendations of *the Joanna Briggs* Institute (JBI), following the steps proposed by the method, namely: Alignment of the objectives and research question; establishment of the inclusion criteria aligning them with the aim of the scope review; description of search planning, selection and extraction of data, presentation of evidence; active search for relevant information; careful selection of relevant evidence; detailed extraction of this evidence; a thorough analysis of the results obtained; presentation of the results clearly and objectively; and finally, the synthesis of the evidence, aiming to achieve the objectives established for the scope review, with conclusions and implications arising from the findings made[6].

The scope review protocol was registered in the *Open Science* Framework (OSF) platform, where it can be consulted through DOI https://doi.org/10.17605/OSF.IO/7ZVCN. The study will be reported according to the items of the *Preferred Reporting Items for Systematic Reviews and Meta-Analyses extension for Scoping Reviews* (PRISMA-SCR) flowchart[6].

Review question

To establish a search strategy, the acronym PCC was used, using as a guiding question "What are the practices related to the management of waiting time in Urgency and Emergency Services?". In which P (population): adult patients; C (concept): practices related to waiting time management for care; C (context): Urgency and Emergency Service, Emergency Care Unit (Table 1).

Table 1 – PCC mnemonic for the formulation of the research question of the scope review. Rio de Janeiro, RJ, Brazil, 2023

POPULATION	Adult patients.
CONCEPT	This review will consider studies that disagree on the practices related to managing waiting time for care.
CONTEXT	Urgency and Emergency Service and Emergency Care Unit.

Source: Authors' database, 2023.

Eligibility criteria

This protocol will adopt comprehensive inclusion criteria, not considering time, location or language clipping. Duplicate articles will be deleted and counted only once.

For the population, primary or secondary studies related to adult patients will be included. These studies will involve the management of waiting time in emergency services, addressing strategies and improvements for care at the given time, linked to the context of emergency and urgency services and emergency care units.

The review will consider all the studies involving patients treated in urgency and emergency services using risk classification to determine the care priority. There are no restrictions by gender or ethnicity of patients, country of origin, socioeconomic status, or health status. Research aimed only at pre-hospital care and mobile emergency services that do not use risk classification to receive patients will be excluded.

This review will consider studies that address waiting time management strategies and practices in urgency and emergency services based on consensus, guidelines, national and international publications, and legislation. Studies that address the indicators of effectiveness in emergency care will be eligible; tools to assess patient satisfaction; evaluation of the effectiveness of risk classification in relation to patient outcome; and implementation actions to reduce overcrowding. Studies that address technologies that are effective in optimizing patient waiting time in urgency and emergency services will be included; as general strategies for improvements in emergency services to reduce overcrowding.

The context will cover Emergency Care Units and Emergency Medical Services, categorized as specially equipped facilities, both in terms of human resources and equipment, intended to provide emergency care to patients. Services that use risk classification systems to receive patients will be considered; hospital services that have emergency care should be included and use risk classification as a form of reception. Pre-hospital emergency services will be excluded.

Types of sources

This scope review will cover designs of experimental and quasi-experimental studies, including randomized clinical trials, non-randomized controlled trials, before and after studies, and interrupted time series studies. In addition, analytical observational studies, such as prospective and retrospective cohort studies, case-control studies, and cross-sectional analytical studies, will be considered for inclusion. Descriptive observational studies, such as case series, individual case reports, and descriptive cross-sectional studies, will also be included. Qualitative delineations, such as phenomenology, grounded theory, ethnography, qualitative description, action research, and feminist research, will be considered. Systematic reviews that meet inclusion criteria, texts, and opinion articles will also be evaluated for inclusion, while summaries of events, letters, and editorials will be excluded.

Thus, the return of materials and evidence variety is expected to contribute to constructing a diagnosis related to the proposed theme.

Research strategy

The searches will be carried out in different informational resources after mapping keywords and terms, and an initial search will be carried out in collaboration with a specialized librarian. The keywords and terms of the controlled vocabularies were mapped in the Health Sciences Descriptors (DeCS), *Medical Subject Heading (*MESH), and *Embase Subject Headers* (Emtree) to apply in the title, abstract, and subject fields (subject descriptor, Mesh terms, Entree terms, keywords).

The search strategy will be adapted in each selected database according to the example used in the Pubmed database (Table 2).

Table 2 – Search strategy for retrieval of publications in databases. Rio de Janeiro, RJ, Brazil, 2023.

