PRISMA-S: an extension to the PRISMA Statement for reporting literature searches in systematic reviews

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Agenda

• Introduction to PRISMA-S
  • Why
  • How
• How to use PRISMA-S
• Differences between PRISMA 2009 and PRISMA-S
• Q&A
Introduction to PRISMA-S
Why PRISMA-S?

PRISMA-S was created to help librarians, information specialists, and systematic reviewers transparently report searches.

Estimates of search “reproducibility” of a search range from .004% to 14% of published systematic reviews.

Builds on the PRISMA reporting guideline.
Developing PRISMA-S
What is PRISMA-S?

Checklist with 16 items

Explanation and Elaboration

Examples of good reporting
Explanations of why it’s important
Suggestions for where and how to report
How to use PRISMA-S
Where can I find PRISMA-S?

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- Systematic Reviews
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- Journal of the Medical Library Association (April 2021 issue delayed)

EQUATOR Network page:
https://www.equator-network.org/reporting-guidelines/prisma-s/
<table>
<thead>
<tr>
<th>SECTION/TOPIC</th>
<th>ITEM #</th>
<th>CHECKLIST ITEM</th>
</tr>
</thead>
<tbody>
<tr>
<td>INFORMATION SOURCES AND METHODS</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Database name</td>
<td>1</td>
<td>Name each individual database searched, stating the platform for each.</td>
</tr>
<tr>
<td>Multi-database searching</td>
<td>2</td>
<td>If databases were searched simultaneously on a single platform, state the name of the platform, listing all of the databases searched.</td>
</tr>
<tr>
<td>Study registries</td>
<td>3</td>
<td>List any study registries searched.</td>
</tr>
<tr>
<td>Online resources and browsing</td>
<td>4</td>
<td>Describe any online or print source purposefully searched or browsed (e.g., tables of contents, print conference proceedings, web sites), and how this was done.</td>
</tr>
<tr>
<td>Citation searching</td>
<td>5</td>
<td>Indicate whether cited references or citing references were examined, and describe any methods used for locating cited/citing references (e.g., browsing reference lists, using a citation index, setting up email alerts for references citing included studies).</td>
</tr>
<tr>
<td>Contacts</td>
<td>6</td>
<td>Indicate whether additional studies or data were sought by contacting authors, experts, manufacturers, or others.</td>
</tr>
<tr>
<td>Other methods</td>
<td>7</td>
<td>Describe any additional information sources or search methods used.</td>
</tr>
<tr>
<td>SEARCH STRATEGIES</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Full search strategies</td>
<td>8</td>
<td>Include the search strategies for each database and information source, copied and pasted exactly as run.</td>
</tr>
<tr>
<td>Limits and restrictions</td>
<td>9</td>
<td>Specify that no limits were used, or describe any limits or restrictions applied to a search (e.g., date or time period, language, study design) and provide justification for their use.</td>
</tr>
<tr>
<td>Search filters</td>
<td>10</td>
<td>Indicate whether published search filters were used (as originally designed or modified), and if so, cite the filter(s) used.</td>
</tr>
<tr>
<td>Prior work</td>
<td>11</td>
<td>Indicate when search strategies from other literature reviews were adapted or reused for a substantive part or all of the search, citing the previous review(s).</td>
</tr>
<tr>
<td>Updates</td>
<td>12</td>
<td>Report the methods used to update the search(es) (e.g., rerunning searches, email alerts).</td>
</tr>
<tr>
<td>Dates of searches</td>
<td>13</td>
<td>For each search strategy, provide the date when the last search occurred.</td>
</tr>
<tr>
<td>PEER REVIEW</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Peer review</td>
<td>14</td>
<td>Describe any search peer review process.</td>
</tr>
<tr>
<td>MANAGING RECORDS</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total records</td>
<td>15</td>
<td>Document the total number of records identified from each database and other information sources.</td>
</tr>
<tr>
<td>Deduplication</td>
<td>16</td>
<td>Describe the processes and any software used to deduplicate records from multiple database searches and other information sources.</td>
</tr>
</tbody>
</table>
Item 2. Multi-database searching
If databases were searched simultaneously on a single platform, state the name of the platform, listing all of the databases searched.

Examples
“The MEDLINE and Embase strategies were run simultaneously as a multi-file search in Ovid and the results de-duplicated using the Ovid de-duplication tool.” [51]
“A systematic literature search was performed in Web of Knowledge™ (including KCI Korean Journal Database, MEDLINE, Russian Science Citation Index, and SciELO Citation Index)....” [52]

Explanation
Authors may choose to search multiple databases at once through a single search platform to increase efficiency. Along with the name of the platform, it is necessary to list the names of each of the individual databases included as part of the search. Including information about using this approach in the text of the manuscript helps readers immediately understand how the search was constructed and executed. This helps readers determine how effective the search strategy (Table 2) will be for each database [1].

