INPLASY

An analysis of evidence synthesis studies published in indexed journals and registered in PROSPERO, OSF, INPLASY, Research Registry, and protocols.io: a meta-research protocol

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ADMINISTRATIVE INFORMATION

Support - INPLASY Inc. will provide funding to publish this meta-research study in an open-access journal (free and unlimited access).

Review Stage at time of this submission - The review has not yet started.

Conflicts of interest - João V. d S. Canellas founded the INPLASY registry and owns shares in INPLASY, Inc. (a US company) and INPLASY Ltd. (a Brazilian company). Currently, João V. d S. Canellas is CEO at INPLASY, Inc. The remaining authors declare that the research will be conducted without commercial or financial relationships that could be construed as a potential conflict of interest.

INPLASY registration number: INPLASY202450090

Amendments - This protocol was registered with the International Platform of Registered Systematic Review and Meta-Analysis Protocols (INPLASY) on 20 May 2024 and was last updated on 30 May 2024.

INTRODUCTION

Study aim This study aims to synthesize information from evidence synthesis studies published in peer-reviewed journals and registered in five different registries (PROSPERO, INPLASY, OSF, Research Registry, protocols.io) to pinpoint their similarities and differences. The following focused questions will be addressed:

1) How many studies registered on each platform are published in indexed journals?
2) What percentage of published studies on each registry updated the protocol status as 'completed and published'?
3) What types of evidence synthesis studies on each registry are most published?
4) What is the publication rate on each registry in the period analyzed?
5) What is the mean period of time from registration to publication on each registry?
6) Do studies registered in different platforms differ in terms of the impact factor of the journals where the studies were published?

Background Meta-research study is defined as the study of research itself: its methods, reporting, reproducibility, evaluation, and incentives.[1] Usually, meta-research include a systematic analysis of research in a given field or topic. An evidence synthesis study is a research method that allows researchers to combine all relevant information to answer a research question. It can help establish an evidence base for best-practice guidance, identify gaps in knowledge, or inform policymakers and practitioners.[2] Prospective registration of systematic reviews and other evidence synthesis

studies helps reduce potential bias, avoid unintended duplication of studies, promote transparency[3]. Pipper et al.[4] reported five databases where systematic reviews can be registered. They listed five options where systematic review and other evidence syntheses protocols can be registered: PROSPERO[5], Open Science Framework Registries (OSF)[6], INPLASY[7], Research Registry[8], and protocols.io[9]. Although this study identified and listed different database characteristics and features, the number of peer-reviewed articles published in indexed scholarly journals referring to protocols registered in each database remains unknown.

METHODS

Search strategy We will conduct a systematic search in MEDLINE via Pubmed, Embase, and Web of Science to retrieve published evidence synthesis studies registered in PROSPERO, OSF, INPLASY, Research Registry, and protocols.io. To retrieve such manuscripts, we will be tailored to each database's syntax and subject headings to ensure reproducibility. We will use the following search strategy for each database:

PUBMED
INPLASY
inplasy* AND (2020/5/1:2024/6/1[pdat])
AND
("systematic review"[Title/Abstract] OR "scoping review"[Title/Abstract] OR "mapping review"[Title/Abstract] OR "rapid review"[Title/Abstract] OR "overview of reviews"[Title/Abstract] OR "umbrella review"[Title/Abstract] OR "meta analys*"[Title/Abstract] OR "narrative review"[Title/Abstract] OR "literature review"[Title/Abstract]) AND (2020/5/1:2024/6/1[pdat])
PROSPERO
CRD42* AND (2020/5/1:2024/6/1[pdat])
AND
("systematic review"[Title/Abstract] OR "scoping review"[Title/Abstract] OR "mapping review"[Title/Abstract] OR "rapid review"[Title/Abstract] OR "overview of reviews"[Title/Abstract] OR "umbrella review"[Title/Abstract] OR "meta analys*"[Title/Abstract] OR "narrative review"[Title/Abstract] OR "literature review"[Title/Abstract]) AND (2020/5/1:2024/6/1[pdat])
OSF
("osf io*"[All Fields]) AND (2020/5/1:2024/6/1[pdat])
AND
("systematic review"[Title/Abstract] OR "scoping review"[Title/Abstract] OR "mapping review"[Title/Abstract] OR "rapid review"[Title/Abstract] OR "overview of reviews"[Title/Abstract] OR "umbrella review"[Title/Abstract] OR "meta analys*"[Title/Abstract] OR "narrative review"[Title/Abstract] OR "literature review"[Title/Abstract]) AND (2020/5/1:2024/6/1[pdat])
Research Registry
("research registry"[All Fields] OR "researchregistry*"[All Fields] OR "reviewregistry*"[All Fields]) AND (2020/5/1:2024/6/1[pdat])
AND
("systematic review"[Title/Abstract] OR "scoping review"[Title/Abstract] OR "mapping review"[Title/Abstract] OR "rapid review"[Title/Abstract] OR "overview of reviews"[Title/Abstract] OR "umbrella review"[Title/Abstract] OR "meta analys*"[Title/Abstract] OR "narrative review"[Title/Abstract] OR "literature review"[Title/Abstract]) AND (2020/5/1:2024/6/1[pdat])
Protocols.io
("integer*"[All Fields] OR "protocols.io"[All Fields]) AND (2020/5/1:2024/6/1[pdat])
AND
("systematic review"[Title/Abstract] OR "scoping review"[Title/Abstract] OR "mapping review"[Title/Abstract] OR "rapid review"[Title/Abstract] OR "overview of reviews"[Title/Abstract] OR "umbrella review"[Title/Abstract] OR "meta analys*"[Title/Abstract] OR "narrative review"[Title/Abstract] OR "literature review"[Title/Abstract]) AND (2020/5/1:2024/6/1[pdat])

EMBASE
INPLASY
(inplasy* AND [2020-05-01 to 2024-06-01]/pd)
AND
('systematic review':ti,ab,kw OR 'scoping review':ti,ab,kw OR 'mapping review':ti,ab,kw OR 'rapid review':ti,ab,kw OR 'overview of reviews':ti,ab,kw OR 'umbrella review':ti,ab,kw OR 'meta analys*':ti,ab,kw OR 'narrative review':ti,ab,kw OR 'literature review':ti,ab,kw) AND [2020-05-01 to 2024-06-01]/pd
PROSPERO
(CRD42* AND [2020-05-01 to 2024-06-01]/pd)
AND
('systematic review':ti,ab,kw OR 'scoping review':ti,ab,kw OR 'mapping review':ti,ab,kw OR 'rapid review':ti,ab,kw OR 'overview of reviews':ti,ab,kw OR 'umbrella review':ti,ab,kw OR 'meta analys*':ti,ab,kw OR 'narrative review':ti,ab,kw OR 'literature review':ti,ab,kw) AND [2020-05-01 to 2024-06-01]/pd
OSF
(osf.io* AND [2020-05-01 to 2024-06-01]/pd)
AND
('systematic review':ti,ab,kw OR 'scoping review':ti,ab,kw OR 'mapping review':ti,ab,kw OR 'rapid review':ti,ab,kw OR 'overview of reviews':ti,ab,kw OR 'umbrella review':ti,ab,kw OR