RESEARCH	QUERY	RESULTS
1	**Search:** "Waiting Lists"[mh] OR Waiting List*[tiab] OR "Waiting Rooms"[mh] OR Waiting Room*[tiab] OR Waiting[tiab] Sort by: Most Recent	53,762
2	**Search:** "Health Management"[tiab] OR "Management Capacity"[tiab] OR "Organizational Capacity"[tiab] OR "Organization and Administration"[tiab] OR "Administration and Organization"[tiab] OR "Administrative Coordination"[tiab] OR "Health Planning"[mh] OR "Health and Welfare Planning"[tiab] OR "Practice Management, Medical"[mh] OR "Medical Practice Management"[tiab] OR "practice management instruction"[tiab] OR "practice management curriculum"[tiab] OR "management curriculum"[tiab] OR Administration[tiab] OR Management[tiab] Sort by: Most Recent	2,709,682
3	**Search:** "Prehospital Care"[tiab] OR "Pre-Hospital Care"[tiab] OR "Prehospital Services"[tiab] OR "Pre-Hospital Services"[tiab] OR Prehospital[tiab] OR Pre-Hospital[tiab] OR "Emergency Health Services"[tiab] OR "Emergency Medical Service"[tiab] OR Emergicenter*[tiab] OR "Medical Emergency Service"[tiab] OR "Medical Emergency Services"[tiab] OR "Prehospital Emergency Care"[tiab] OR Emergency[tiab] OR "Emergency Service, Hospital"[mh] OR "Accident and Emergency Department"[tiab] OR Emergency Department*[tiab] OR Emergency Hospital Service*[tiab] OR Emergency Outpatient Unit*[tiab] OR Emergency Room*[tiab] OR Emergency Unit*[tiab] OR Emergency Ward*[tiab] OR Hospital Emergency Service*[tiab] OR Hospital Service Emergenc*[tiab] OR "Emergency Nursing"[mh] OR Emergency Nursing[tiab] OR "Emergency Room Nursing"[tiab] Sort by: Most Recent	383,832
4	**Search:** #1 AND #2 AND #3 Sort by: Most Recent	1,390

Source: Authors' database, 2023.

The research strategy will be elaborated in three stages, as recommended by the JBI. The first preliminary stage will involve searching the information sources in the Regional Portal of the Virtual Health Library, MEDLINE, Cochrane Library, PROSPERO, OSF, and JBI Syntheses using descriptors, alternative terms, and/or synonyms that may correspond to the question.

The second step will consider the result of the preliminary search to identify the terms found in the documents being applied and adapted to the search in all information resources and selected bases, namely: Regional Portal of the Virtual Health Library (VHL) under the responsibility of the Latin American and Caribbean Center for Health Sciences Information (BIREME) in its main databases - Latin American and Caribbean Association of Health Literature Sciences (LILACS) and Nursing Database (BDENF). In Pubmed/Medline and Pubmed Central (PMC) of the National Library of Medicine (NLM) and Scientific Electronic Library Online (SciELO). Portal of Scientific Journals of Capes: Elsevier: Embase and Scopus, Clarivate Analytics: Web of Science, Ebsco: Cumulative Literature Index of Nursing and Allied Health (CINAHL), Academic Search Premier, Epistemonikos.

The search in gray literature will be carried out using the Portal of Theses and Dissertations of CAPES and the repository of the Brazilian Digital Library of Theses and Dissertations (BDTD) of the IBICT of the Ministry of Science, Technology, and Innovations, as well as Science.gov and Open Grey.

In the third and final stage, the citations of the studies included in the scope review will be analyzed to include additional studies found in the databases. The authors of the original studies can be contacted via e-mail in cases where clarifications can be requested about any aspect of the study in question.

Texts not meeting the eligibility criteria will be removed and duly recorded in the final report.

Selection of evidences

The search results of all identified citations will be grouped and exported to *EndNote*Web reference manager software, where duplicates will be deleted, and for *Rayyan review manager software*® from the Qatar Computing Research Institute (© Copyright 2022), where the selection of studies that will comprise the scoping review will be managed, *both* online and free.

After a pilot test, the titles and abstracts will be selected by two independent, previously trained reviewers. The reviewers will choose the articles individually, with peer blinding, in different machines, without interference or knowledge about the other reviewer's selection. Studies will be screened, and the first two reviewers will read the titles and abstracts, relating them to the inclusion criteria.

Then, the complete reading of the literature selected in the screening stage will be performed. A consensus meeting will be held between the reviewers before screening and after selection to compare the selected studies. If there is disagreement, a third reviewer will determine inclusion or exclusion.

The materials not included in the eligibility criteria will be removed and recorded in the final report. The findings of the search and selection will be reported in full in the final review of the scope descriptively and reflectively. To ensure the study's quality and transparency, the results will be presented in a flowchart of *Preferred Reporting Items for Systematic Reviews and Meta-analyses for Scoring Review* (PRISMA-ScR).

Data extraction

To extract data from the included materials, the reviewers will use an instrument they developed based on the model available in the JBI manual[7]. When starting the mapping process, the reviewers will evaluate the instrument and will undergo adjustments if necessary. Data extraction will be conducted independently by two reviewers. At the end of this process, the results will be evaluated, and any points of disagreement will be analyzed by a third reviewer. This procedure aims to ensure consistency and reliability in data extraction.

