Rapid Scoping Reviews

Dr. Fiona Campbell
Senior Lecturer in Evidence Synthesis, Newcastle University
Editor, Campbell Collaboration
Methods Guidance Series

- Public partners, healthcare providers and policymakers as knowledge users
- Searching
- Forming the team, study selection, data extraction and risk of bias
- Assessing the certainty of the evidence
- Helpful software

- Rapid Qualitative Evidence Synthesis
- Rapid Scoping Reviews
• Some processes are more time resource intense
• Some rapid approaches are going to impact differently
• Focus on question formulation, searching, data extraction and reporting
Cochrane Rapid Review

Definition:

‘A type of evidence synthesis that brings together and summarises information from different research studies to produce evidence for people such as the public, healthcare providers, researchers, policymakers, and funders in a systematic, resource-efficient manner. This is done by speeding up the ways we plan, do and/or share the results of conventional structured (systematic) reviews, by simplifying or omitting a variety of methods that should be clearly defined by the authors.’


‘Rapid Scoping Search’

- Search terms
- Scale
- Already in progress or complete
Rapid scoping search friends
Sources of existing systematic reviews and protocols

- Cochrane Library
- Epistomonikos (clinical or health policy questions)
- Trip
- Centre for Reviews and Dissemination

- Campbell Library
- Collaboration for Environmental Evidence
- International initiative for impact evaluation (3ie)
- Prospero
What is a Scoping Review?

Scoping reviews are a type or evidence synthesis that aims to **systematically** identify and **map the breadth** of evidence available on a particular topic, field, concept or issues, often irrespective of source (ie. **primary research, reviews, non-empirical evidence**) within or across particular contexts.

Scoping reviews can **clarify key concepts**/definitions in the literature and identify key characteristics or factors related to a concept, including those related to methodological research.

Munn et al 2022
How can I address the problem that the numbers of children in our school suffering from poor mental wellbeing and anxiety is growing?

Would a mindfulness intervention work for children in our school?

I wonder what children and their parents feel might be the best solutions?

I would really like to know what different types of interventions have been developed and tried in schools like ours.
The rise in the use of scoping reviews
Previously known as "What Review is Right for You?"

This tool is designed to provide guidance and supporting material to reviewers on methods for the conduct and reporting of knowledge synthesis.

Select the type of review:

Quantitative  Qualitative
Guidance for Scoping Reviews

**Title:** Scoping Studies: Towards a Methodological Framework

**Authors:** Hilary Arksy & Lisa O’Malley

**Published in:** BMJ Open Medical Research

This paper focuses on scoping studies, an approach to reviewing the literature that is able to recruit little attention in the research methods literature. We distinguish between different types of scoping studies and indicate where they stand in relation to full systematic reviews. We outline a framework for conducting a scoping study based on our recent experiences of reviewing the literature on the use of scoping reviews for health professionals and their review. Where appropriate, our approach to scoping is a field is contrasted with the procedures followed in systematic reviews. We emphasize how, in a consultation exercise in this area of study, we have taken the steps to make them more useful to policy makers, practitioners and service users. Finally, we consider the advantages and limitations of the approach and suggest that a wider debate is called for about the role of the scoping study in relation to other types of reference reviews.

**Abstract:**
Scoping reviews are an increasingly popular way of reviewing the literature; scoping reviews include the B: Evidence—-Framework for Scoping Reviews to enhance and improve their relationship. In scoping reviews, methods of information gathering are the main strategy, and are useful. Despite a wide range of guidance, there are no consistent and methodological differences between scoping, systematic reviews, and an update. Despite a wide range of guidance, there are no consistent and methodological differences between scoping and systematic reviews. Appropriate to the question, high-quality scoping criteria and stakeholder engagement with the evidence and is emerging as a policy and data driven exploratory evidence base.