'meta analys*':ti,ab,kw OR 'narrative review':ti,ab,kw OR 'literature review':ti,ab,kw) AND [2020-05-01 to 2024-06-01]/pd
Research Registry
'research registry' AND [2020-05-01 to 2024-06-01]/pd OR (researchregistry* AND [2020-05-01 to 2024-06-01]/pd OR 'reviewregistry*' AND [2020-05-01 to 2024-06-01]/pd)
AND
('systematic review':ti,ab,kw OR 'scoping review':ti,ab,kw OR 'mapping review':ti,ab,kw OR 'rapid review':ti,ab,kw OR 'overview of reviews':ti,ab,kw OR 'umbrella review':ti,ab,kw OR 'meta analys*':ti,ab,kw OR 'narrative review':ti,ab,kw OR 'literature review':ti,ab,kw) AND [2020-05-01 to 2024-06-01]/pd
Protocols.io
'protocols.io' AND [2020-05-01 to 2024-06-01]/pd OR (integer* AND [2020-05-01 to 2024-06-01]/pd)
AND
('systematic review':ti,ab,kw OR 'scoping review':ti,ab,kw OR 'mapping review':ti,ab,kw OR 'rapid review':ti,ab,kw OR 'overview of reviews':ti,ab,kw OR 'umbrella review':ti,ab,kw OR 'meta analys*':ti,ab,kw OR 'narrative review':ti,ab,kw OR 'literature review':ti,ab,kw) AND [2020-05-01 to 2024-06-01]/pd

WEB OF SCIENCE
INPLASY
ALL=(INPLASY*) Publication date 2020-05-01 to 2024-06-01
AND
((((((((((((((TI=("systematic review")) OR AB=("systematic review")) OR TI=("scoping review")) OR AB=("scoping review")) OR TI=("mapping review")) OR AB=("mapping review")) OR TI=("overview of reviews")) OR AB=("overview of reviews")) OR TI=("umbrella review")) OR AB=("umbrella review")) OR TI=(meta-analys*)) OR AB=(meta-analys*)) OR TI=("narrative review")) OR AB=("narrative review")) OR TI=("literature review")) OR AB=("literature review")
PROSPERO
ALL=(cdr42*) Publication date 2020-05-01 to 2024-06-01
AND
((((((((((((((TI=("systematic review")) OR AB=("systematic review")) OR TI=("scoping review")) OR AB=("scoping review")) OR TI=("mapping review")) OR AB=("mapping review")) OR TI=("overview of reviews")) OR AB=("overview of reviews")) OR TI=("umbrella review")) OR AB=("umbrella review")) OR TI=(meta-analys*)) OR AB=(meta-analys*)) OR TI=("narrative review")) OR AB=("narrative review")) OR TI=("literature review")) OR AB=("literature review")
OSF
ALL=(osf.io*) Publication date 2020-05-01 to 2024-06-01
AND
((((((((((((((TI=("systematic review")) OR AB=("systematic review")) OR TI=("scoping review")) OR AB=("scoping review")) OR TI=("mapping review")) OR AB=("mapping review")) OR TI=("overview of reviews")) OR AB=("overview of reviews")) OR TI=("umbrella review")) OR AB=("umbrella review")) OR TI=(meta-analys*)) OR AB=(meta-analys*)) OR TI=("narrative review")) OR AB=("narrative review")) OR TI=("literature review")) OR AB=("literature review")
Research Registry
((ALL=("research registry")) OR ALL=(researchregistry*)) OR ALL=(reviewregistry*) Publication date 2020-05-01 to 2024-06-01
AND
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protocols.io
ALL=(protocols.io) OR ALL=(integer*) Publication date 2020-04-01 to 2024-06-01
AND
((((((((((((((TI=("systematic review")) OR AB=("systematic review")) OR TI=("scoping review")) OR AB=("scoping review")) OR TI=("mapping review")) OR AB=("mapping review")) OR TI=("overview of reviews")) OR AB=("overview of reviews")) OR TI=("umbrella review")) OR AB=("umbrella review")) OR TI=(meta-analys*)) OR AB=(meta-analys*)) OR TI=("narrative review")) OR AB=("narrative review")) OR TI=("literature review")) OR AB=("literature review").
Records identified through other sources - We will include the list of published studies reported on https://inplasy.com/published-articles/ and updated on June 2024.
We will export retrieved records into EndNote X9 reference management software. We will remove duplicates automatically via software, and manually if any duplicates remained.