The instrument considers collecting authorship, title, year, periodical, and origin will be transcribed for characterization and mapping of actions to reduce the time of care in urgency and emergency services that use a risk classification system. If appropriate, the article's authors will be contacted to request missing or additional data when necessary.

Analysis and presentation of data

The search and study inclusion results will be related in full in the scope final review and presented in a flowchart of *Preferred Reporting Items for Systematic Reviews and Meta-Analyses for scoring review* (PRISMA-ScR).

In the analysis, the format presentation of the results will be conducted to provide an overview of the results and the mapping of the literature about time management in emergency and emergency services. The extracted data will be presented as a chart, table, and flowchart, considering the purpose of this *scoring review*. A narrative summary will be provided along with tabulated and/or graphical results, detailing how these results are related to the objectives and specific question(s) of the review. This abstract will provide a contextualization and interpretation of the findings, contributing to a comprehensive understanding of the implications in relation to the objectives and issues addressed in the review.

Given the interactive nature of this review, changes that occur during the development of this protocol will be communicated in the scope review article[8]. The data will be deepened through discussion based on the literature. At the end of this phase, it is expected that the review question and the objectives set will be addressed.

REFERENCES

1. Ministério da Saúde (BR). Portaria n.º 2048, de 5 de novembro de 2002. Aprova o Regulamento Técnico dos Sistemas Estaduais de Urgência e Emergência [Internet]. Brasília: Ministério da Saúde [Internet]; 2002 [citado 2023 nov 03]. Disponível em: https://bvsms.saude.gov.br/bvs/saudelegis/gm/2002/prt2048_05_11_2002.html
2. Sousa KHJF, Damasceno CKCS, Almeida CAPL, Magalhães JM, Ferreira MA. Humanização nos serviços de urgência e emergência: contribuições para o cuidado de enfermagem. Rev Gaúcha Enferm. 2019;40:e20180263. https://doi.org/10.1590/1983-1447.2019.20180263.
3. Ministério da Saúde (BR). Secretaria de Atenção à Saúde. Departamento de Atenção Especializada. Manual instrutivo da Rede de Atenção às Urgências e Emergências no Sistema Único de Saúde (SUS) / Ministério da Saúde, Secretaria de Atenção à Saúde, Departamento de Atenção Especializada. – Brasília: Editora do Ministério da Saúde [Internet]; 2013 [citado 2023 nov

15]. Disponível em: https://bvsms.saude.gov.br/bvs/publicacoes/manual_instrutivo_rede_atencao_urgencias.pdf

4. Soster CB, Anschau F, Rodrigues NH, Silva LGAD, Klafke A. Advanced triage protocols in the emergency department: A systematic review and meta-analysis. Rev Lat Am Enfermagem. 2022;30:e3511. https://doi.org/10.1590/1518-8345.5479.3511
5. Ministério da Saúde (BR). Secretaria de Atenção à Saúde. Política Nacional de Humanização da Atenção e Gestão do SUS. Acolhimento e classificação de risco nos serviços de urgência [Internet]. Brasília; 2009. [citado 2023 nov 15]. Disponível em: http://bvsms.saude.gov.br/bvs/publicacoes/acolhimento_classificacao_risco_servicos_2009.pdf
6. 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. 2020;169(7):467-73. https://doi.org/10.1016/j.jclinepi.2020.03.016
7. Peters MDJ, Godfrey C, McInerney P, Munn Z, Tricco AC, Khalil H. Chapter H. Scoping Reviews (2020 version). In: Aromataris E, Munn Z, editors. Joanna Briggs Institute manual for evidence synthesis. Adelaide: JBI; 2020. [Internet]. Adelaide (AUS): JBI; 2020 [citado 2023 nov 16]. Disponível em: https://synthesismanual.jbi.global.
8. Toledo N das N, Almeida GS de, Silva NC da, Siqueira JM de, Berardinelli LMM, Cruz MA, et al. World Café no ensino em saúde e pesquisa científica: protocolo de revisão de escopo. Online Brazilian Journal of Nursing [Internet]. 2024 Jul 29 [citado 2024 Jul 19]. Disponível em: https://www.objnursing.uff.br/index.php/nursing/article/view/6723/pdf_pt

AUTHORSHIP CONTRIBUTIONS
Project design: Araujo FA, Moreira APA, Goulart MCL, Boaretto DFM
Data collection: Araujo FA, Boaretto DFM
Data analysis and interpretation: Araujo FA, Boaretto DFM
Writing and/or critical review of the intellectual content: Araujo FA, Moreira APA, Goulart MCL, Boaretto DFM
Final approval of the version to be published: Araujo FA, Moreira APA, Goulart MCL
Responsibility for the text in ensuring the accuracy and completeness of any part of the paper: Araujo FA, Moreira APA, Goulart MCL