**Keywords:** Scoping reviews, evidence, methodology, framework, stakeholder engagement.

**Systematic review or scoping review? Guidance for authors when choosing between a systematic or scoping review approach**

**Authors:** Sofia B. M., Michelle J. D., Emily C., David S., Cédric Talbi, Alona M., Matthew, and Alice P. L. C.

**Table:**

<table>
<thead>
<tr>
<th>Scoping or Systematic Review</th>
<th>Key Differences</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Scoping Review</strong></td>
<td>Systematic Review</td>
</tr>
<tr>
<td>Focus is on breadth and scope</td>
<td>Focus is on depth and detail</td>
</tr>
<tr>
<td>Involves consultation with key stakeholders</td>
<td>Involves comprehensive literature reviews</td>
</tr>
<tr>
<td>Aim is to provide an overview of the existing evidence</td>
<td>Aim is to provide a detailed and comprehensive analysis of the existing evidence</td>
</tr>
<tr>
<td>Methodology includes a wider range of sources</td>
<td>Methodology is more structured</td>
</tr>
<tr>
<td>Data extraction is more flexible</td>
<td>Data extraction is more rigorous</td>
</tr>
<tr>
<td>Analysis is more qualitative</td>
<td>Analysis is more quantitative</td>
</tr>
</tbody>
</table>

**Guidance: Best practice guidance and reporting items for the development of scoping protocol**

<table>
<thead>
<tr>
<th>Authors</th>
<th>Title</th>
</tr>
</thead>
<tbody>
<tr>
<td>Michelle J. D., Emily C., David S., Cédric Talbi, Alona M., Matthew, and Alice P. L. C.</td>
<td>Systematic review or scoping review? Guidance for authors when choosing between a systematic or scoping review approach</td>
</tr>
</tbody>
</table>

**Conclusion:**
Scoping studies are an increasingly popular way of reviewing the literature; scoping studies include the B: Evidence—Framework for Scoping Reviews to enhance and improve their relationship. Scoping reviews, methods of information gathering are the main strategy, and are useful. Despite a wide range of guidance, there are no consistent and methodological differences between scoping, systematic reviews, and an update. Despite a wide range of guidance, there are no consistent and methodological differences between scoping and systematic reviews. Appropriate to the question, high-quality scoping criteria and stakeholder engagement with the evidence and is emerging as a policy and data driven exploratory evidence base.

**Keywords:** Scoping reviews, evidence, methodology, framework, stakeholder engagement.
**Depth (content)**

Systematic review: *Primary studies*

Review of reviews: *Systematic reviews*

**Breadth (scope)**

**BIG PICTURE REVIEW FAMILY**

Scoping reviews

Mapping reviews and EGMs

Focused mapping review and synthesis

Focused scoping review

Mega-maps

Saran & White 2018
Mapping reviews, scoping reviews, and evidence and gap maps (EGMs): the same but different — the “Big Picture” review family

Fiona Campbell¹*, Andrea C. Tricco², Zachary Munn³, Danielle Pollock³, Ashrita Saran⁴, Anthea Sutton⁵, Howard White⁶ and Hanan Khalil⁷

Abstract
Scoping reviews, mapping reviews, and evidence and gap maps are evidence synthesis methodologies that address broad research questions, aiming to describe a bigger picture rather than address a specific question about inter-
# The Big Picture Review Family

<table>
<thead>
<tr>
<th>Purpose</th>
<th>Scoping Reviews</th>
<th>Mapping Reviews</th>
<th>Evidence and Gap Maps (EGMs)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Clarifies and identifies key concepts/definitions, characteristics or factors related to a concept</td>
<td>Collates, describes, and catalogues the available evidence related to the question of interest</td>
<td>Systematic evidence synthesis product which visually displays the available evidence and identify research gaps relevant to a specific research question</td>
</tr>
</tbody>
</table>

| Question | Narrow focus to a broad question: What are the definitions for a particular concept? | Broad question: what do we know about a topic? Or what and where does research exist on a particular area? | Very broad question Includes all relevant evidence of a specified kind for a particular sector, or sub-sector |

| Evidence source | Identifies and maps evidence irrespective of source Number of evidence sources included can vary | Identifies and maps evidence irrespective of source Generally >80+ studies | Identifies and maps evidence irrespective of source Generally > 80+ studies |

| Extraction | Extensive and detailed data extractions | High-level with pre-defined codes for extraction | High-level with pre-defined codes for extraction |

| Analysis | Inductive (need to be developed) or deductive (pre-determined) analysis (may include basic qualitative content analysis) | Deductive summary of high level data with pre-defined codes | Deductive summary of high-level data dependent on framework |

| Presentation of results | Visual summaries must be accompanied by a descriptive synthesis. With/without EGMs | Visual summaries With/without EGMs | Visual, interactive online output placed on a web-based platform, such as a funders webpage |

