

# SUCCESSFUL AGING AMONG HEALTH WORKERS: A SCOPING REVIEW PROTOCOL

## ENVELHECIMENTO BEM-SUCEDIDO DE TRABALHADORES DA SAÚDE: PROTOCOLO DE REVISÃO DE ESCOPO

## ENVEJECIMIENTO EXITOSO EN TRABAJADORES DE LA SALUD: PROTOCOLO DE REVISIÓN DE ALCANCE

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Submission: 08-07-2026

Approval: 14-09-2026

### ABSTRACT

**Objective:** To present a scoping review protocol aimed at mapping diverse scientific evidence on factors associated with successful aging among health workers. **Method:** The protocol has been registered in the Open Science Framework (<https://osf.io/3gwze>) and will follow the Joanna Briggs Institute methodology. The review question was developed according to the PCC strategy: Which is the available scientific evidence on factors associated with successful aging (Concept) among health workers (Population and Context)? Studies published in English, Spanish or Portuguese between 2016 and 2026 will be considered for inclusion. Editorials, book chapters, experts' opinions, audiovisual materials, studies with unavailable full texts and duplicate documents will be excluded. The search strategies were designed with the assistance of a librarian specialized in Health Sciences, and twelve databases relevant to the topic were selected. Screening, selection and data extraction will be performed independently and blindly by two reviewers, with the support of the Rayyan® software. Any and all disagreements between the reviewers will be solved in a consensus meeting, resorting to a third researcher if necessary. Data presentation will follow the PRISMA Extension for Scoping Reviews flowchart and will be complemented by tables/charts and a descriptive analysis. This scoping review is expected to provide evidence capable of supporting the development and improvement of organizational practices and policies targeted at promoting productive longevity and well-being among health workers.

**Keywords:** Healthy Aging; Occupational Health; Working Conditions; Health Management; Scoping Review.

### RESUMO

**Objetivo:** Apresentar um protocolo de revisão de escopo para mapear evidências científicas acerca de fatores associados ao envelhecimento bem-sucedido de trabalhadores da saúde. **Método:** O protocolo está registrado na *Open Science Framework* (<https://osf.io/3gwze>) e seguirá a metodologia do *Joanna Briggs Institute*. A questão de revisão foi elaborada conforme a estratégia PCC: Quais são as evidências científicas disponíveis sobre fatores associados ao envelhecimento bem-sucedido (conceito) de trabalhadores da saúde (população e contexto)? Serão considerados para inclusão estudos publicados em inglês, espanhol ou português, no período entre 2016 e 2026, sendo excluídos editoriais, capítulos de livros, opiniões de especialistas, materiais audiovisuais, texto completo indisponível e documentos duplicados. As estratégias de busca foram desenhadas com apoio de um bibliotecário da área de ciências da saúde, sendo definidas doze bases de dados pertinentes à temática. A triagem, a seleção e a extração de dados serão realizadas por dois pesquisadores independentes de forma cega, com o auxílio do *software* Rayyan®. Conflitos entre os revisores serão resolvidos por reunião de consenso e, se necessário, será acionado um terceiro pesquisador. A apresentação dos dados seguirá o fluxograma PRISMA *Extension for Scoping Reviews*, complementada por tabelas/quadros, e análise descritiva. Espera-se que esta revisão de escopo contribua com evidências capazes de subsidiar a formulação e o aprimoramento de práticas e políticas organizacionais voltadas à promoção da longevidade produtiva e do bem-estar dos trabalhadores da saúde.

**Palavras-chave:** Envelhecimento Saudável; Saúde Ocupacional; Condições de Trabalho; Gestão em Saúde; Revisão de Escopo.

### RESUMEN

**Objetivo:** Presentar un protocolo de revisión de alcance destinado a mapear las evidencias científicas sobre factores asociados al envejecimiento exitoso en trabajadores de la salud. **Método:** El protocolo está registrado en *Open Science Framework* (<https://osf.io/3gwze>) y seguirá la metodología del *Joanna Briggs Institute*. La pregunta de revisión se elaboró de acuerdo con la estrategia PCC: ¿Cuáles son las evidencias científicas disponibles sobre factores asociados al envejecimiento exitoso (Concepto) en trabajadores de la salud (Población y Contexto)? Se considerarán para inclusión estudios publicados en inglés, español o portugués durante el período comprendido entre 2016 y 2026. Se excluirán editoriales, capítulos de libros, opiniones de expertos, materiales audiovisuales, textos completos no disponibles y documentos duplicados. Las estrategias de búsqueda fueron diseñadas con el apoyo de un bibliotecario del área de Ciencias de la Salud, definiéndose doce bases de datos pertinentes a la temática. La selección, el cribado y la extracción de datos serán realizados de forma independiente y ciega por dos investigadores, con el apoyo del programa de *software* Rayyan®. Eventuales desacuerdos entre los revisores serán resueltos mediante una reunión de consenso, consultando a un tercer investigador si es necesario. La presentación de los datos seguirá el diagrama de flujo PRISMA *Extension for Scoping Reviews*, complementada por tablas/cuadros y análisis descriptivo. Se espera que esta revisión de alcance aporte evidencias capaces de subsidiar la formulación y el perfeccionamiento de prácticas y políticas organizacionales orientadas a promover la longevidad productiva y el bienestar de los trabajadores de la salud.