Eligibility criteria Inclusion criteria: We will include in this meta-research study the following evidence synthesis studies: systematic reviews, scoping reviews, mapping review, umbrella review, meta-analysis, and literature review. We will select manuscripts published or ahead of print published

in scholarly journals indexed in Medline, Embase, and Web of Science that mention PROSPERO, OSF, INPLASY, Research Registry, or protocols.io registration. No language restrictions will be applied in the initial search. However, only abstracts with available full-text English articles will be selected for final inclusion. We expect to find a large number of studies registered in PROSPERO, which makes it impossible to synthesize all information. Therefore, we will limit the number of studies using a random method to select a sample from the list of studies in each database. We will include a maximum of 1,2k published studies registered in each registry since May 2020 to June 2024.
Exclusion criteria: We will exclude conference proceedings abstracts, preprints, or expert opinion/policy reviews from the list of select studies. Cochrane systematic reviews will not be included in this analysis. Duplicated studies and studies using the same registration number will be excluded. If we found multiple articles about the same protocol, we included only the most comprehensive study. Peer-reviewed protocol will be excluded from data extraction.

Data extraction The extraction of information from the selected full-text articles will be carried out independently by two authors, and any discordance will be solved by discussion. We will collected information from the articles, the referred protocols, and from the registries (PROSPERO, INPLASY, and Research Registry). The manuscript extraction form will contain the following data:
Title of the article
Journal where the article was published (including Journal Impact Factor) We will organize the journals by categories and groups. Groups are used to organize the 254 categories of JCR into broad discipline areas. Journals not included in the Journal Citation Report will be described as ''not indexed to JCR''.
Month and Year of publication
Number of authors
Country of the corresponding author
Name of the register
Registration ID
Type of evidence synthesis study reported in the title or abstract (e.g. systematic review with meta-analysis, scoping review, umbrella review, etc.)
Source of funding (Yes or No)
Published peer-reviewed version - Is there a published peer-reviewed version of the protocol? (Yes or No) If yes, what is the journal?
Hyperlink to the registration report (The hyperlink , website address (URL) or DOI to the full registration report was provided?)
We will access the protocols referred in the manuscripts to collect the following information:
Protocol status (Is the status updated?)
Registration date (We will use this information to calculate the period of time from registration to publication).
Finally, we will access the three registries used exclusively for evidence synthesis projects (PROSPERO, INPLASY, and Research Registry) to identify the number of protocols registered in each database from April 2020 to the search date. We will use this data to calculate the publication rate in the period analyzed. We will exclude generic databases (OSF and protocols.io) from this analysis because they are not exclusively platforms for evidence synthesis protocols and our search strategy will find only peer-reviewed articles reported as systematic reviews, and other evidence synthesis projects.
We will categorize all data and tabulate them descriptively to pinpoint similarities and differences among the registries.

Strategy of data synthesis The selection process will be presented using a PRISMA flowchart. The characteristics of the included studies will be reported through descriptive statistics and in narrative form using tables and/or figures. A narrative synthesis will be used to summarize the results. We will analyze data with descriptive statistics and will be presented as frequencies and percentages. We will include a maximum of 1,2k articles registered in each registry since April 2020. if the number of articles exceeds 1.2 thousand in each base, we will select a random sample from the list of articles using a random table. The articles will organized numerically using an alphanumeric code by a research not involved in the data extraction process.

Country(ies) involved United Sates, Denmark and Australia.

Other relevant information Availability of data - All data analyzed during this meta-research study will be included in the published article and its supplementary materials. Our study will include only analysis of published manuscripts; therefore, approval of this study protocol by a research ethics committee will not be necessary.

Keywords PROSPERO, Open Science Framework; INPLASY; Research Registry; protocols.io; protocol; registration; meta-research; evidence synthesis.

Dissemination plans The study's findings will be disseminated through peer-reviewed academic journal.

Contributions of each author

The team has not yet discussed the contribution of each author. Due to the large number of studies evaluated, it is expected to include more authors to contribute to data extraction.

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