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Campbell, F., Tricco, A.C., Munn, Z. et al. Mapping reviews, scoping reviews, and evidence and gap maps (EGMs): the same but different—the “Big Picture” review family. Syst Rev 12, 45 (2023).
### Scoping Reviews vs Rapid Scoping Reviews

<table>
<thead>
<tr>
<th></th>
<th>Big Picture review</th>
<th>Rapid Big Picture Review</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Duration</strong></td>
<td>Approximately 1 year</td>
<td>2 weeks-4 months</td>
</tr>
<tr>
<td><strong>Review Questions</strong></td>
<td>Several broad questions</td>
<td>Fewer questions, clearly specified and feasible within time and resource constraints</td>
</tr>
<tr>
<td><strong>Searches</strong></td>
<td>Exhaustive searches</td>
<td>Limitations on search</td>
</tr>
<tr>
<td><strong>Data extraction</strong></td>
<td>In depth and concerned with knowledge generation</td>
<td>Tailored and limited to address commissioner decision needs</td>
</tr>
<tr>
<td><strong>Presentation of findings</strong></td>
<td>Published, detailed description</td>
<td>Often published in grey literature, more limited presentation of findings</td>
</tr>
</tbody>
</table>

Good team working required but greater flexibility with time frames. More opportunities to build team capacity, undertake training and try new tools.

Experienced team, aware of what the implications of the time frames will mean for the review findings, close dialogue with commissioners.

Khangura et al 2012
Increasing use of ‘Rapid Scoping Reviews’
Scoping Review Processes often Inadequately Reported

- 23% did not report processes of title and abstract screening
- 35% did not describe the processes for full-text screening
- 22% did not describe the methods of data charting/coding/data extraction

(Tricco et al 2016)
So...when would you consider a RAPID Big Picture approach

- Urgent clinical scenarios
- Emergent issues
- Policy timeframes
- Lack of resources
How long Big Picture reviews take?
https://predicter.github.io/
**SYSTEMATIC REVIEW**

- Planning: 15%
- Searching: 4%
- Screening: 20%
- Data extraction: 16%
- Synthesis: 11%
- Reporting: 15%
- Management and administration: 19%

**SYSTEMATIC MAP**

- Planning: 10%
- Searching: 3%
- Screening: 36%
- Data extraction: 24%
- Synthesis: 0%
- Reporting: 10%
- Management and administration: 17%
How do we reduce the time resource on screening or Study Selection?

1. Reduce the search yield
2. Accelerating the process of screening
Stages of the Review

- Defining the question
- Searching
- Screening
- Data extraction or coding
- Description and presentation of findings
- Writing the report and dissemination
Stages of the Review

Defining the question  Searching  screening
Defining the question

Screening  ↔  Searching
Developing the parameters for the review question

Mapping review challenges

- Large volume of data to screen
- Complexity and ambiguity around the search terms affecting the search strategy

(Khalil et al ’24)
Review Paper

A scoping review of the experience of implementing population testing for SARS-CoV-2

C.R. Foster, F. Campbell, L. Blank, A.J. Cantrell, M. Black, A.C.K. Lee

School of Health and Related Research, The University of Sheffield, Regent Court, 30 Regent Street, Sheffield S1 4DA, UK

ARTICLE INFO

Article history:
Received 16 December 2020
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Available online 28 June 2021

Keywords:
Mass testing
Population testing
SARS-CoV-2
COVID-19

ABSTRACT

Objectives: The severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2) — also known as the coronavirus disease (COVID-19) — pandemic has led to the swift introduction of population testing programmes in many countries across the world, using testing modalities such as drive-through, walk-through, mobile and home visiting programmes. Here, we provide an overview of the literature describing the experience of implementing population testing for severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2).