**Palabras clave:** Envejecimiento Saludable; Salud Laboral; Condiciones de Trabajo; Gestión en Salud; Revisión de Alcance.

## INTRODUÇÃO

Population aging is a global phenomenon characterized by its accelerated and heterogeneous nature, concomitant to the epidemiological transition. Altogether, these phenomena impose significant challenges on society, especially in countries with fewer resources. In the labor context, this scenario is expressed in a higher number of active older workers with multiple chronic diseases. In Brazil, this trend is corroborated by data from the Brazilian Geography and Statistics Institute pointing to an approximate 70% increase in the active participation of individuals aged at least 60 years old in the labor market during the 2012-2024 period<sup>(1)</sup>.

The Decade of Healthy Aging (2021-2030) was instituted in the 2020 United Nations General Assembly, aiming to promote a more inclusive and fair society responsive to the needs presented by individuals at any life phase<sup>(2)</sup>. In the work context, this initiative evidences the need to promote conditions that allow workers to age in good health, maintaining their productivity levels and preserving their functional capacity throughout their career path. Diverse evidence indicates that functional decline can be intensified from the age of 45 due to absence of preventive interventions in work environments<sup>(3)</sup>.

Therefore, remaining active in the work world at older ages is influenced by individual factors such as health conditions, by organizational and structural factors such as working conditions and by social welfare policies, in addition to pension requirements

related to sustainability of Social Security systems<sup>(4)</sup>. In this sense, workforce aging emerges as a strategic priority that requires combined actions from Government officials, employers, Occupational health teams and workers themselves, aiming to promote healthy working conditions and to favor sustainable career paths<sup>(5,6)</sup>.

This scenario becomes even more challenging in the health sector, which, in addition to facing an ever increasing care demand, also experiences aging in its own workforce<sup>(7)</sup>. Health workers are exposed to high physical, cognitive and emotional demands, including long working days, occupational risks and continuous contact with pain and suffering. Such conditions can exert negative impacts on health and work capacity over time<sup>(8-10)</sup>.

Countries facing population aging in an anticipated and structured way have already implemented successful aging-at-work models<sup>(4,11)</sup>. However, the Brazilian reality is different. Successful aging at work is understood as a multidimensional construct that involves physical, psychological, sociocultural, organizational and environmental aspects related to preserving functional capacity, productivity and well-being throughout a person's career path<sup>(12)</sup>. This definition reflects an expanded perspective about active aging, considering career paths and workers' ability to remain productive<sup>(4)</sup>.

A large volume of studies focused on successful aging among community-dwelling older adults is noticed in the literature, including surveys developed in the Brazilian context<sup>(13,14)</sup>.

However, the volume of scientific productions focused on the occupational context is lower, specifically among health workers. In fact, in a preliminary search conducted in April 2026 on the Open Science Framework (OSF) and PROSPERO platforms, no scoping or systematic review protocols were identified specifically synthesizing all the evidence on factors associated with successful aging, evidencing a knowledge gap.

Considering the broad and heterogeneous nature of the diverse evidence available, it is reasonable to conduct a scoping review to map the scientific production on the topic. Mapping these data may come to assist Occupational Health teams and managers in devising more precise intervention policies and programs, targeting actions that promote productive longevity and well-being among health workers.

The objective of this manuscript is to present a scoping review protocol to map diverse scientific evidence about factors associated with successful aging among health workers.

## METHODS

This scoping review protocol was prepared according to the Joanna Briggs Institute (JBI) recommendations<sup>(15)</sup> and shall be reported according to the Preferred Reporting Items for Systematic Reviews and Meta-Analyses (PRISMA-ScR) checklist<sup>(16)</sup>. The scoping review format was adopted because it enables mapping and synthesizing the scientific production on a given topic, especially when there is scarce material explored, in addition to allowing identifying gaps in current

knowledge<sup>(17)</sup>. The protocol has been registered on OSF under Digital Object Identifier (DOI) 10.17605/OSF.IO/G83RU.