Suggested location for reporting
Report any multi-database search (Table 2) in the methods section and any supplementary materials. If space permits, report key individual database names in the abstract, even if run through a multi-database search.
**Glossary**

**Database:** Within PRISMA-S, this refers to a literature database designed to search journal literature. Databases may be multidisciplinary or specialized. Many include specialized search features, subject headings, and structured data designed to facilitate easy and comprehensive searching. Examples include MEDLINE, EconLit, and PsycINFO.

**Supplementary Materials**

- Where
- What

"Due to the instability of supplementary materials published as part of a journal article, uploading complete documentation to a secure and permanent archive is recommended."
Getting started
Read Explanation & Elaboration
Plan out documentation

Documenting and reporting
Which PRISMA-S checklist items apply?
Refer to Explanation & Elaboration for what, how, why, and where

Familiar with PRISMA-S
Use the checklist
Refer to the Explanation & Elaboration for unfamiliar or lesser used items
Comparing PRISMA 2009 and PRISMA-S
<table>
<thead>
<tr>
<th>Item 7</th>
<th>Item 8</th>
<th>Item 17</th>
</tr>
</thead>
<tbody>
<tr>
<td>Describe all information sources (e.g., databases with dates of coverage, contact with study authors to identify additional studies) in the search and date last searched.</td>
<td>Present full electronic search strategy for at least one database, including any limits used, such that it could be repeated.</td>
<td>Give numbers of studies screened, assessed for eligibility, and included in the review, with reasons for exclusions at each stage, ideally with a flow diagram.</td>
</tr>
</tbody>
</table>
Item 7: Information Sources
- 7 Information Sources and Methods items
- 1 Search Strategies item

Item 8: Search
- 2 Search Strategies items

Item 17: Records
- 1 Managing Records item

New
- 1 Peer Review item
- 3 Search Strategies items
- 1 Managing Records item
Information Sources and Methods

PRISMA 2009
• Databases
  • Dates of coverage
  • Platform or provider (E&E only)
• Contact with authors
• Date last searched
• All information sources
• Use of (E&E only)
  • Hand searching journals
  • Registries
  • Reference lists
  • Regulatory agency web sites
• Who developed and conducted the search (E&E only)

PRISMA-S
• Database names
  • Platform for each
• Multi-database searching
• Study registries
• Online or print sources for browsing/searching
  • Web sites, web searching
  • Conference proceedings
  • General
• Citation searching
• Contacts
• Other methods
Citation searching

• PRISMA 2009 – Item 7 Explanation & Elaboration
  • "In addition to searching databases, authors should report the use of supplementary approaches to identify studies, such as... checking reference lists"

• PRISMA-S – Item 5
  • Indicate whether cited references or citing references were examined, and describe any methods used for locating cited/citing references (e.g., browsing reference lists, using a citation index, setting up email alerts for references citing included studies).
What's gone?

Dates of coverage
Search Strategies

**PRISMA 2009**
- Full electronic search strategy for **at least one database**
- Any limits used
- "Could indicate how the search took into account other databases searched" (E&E only)
- Peer review (E&E only)

**PRISMA-S**
- Search strategies for **each database and information source**
- Limits and restrictions
  - No limits
  - Justification
- Search filters*
- Prior work*
- Updates*
- Dates of searches
For each database and information source
Using database-provided limit features should not be confused with using filters or inclusion criteria for the systematic review. For example, systematic review teams may choose to only include English-language randomized controlled trials. This can be done using limits, a combination of a filter and screening, or screening alone. **It should be clear to the reader which approach is used.**
Limits and restrictions

Specify that no limits were used, or describe any limits or restrictions applied to a search (e.g., date or time period, language, study design) and provide justification for their use.

Report any limits or restrictions used or that no limits were used in the abstract, methods section, and in any supplementary materials, including the full search strategies (Item 8). Report the justification for any limits used within the methods section and/or in the limitations section.
Filters (Item 10) and Prior Work (Item 11)

- Giving credit
- Transparency of sources
- Assessment of quality, validity
- Acknowledgement of modifications
Total Records

Document the total number of records identified from each database and other information sources.
Supplementary Materials

- Do NOT rely on journals for documentation
  - Use a repository
  - Get a DOI for your work
  - Record **all** information in supplementary materials and duplicate as necessary for manuscript and abstract
Remember

- PRISMA-S are minimal standards
- PRISMA-S is designed to be flexible
- PRISMA-S was designed for compatibility with PRISMA 2020

Not all items will be needed for every project
- Use with PRISMA or other standards
- Use for any literature review
- New methods? That's why Item 7 is there. Just describe them!
Thank You, PRISMA-S Team!

- Melissa Rethlefsen*
- Jonathan Koffel*
- Shona Kirtley*
- Siw Waffenschmidt
- Patricia Ayala
- David Moher
- Matthew Page
- Consensus Conference Attendees
- Experts: Delphi Survey and Feedback
Thank you!
Questions?
@mlrethlefsen
@PRISMA Search