Study design: Scoping review.

Methods: We conducted a scoping review using Embase, Medline and the Cochrane library in addition to a grey literature search. We identified indicators relevant to process, quality and resource outcomes related to each testing modality.

Results: In total, 2969 titles were identified from the academic literature and the grey literature search, of which 22 were relevant. Most studies were from the USA and the Republic of Korea. Drive-through testing centres were the most common testing modality evaluated and these provided a rapid method of testing whilst minimising resource use.

Conclusions: The evidence base for population testing lacks high quality studies, however, the literature provides evaluations of the advantages and limitations of different testing modalities. There is a need for robust evidence in this area to ensure that testing is deployed in a safe and effective manner in response to the COVID-19 pandemic.

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# Question Formulation

<table>
<thead>
<tr>
<th>Framework</th>
<th>Dimensions</th>
</tr>
</thead>
<tbody>
<tr>
<td>PICOs</td>
<td>Population, Intervention, Comparator, Outcomes, Study design</td>
</tr>
<tr>
<td>PCC</td>
<td>Population, Concept, Context</td>
</tr>
<tr>
<td>ECLIPSE</td>
<td>Expectation, Client Group, Location, Impact, Professionals, Service</td>
</tr>
<tr>
<td>PEO</td>
<td>Patient / Population / Problem, Exposure, Outcomes or themes</td>
</tr>
<tr>
<td>SPIDER</td>
<td>Sample, Phenomenon of Interest, Design, Evaluation, Research type,</td>
</tr>
<tr>
<td>SPICE</td>
<td>Setting, Population/Perspective, Intervention, Evaluation</td>
</tr>
</tbody>
</table>
Key Recommendations

- Anticipate that there will be a lot of work at this stage
- Remember that the screening will represent a large proportion of review time
- Communicate the impact of rapid approach decisions with commissioners
- Don’t scrimp on planning time,
<table>
<thead>
<tr>
<th>Tool</th>
<th>Increase SPEED</th>
<th>Increase risk of BIAS/ERROR</th>
</tr>
</thead>
<tbody>
<tr>
<td>Single reviewer screening or limited dual approach</td>
<td>Yes</td>
<td>Yes</td>
</tr>
<tr>
<td>Multiple reviewers (parallelisation of processes)</td>
<td>Yes</td>
<td>No</td>
</tr>
<tr>
<td>Expert Reviewers</td>
<td>No</td>
<td>No</td>
</tr>
<tr>
<td>Crowdsourcing</td>
<td>Yes</td>
<td>No</td>
</tr>
<tr>
<td>Automation aided screening</td>
<td>Yes</td>
<td>Yes</td>
</tr>
</tbody>
</table>
How long does it take to screen 10,000 titles and abstracts?

- Screen titles and abstracts (0.18-2.88 minutes)
- Resolve differences (5 minutes)
- Retrieve full paper (4 minutes)
- Screen full text (4.3-5 minutes)
- Resolve Differences (5 minutes)
How long does it take to screen 10,000?

Reviewer One: 4 weeks
Reviewer Two: 5 weeks
## Single vs Dual Reviewer Checking

<table>
<thead>
<tr>
<th>Study</th>
<th>Findings</th>
</tr>
</thead>
<tbody>
<tr>
<td>Edwards et al 2002</td>
<td>increased the number of randomized trials identified by an average of 9% (range 0 to 32)</td>
</tr>
<tr>
<td>Doust et al 2005</td>
<td>Diagnostic review – 1 study missed</td>
</tr>
<tr>
<td>Pham et al 2016</td>
<td>At least 1 relevant study missed</td>
</tr>
<tr>
<td>Stoll et al 2019</td>
<td>6.6-9.1% additional eligible studies identified</td>
</tr>
<tr>
<td>Shemilt et al 2016</td>
<td>1 study missed</td>
</tr>
<tr>
<td>Gartlehner et al 2020</td>
<td>13% of relevant studies missed</td>
</tr>
<tr>
<td>Nama et al 2021</td>
<td>targeted application of single-reviewer screening</td>
</tr>
</tbody>
</table>
Non-familial Intergenerational Interventions and their Impact on the Social and Mental Wellbeing of Younger and Older People: a Mapping Review and Evidence and Gap Map