## Review question

The research question was prepared based on the PCC (Population, Concept and Context) strategy, as recommended by the JBI: P- Formal health workers; C- Successful aging at work; and C- Formal work in the Health sector across different countries and geographical contexts.

Consequently, the following guiding question was defined: Which is the scientific evidence on factors associated with successful aging among health workers?

## Population

Studies addressing formal health workers will be included. In turn, studies conducted with informal/voluntary workers or from other sectors will be excluded.

## Concept

Aging can be described with different terms, such as “healthy aging”, “successful aging”, “active aging” and “productive aging”, which (although different) converge when acknowledging old age as a life cycle phase that can be experienced in a healthy way, enjoying vitality and quality of life<sup>(18)</sup>.

The concept of “successful aging at work” is adopted in the current study, understood as a multidimensional phenomenon involving physical, psychological, sociocultural, organizational and environmental aspects and

related to preserving functional capacity, productivity and well-being throughout a person's career path<sup>(4,12,19)</sup>.

## Context

The context refers to formal work in the Health area, encompassing different countries and geographical contexts.

## Eligibility criteria

The materials to be included in the review shall be studies answering the research question and meeting the criteria established according to their population, concept and context. The time clipping will encompass the 2016-2026 period with the objective of including the phase marked by the significant increase in the number of older workers and by the consequent need to develop intervention strategies<sup>(1)</sup>. As for the types of evidence

sources, peer-reviewed scientific publications, systematic or scoping reviews and empirical studies will be considered. Editorials, book chapters, experts' opinions, audiovisual materials, other productions from the Grey Literature, duplicate documents and studies with unavailable full texts after due attempts to contact the authors will be excluded.

## Search strategy

The search strategy was developed with the assistance of a librarian specialized in the Health Sciences area, aiming to ensure sensitivity and specificity when identifying the studies. Controlled descriptors (DeCS/MeSH) and free terms related to the main conceptual axes according to the study will be used. The full search strategies for each database are presented in Chart 1 below.

**Chart 1** – Databases and search strategies to be applied in the scoping review Porto Alegre, RS, Brazil, 2026

| Databases          | Search Fields                 | Strategies                                                                                                                                                                                                                                                                                                              |
|--------------------|-------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| PubMed/<br>MEDLINE | Title/Abstract,<br>MeSH Terms | ("successful aging at work" OR "successful ageing at work" OR "healthy aging at work" OR "successful aging") AND ("health personnel"[MeSH] OR "health worker*" OR "healthcare worker*" OR nurse* OR "health professional*") AND ("occupational health"[MeSH] OR "work ability" OR "aging workforce" OR "older worker*") |
| Scopus             | Title-Abs-Key                 | ((("successful aging at work" OR "successful ageing at work" OR "healthy aging at work" OR "successful aging") AND ("health worker*" OR "healthcare worker*" OR nurse* OR "health professional*") AND ("occupational health" OR "work ability" OR "aging workforce" OR "older worker*"))                                |
| Web of<br>Science  | Topic                         | ((("successful aging at work" OR "successful ageing at work" OR "healthy aging at work" OR "successful aging") AND ("health worker*" OR "healthcare worker*" OR nurse* OR "health                                                                                                                                       |

|                            |                                       |                                                                                                                                                                                                                                                                                                                                                              |
|----------------------------|---------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|                            |                                       | professional*") AND ("occupational health" OR "work ability" OR "aging workforce" OR "older worker*"))                                                                                                                                                                                                                                                       |
| BVS /<br>LILACS /<br>BDENF | Título, resumo,<br>assunto            | ("envelhecimento bem-sucedido no trabalho" OR "envejecimiento exitoso en el trabajo" OR "successful aging at work") AND ("trabalhadores da saúde" OR "profissionais de saúde" OR enfermagem OR "health workers" OR "health personnel") AND ("saúde ocupacional" OR "capacidade para o trabalho" OR "força de trabalho envelhecete" OR "occupational health") |
| SciELO                     | All indices                           | Same strategy adapted to Portuguese, English and Spanish                                                                                                                                                                                                                                                                                                     |
| Embase                     | Title, abstract,<br>keywords / Emtree | ("successful aging at work" OR "successful ageing at work") AND ("health personnel" OR nurse* OR "healthcare worker*") AND ("occupational health" OR "work ability")                                                                                                                                                                                         |
| CINAHL /<br>EBSCO          | Title, abstract,<br>subject headings  | ("successful aging at work" OR "healthy aging at work") AND ("health personnel" OR nurse* OR "health professional*") AND ("occupational health" OR "work ability")                                                                                                                                                                                           |
| IBECS                      | Palavras                              | ("envejecimiento exitoso en el trabajo" OR "successful aging at work") AND ("trabajadores de la salud" OR "personal de salud" OR enfermería OR "health personnel") AND ("salud laboral" OR "capacidad para el trabajo" OR "fuerza laboral envejecida")                                                                                                       |

Source: The authors

The strategies will be adapted according to the specific syntax corresponding to each database and to their respective controlled vocabularies (MeSH, DeCS, Emtree and CINAHL Headings).

