INPLASY

A comparative analysis of peer-reviewed articles registered in INPLASY and PROSPERO: a meta-research protocol

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ADMINISTRATIVE INFORMATION

INTRODUCTION

Study aim This study aims to descriptively synthesize information from all peer-reviewed articles registered in INPLASY and published between June 2020 and August 2024, and to analyze how they differ from those registered in PROSPERO. To this end, we will compare these articles with a random sample of peer-reviewed articles registered in PROSPERO during the same period to pinpoint their similarities and differences. We will address the following focused questions:

1) How many peer-reviewed articles registered in INPLASY were published in indexed journals between July 2020 and August 2024?
2) What percentage of published studies in INPLASY updated the protocol status as 'completed and published'?
3) What types of evidence synthesis studies in INPLASY have been published the most?
4) What was the publication rate of INPLASY protocols during the period analyzed?
5) What is the mean time from registration to publication of INPLASY protocols?
6) Do evidence synthesis studies registered in INPLASY differ from those registered in PROSPERO? We will compare the following variables: journal impact factor; journal category; publisher; country of the corresponding author; source of funding; publisher peer-reviewed protocol; method used to cite the protocol; protocol status updated after the article publication; and the time interval between study registration and final publication.

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, PROSPERO[5], Open Science Framework Registries (OSF)[6], INPLASY[7], Research Registry[8], and protocols.io[9].

INPLASY is an international platform for registering systematic reviews and other evidence synthesis studies that was launched in March 2020. The registry provides an online database in which the protocols are maintained as permanent public records and can be free accessed on its website.[7] The objective of the present methodological study is to synthesize information from all peer-reviewed articles registered in INPLASY and published between June 2020 and August 2024 to analyze how they differ from those registered in PROSPERO. To this end, we will compare all peer-reviewed articles registered in INPLASY with a random sample of peer-reviewed articles registered in PROSPERO during the same period to pinpoint their similarities and differences.

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 and INPLASY. 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 (2020/6/1:2024/8/1[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 (2020/6/1:2024/8/1[pdat])
PROSPERO
CRD42* AND (2020/6/1:2024/8/1[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 (2020/6/1:2024/8/1[pdat])

EMBASE
INPLASY
(inplasy* AND [2020-06-01 to 2024-08-01]/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 [2020-06-01 to 2024-08-01]/pd
PROSPERO
(CRD42* AND [2020-06-01 to 2024-08-01]/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 [2020-06-01 to 2024-08-01]/pd

WEB OF SCIENCE
INPLASY
ALL=(INPLASY*) Publication date 2020-06-01 to 2024-08-01
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") Publication date 2020-06-01 to 2024-08-01
PROSPERO
ALL=(crd42*) Publication date 2020-06-01 to 2024-08-01
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") Publication date 2020-06-01 to 2024-08-01

Records identified through other sources - We will include the list of published studies accessed on 01 August 2024 https://inplasy.com/published-articles/.
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 in scholarly journals indexed in Medline, Embase, or Web of Science that mention INPLASY registration. We will include articles published between 01 June 2020 and 01 August 2024. 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. To explore the differences between studies registered in INPLASY and PROSPERO we will search for systematic reviews, scoping reviews, mapping review, umbrella review, meta-analysis, and literature review registered in PROSPERO. We will select a sample of studies registered in PROSPERO and published in peer-reviewed journals between 01 June 2020 and 01 August 2024. We will use a validated random method to select the articles from the full list. We will use the same sample size included in INPLASY group.
Exclusion criteria: We will exclude conference proceedings abstracts, preprints, or expert opinion/policy reviews from the list of select studies. Similarly, Cochrane reviews and peer-reviewed protocols will be excluded from this analysis.

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 and INPLASY). The manuscript extraction form will contain the following information:

Title of the article
Type of evidence synthesis study reported in the title or abstract (e.g. systematic review with meta-analysis, scoping review, umbrella review, etc.)
Journal where the article was published (including Journal Impact Factor and the publisher) 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''. We will collect the last available impact factor for each journal.
Day, month and year of publication
Country of the corresponding author
Name of the register
Registration ID
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?) (Yes or No).
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 time from registration to publication).
Finally, we will access INPLASY database to identify the number of protocols registered from April 2020 to August 2024. We will use this data to calculate the publication rate in the period analyzed.
We will categorize all data and tabulate them descriptively to pinpoint similarities and differences between 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. We will analyze data with descriptive statistics and will be presented as frequencies and percentages. We will include all peer-reviewed articles registered in INPLASY between June 2020 and August 2024. The control group will include a sample of articles registered in PROSPERO containing the same number of studies included in INPLASY group. We will select a random sample from the list of articles registered in PROSPERO using a random table. The articles will be organized numerically using an alphanumeric code by a research not involved in the data extraction process. We will compare quantitatively the collected numerical characteristics between evidence synthesis studies registered in PROSPERO versus INPLASY, calculating the odds ratio (OR) for dichotomous

variables with a 95% confidence interval for each characteristic. We will use the standardized mean difference (SMD) for continuous variables with a 95% confidence interval for each characteristic.

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 as 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 INPLASY; PROSPERO; 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 defined the contribution of each author. We expect to collect data from a large number of studies. Therefore, it is possible to invite more authors to contribute with data extraction.
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