<table>
<thead>
<tr>
<th>Outcomes</th>
<th>Children and young people centred outcomes</th>
<th>Older people centred outcomes</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Attainment and knowledge</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Mental health</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Agency</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Mental wellbeing</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Loneliness and social isolation</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Attitudes</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Intergenerational interactions</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Peer interactions</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Physical health outcomes</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Health promotion</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Other</strong></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Demonstration projects**
- Level 6 Ongoing Intergenerational programmes
- Level 7 Intergenerational community settings
- Multiple levels (systematic reviews)

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Generated using v.2.2.3 of the EPPI-Mapper powered by EPPI-Reviewer and created with 💖 by the Digital Solution Foundry team.
Employ piloting exercises at abstract and full text screening levels to allow team members to test the study selection process on a selective sample of records to ensure that all team members apply a consistent approach to screening.

Conduct dual and independent screening of a proportion of records (eg, 20%) and assess reviewer agreement—if agreement is good (eg, κ is ≥0.8), proceed with single screening.
How long does it take to screen 10,000 titles and abstracts?

Conduct dual and independent screening of a proportion of records (e.g., 20%) and assess reviewer agreement—if agreement is good (e.g., \( \kappa \) is \( \geq 0.8 \)), proceed with single screening.

Garritty et al. 2023
How long does it take to screen 10,000 titles and abstracts?

- Reviewer One: Screen titles and abstracts (0.18-2.88 minutes), Retrieve full paper (4 minutes)
- Reviewer Two: Screen titles and abstracts (0.18-2.88 minutes), Retrieve full paper (4 minutes)
- Reviewer Three: Screen titles and abstracts (0.18-2.88 minutes), Retrieve full paper (4 minutes)
- Reviewer Four: Screen titles and abstracts (0.18-2.88 minutes), Resolve differences (5 minutes), Retrieve full paper (4 minutes), Screen full text (4.3-5 minutes), Resolve Differences (5 minutes)

Total:
- Reviewer One: 3 weeks
- Reviewer Two: 3 weeks
- Reviewer Three: 3 weeks
- Reviewer Four: 3.5 weeks

WEEKS
Covidence – Screening Progress

Title and abstract screening

TEAM PROGRESS

- 92 DONE
- 99 ONE VOTE
- 20 CONFLICTS
- 60 NO VOTES

JULIAN, YOU CAN STILL

RESOLVE
- 20

SCREEN
- 60

Resolve conflicts

Continue

You've screened 210 studies so far

Full text screening

- 4 excluded
- 38 studies to select

Extraction

- 0 extracted
- 4 studies to extract
### EPPI-Reviewer

#### Reviewers

<table>
<thead>
<tr>
<th>ID</th>
<th>Name</th>
</tr>
</thead>
<tbody>
<tr>
<td>7962</td>
<td>Anthea Sutton</td>
</tr>
<tr>
<td>17015</td>
<td>Kevin St-Martin</td>
</tr>
<tr>
<td>16706</td>
<td>Lilly Estenson</td>
</tr>
<tr>
<td>16710</td>
<td>Kelly Marnfeldt</td>
</tr>
<tr>
<td>14091</td>
<td>Jieyun Lee</td>
</tr>
<tr>
<td>14120</td>
<td>Iping guo</td>
</tr>
<tr>
<td>3869</td>
<td>Fiona Campbell</td>
</tr>
<tr>
<td>17146</td>
<td>Yongjie Yen</td>
</tr>
<tr>
<td>17182</td>
<td>Mark Byrne</td>
</tr>
<tr>
<td>17186</td>
<td>Marie Beaulieu</td>
</tr>
<tr>
<td>17188</td>
<td>Christopher Milton</td>
</tr>
<tr>
<td>17180</td>
<td>Julien Cadieux Genesse</td>
</tr>
</tbody>
</table>