In order to ensure a comprehensive approach, the studies will be selected from different databases: *Literatura Latino-Americana e do Caribe em Ciências da Saúde* (LILACS); *Base de Dados de Enfermagem* (BDENf); *Biblioteca Virtual em Saúde* (BVS); Scientific Electronic Library Online (SciELO); Scopus; PUBMED/Medical Literature Analysis and Retrieval System Online (MEDLINE); Web of Science; *Índice Bibliográfico Español de Ciencias de la Salud* (IBECS); Embase; Cumulative Index to Nursing and Allied Health Literature (CINAHL); and EBSCO.

## Selection of studies

The selection process will be in charge of two independent and blinded reviewers that will work in the Rayyan software program<sup>(20)</sup>. As a first step, the records retrieved from the databases will be imported into Rayyan, where duplicates will be automatically detected, checked by the reviewers and removed after confirming duplicity. Subsequently, the materials will be screened by reading their titles and abstracts. All potentially eligible studies will be assessed in full.

The studies included will be those meeting the eligibility criteria and answering the research question. Any and all disagreements between the reviewers will be solved by consensus or by resorting to a third reviewer.

The selection process shall be presented as a flowchart, according to the PRISMA-ScR recommendations.

### Data extraction

Data extraction and management will be in charge of two independent reviewers, who will use a previously prepared spreadsheet form. Data referring to identification of the studies (title, authors, publication year, journal, country and language) will be collected, as well as to methodological characteristics (objective, design, population, concept and context) and to the main findings (results, factors associated with successful aging, limitations and conclusions).

The data extraction instrument may be adjusted throughout the process as necessary, duly recording all changes in the scoping review. Any and all disagreements between the reviewers will be solved by consensus or by resorting to a third reviewer.

### Data analysis and presentation

The data will be analyzed descriptively, based on a synthesis of all the information extracted from the studies included. The selection process shall be presented by means of a flowchart, according to the PRISMA-ScR recommendations<sup>(16)</sup>.

The results shall be presented as a synthesis through tables, charts and figures organized into thematic categories related to the factors associated with successful aging at work.

### Ethics and disclosing

For being a scoping review protocol grounded in the analysis and synthesis of diverse evidence from previously published and publicly available studies, it waives appraisal by any Research Ethics committee. The research development and presentation of the results stages will follow the JBI and PRISMA-ScR methodological recommendations. The review results will be disclosed in an open-access and peer-reviewed scientific journal, in addition to presenting them in academic/scientific events in the health area.

### EXPECTED RESULTS

It is expected that this review will contribute to Occupational Health workers' performance by supporting decision-making and qualifying practices in the work context, in addition to supporting scientific research studies in this area. In the Public Health scope, the results shall be in consonance with the Unified Health System guidelines, especially regarding workers' health promotion. They may also favor devising more inclusive work environments aligned to the requirements arising from workforce aging.

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### Funding and Acknowledgments

This paper was carried out with the support of the Coordination Office for the Improvement of Higher Education Personnel (*Coordenação de Aperfeiçoamento de Pessoal de Nível Superior*, CAPES) - Brazil: Funding Code 001.

We would like to thank Rubens da Costa Silva Filho, librarian and researcher at the Nursing School belonging to *Universidade Federal do Rio Grande do Sul*, for his precise contributions to developing this scoping review protocol.

### Conflict of interests

The authors declare no conflict of interests.

### Data availability statement

No datasets were generated in this study. The information presented is described in the body of the article.

### Use of artificial intelligence

An artificial intelligence tool (ChatGPT) was used to assist with text revision and writing enhancement.

### Authorship criteria (author contributions)

Mariane Lurdes Predebon Losquiavo, Mônica da Silva Santos, and Daiane Dal Pai contributed substantially to the study's conception and design; data acquisition, analysis, and interpretation; and the drafting and critical revision of the manuscript; they also approved the final version to be published.

**Scientific Editor:** Ítalo Arão Pereira Ribeiro.  
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