#### Coding Assignments

<table>
<thead>
<tr>
<th>Id</th>
<th>Name</th>
<th>Study Group</th>
<th>Codes to apply</th>
<th>Allocated</th>
<th>Started</th>
<th>Remaining</th>
</tr>
</thead>
<tbody>
<tr>
<td>100378</td>
<td>Michaela Rogers</td>
<td>Coding on 'Mega-Map Mapping tool template' (Michaela Rogers)</td>
<td>Mega-Map Mapping tool</td>
<td>15</td>
<td>10</td>
<td>5</td>
</tr>
<tr>
<td>99615</td>
<td>Salma Rehman</td>
<td>Coding on 'Mega-Map Mapping tool template' (Salma Rehman)</td>
<td>Mega-Map Mapping tool</td>
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<tr>
<td>99614</td>
<td>Lilly Estenson</td>
<td>Coding on 'Mega-Map Mapping tool template' (Lilly Estenson)</td>
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<td>22</td>
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</tr>
<tr>
<td>99613</td>
<td>Lilly Estenson</td>
<td>Sheffield team</td>
<td>Mega-Map Mapping tool</td>
<td>38</td>
<td>22</td>
<td>16</td>
</tr>
<tr>
<td>99612</td>
<td>Salma Rehman</td>
<td>Sheffield team</td>
<td>Mega-Map Mapping tool</td>
<td>38</td>
<td>37</td>
<td>1</td>
</tr>
<tr>
<td>99262</td>
<td>Jieyun Lee</td>
<td>For translation - Mandarin</td>
<td>Mega-Map Mapping tool</td>
<td>13</td>
<td>3</td>
<td>10</td>
</tr>
<tr>
<td>98738</td>
<td>Christopher Milton</td>
<td>Coding on 'Mega-Map Mapping tool template' (Christopher Milton)</td>
<td>Mega-Map Mapping tool</td>
<td>57</td>
<td>14</td>
<td>43</td>
</tr>
</tbody>
</table>

#### Comparisons
Crowd sourcing

Task completion was 33 h for the crowd and 410 h for the review team

Noel-Storr et al (2021)
Semi-automated study selection

Benefits for Big Picture Reviews

• Time savings may be considerable – 90% and 88% (Shemilt et al 2013)

• Rank records by their inclusion probability and present records with the highest likelihood of inclusion first or present the inclusion probability for records at the title/abstract level

However

• Machine learning, may mean that the outliers get missed – a problem when mapping the landscape

• Many tools are not user-friendly and require advanced coding skills

Tools
Covidence*
DistillerSR
EPPI-Reviewer*
Rayyan
SyRF
Abstrackr vs EPPI-reviewer (Tsou et al 2020)

For the 3 large reports, both EPPI-Reviewer and Abstrackr performed well with potential reductions in screening burden of 4 to 49% (Abstrackr) and 9 to 60% (EPPI-Reviewer). Both tools had markedly poorer performance for 1 large report (inguinal hernia), possibly due to its heterogeneous key questions.
Recommendations

• Become familiar with machine learning technologies before using them in a rapid review

• Consider the implications of missed studies for the review and discuss with the commissioner

• Report how machine-learning has been used in the review
<table>
<thead>
<tr>
<th>Tool</th>
<th>Increases speed</th>
<th>Increases risk of bias or error</th>
</tr>
</thead>
<tbody>
<tr>
<td>Limiting the data extracted</td>
<td>Yes</td>
<td>No</td>
</tr>
<tr>
<td>Single reviewer data extraction or partial dual extraction</td>
<td>Yes</td>
<td>Yes</td>
</tr>
<tr>
<td>Multiple reviewers</td>
<td>Yes</td>
<td>No</td>
</tr>
<tr>
<td>Expert Reviewers</td>
<td>Yes</td>
<td>No</td>
</tr>
<tr>
<td>Dual monitors</td>
<td>Yes</td>
<td>No</td>
</tr>
<tr>
<td>Automation</td>
<td>Yes</td>
<td>Yes</td>
</tr>
</tbody>
</table>
## Are our Evidence Based Methods Evidence Based?

<table>
<thead>
<tr>
<th>Evidence supporting decision regarding streamlined methods</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Single data extraction with verification resulted in more errors (a relative increase of 22%) but saved time (relative saving of 36%)</td>
<td>Buscemi et al 2006</td>
</tr>
<tr>
<td>Use of experienced extractors can expedite the process</td>
<td>Horton et al 2010, Jones et al 2005</td>
</tr>
<tr>
<td>In general continuous outcome data involving specific summary measures such as means and SD</td>
<td>Gotzsche et al 2007, Tendal et al 2009</td>
</tr>
</tbody>
</table>
Data Extraction/Coding/Charting

Surface View

How many icebergs are there in a 100 mile square radius?

Deep Dive

What is the nature of this iceberg?
For data extraction, employ a piloting exercise to allow team members to test this task on a small proportion of records to ensure that all team members perform it **consistently and correctly**.
Understanding the effect of indoor air pollution on pneumonia in children under 5 in low- and middle-income countries: a systematic review of evidence

Abstract:
Exposure to indoor air pollution increases the risk of pneumonia in children, accounting for about a million deaths globally. This study investigates the individual effect of solid fuel, carbon monoxide (CO), black carbon (BC) and particulate matter (PM) 2.5 on pneumonia in children under 5 in low- and middle-income countries. A systematic review was conducted to identify peer-reviewed and grey full-text documents without restrictions to study design, language or year of publication using nine databases (Embase, PubMed, EBSCO/CINAHL, Scopus, Web of Knowledge, WHO Library Database (WHOLIS), Integrated Regional Information Networks (IRIN), the World Meteorological Organization (WMO)-WHO and Intergovernmental Panel on Climate Change (IPCC). Exposure to solid fuel use showed a significant association to childhood pneumonia. Exposure to CO showed no association to childhood pneumonia. PM2.5 did not show any association when physically measured, whilst eight studies that used solid fuel as a proxy for PM2.5 all reported significant associations. This review highlights the need to standardise measurement of exposure and outcome variables when investigating the effect of air pollution on pneumonia in children under 5. Future studies should account for BC, PM1 and the interaction between indoor and outdoor pollution and its cumulative impact on childhood pneumonia.

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Limit data extraction to only the most important data fields relevant to address the review question.

Early and continuing engagement of the requester and any other relevant stakeholder in order to understand their needs and the intended use of the review, the expected deadlines and deliverables.
Reporting Findings…Rapidly

- Author familiarity with the software
- Plan with your KU, commissioner, and team in advance.
Tools to support creation of visuals during reporting

Pollock et al '23
Health impact assessment and climate change: A scoping review

Priska Ammann<sup>ab</sup>, Dominik Dietler<sup>ab</sup>, Mirko S. Winkler<sup>ab</sup>

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Tools to support generation of visuals (Pollock et al '23)

Google Sheets (Alphabet Inc., California, USA),
Microsoft Excel (Redmond, Washington, USA)
NVivo (QSR International, United Kingdom)
Microsoft Power BI or Tableau (Salesforce, California, USA)
EPPI-Mapper (Digital Solution Foundry and EPPI-Centre, London, UK)
EndNote (Clarivate Analytics, PA, USA)
To Conclude

- Scoping reviews – are not quicker than other types of ES
- Time spent on question formulation may save time later
- Communicate often with your commissioners
- Ensure that methods are clearly communicated, with their consequences for the generalisability and trustworthiness of the findings made clear
Thank you for listening

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References

1. EPPI-Reviewer: Thomas J, Graziosi S, Brunton J, Ghouze Z, O'Driscoll P, Bond M, Koryakina A (2022) EPPI-Reviewer: advanced software for systematic reviews, maps and evidence synthesis. EPPI Centre, UCL Social Research Institute, University College London [program].


