



Learning Live

Rapid Scoping Reviews

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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



Rapid Scoping Reviews

Danielle Pollock, Anthea Sutton, Andrea Tricco, Chantelle Garritty, Hanan Khalil



- 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.'

2 Hamel C, Michaud A, Thuku M, et al. Defining Rapid Reviews: a systematic scoping review and thematic analysis of definitions and defining characteristics of rapid reviews. J Clin Epidemiol 2020;0. doi:10.1016/j.jclinepi.2020.09.041



¹ Garritty C, Gartlehner G, Nussbaumer-Streit B, et al. Cochrane Rapid Reviews Methods Group offers evidence-informed guidance to conduct rapid reviews. J Clin Epidemiol 2021;130:13–22. doi:10.1016/j.jclinepi.2020.10.007

'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 would 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





https:dailytravelphotos.com



https://rightreview.knowledgetranslation.net/



Guidance for Scoping Reviews

Int. J. Social Research Methodology Vol. 8, No. 1, February 2005, pp. 19-32 Routledge

Scoping Studies: Towards a Methodological Framework Hilary Arksey & Lisa O'Malley

Received 10 September 2002; accepted 11 March 2003

This paper focuses on scoping studies, an approach to reviewing the literature which to date has received little attention in the research methods literature. We distinguish between different types of scoping studies and indicate where these 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 services for carers for people with mental health problems. Where appropriate, our approach to scoping the field is contrasted with the procedures followed in systematic reviews. We emphasize how including a consultation exercise in this sort of study may enhance the results, making 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 literature reviews.





Open Access

DEBATE

Scoping studies: advancing the methodology

Danielle Levac1*, Heather Colquhoun1, Kelly K O'Brien12

Abstract

Background: Scoping studies are an increasingly popular approach to reviewing health research evidence. In 2005 Arksey and O'Malley published the first methodological framework for conducting scoping studies. While this framework provides an excellent foundation for scoping study methodology, further clarifying and enhancing this amework will help support the consistency with which authors undertake and report scoping studies and may encourage researchers and clinicians to engage in this process.

Discussion: We build upon our experiences conducting three scoping studies using the Arksev and O'Malle nethodology to propose recommendations that clarify and enhance each stage of the framework. ecommendations include: clarifying and linking the purpose and research question (stage one); balancing feasibility with breadth and comprehensiveness of the scoping process (stage two): using an iterative team approach to selecting studies (stage three) and extracting data (stage four); incorporating a numerical summary and qualitative thematic analysis, reporting results, and considering the implications of study findings to policy, practice, or research (stage five); and incorporating consultation with stakeholders as a required knowledge anslation component of scoping study methodology (stage six). Lastly, we propose additional considerations for scoping study methodology in order to support the advancement, application and relevance of scoping studies in

Summary: Specific recommendations to clarify and enhance this methodology are outlined for each stage of the Arksey and O'Malley framework. Continued debate and development about scoping study methodology will help to maximize the usefulness and rigor of scoping study findings within healthcare research and practice.

Peters et al. Syst Rev (2021) 10:263

https://doi.org/10.1186/s13643-021-01821-3

DEBATE

Systematic Reviews

Open Access

Scoping reviews: reinforcing and advancing the methodology and application

Micah D. J. Peters^{1,2,3}, Casey Marnie¹. Heather Colguhoun^{4,5}. Chantelle M. Garrittv⁶. Susanne Hempel⁷. Tanva Horslev⁸, Etienne V, Lan Munn et al. BMC Medical Research Methodology (2018) 18:143 Wasifa Zarin¹⁷ and Andrea C.1 https://doi.org/10.1186/s12874-018-0611-x

BMC Medical Research Methodology

Open Access

CrossMark

Funding

Abstract Scoping reviews are an increasi

COMMENTARY

Systematic review or scoping review? guidance and resources to assi: scoping reviews includes the JI Guidance for authors when choosing Analyses—Extension for Scopir to enhance and improve the co between a systematic or scoping review steps in scoping review metho of information regarding the di scoping reviews, and an update approach Despite available guidance, sor Zachary Munn 0, Micah D. J. Peters, Cindy Stern, Catalin Tufanaru, Alexa McArthur and Edoardo Aromataris reporting and methodological

tives or questions, standardised consistency of reporting and er Abstract objective(s) and question(s) are Background: Scoping r

Rigourous, high-quality scopine criteria. Stakeholder engageme thesising evidence with the results of evidence syr oping reviews and s is evolving as a policy and decidate reporting standards is inte eview is to identify kno

Micah D.J. Peters^{1,2,3}, Christina Godfrey⁴, Patricia McInerney⁵, Hanan Khalil^{6,7}, Palle Larsen⁸, Results: Researchers ma Casey Marnie¹ • Danielle Pollock⁹ • Andrea C. Tricco^{4,10,11} • Zachary Munn⁹

development of scoping review protocols

Best practice guidance and reporting items for the

onduct. While useful in Juersity of South Australia. Clinical and Health Sciences. Rosemary Bryant AO Research Centre, Adelaide. SA, Australia. ²The University o and can be used to con Adelaide. Faculty of Health and Medical Sciences, Adelaide Nursing School, Adelaide, SA, Australia, ³The Centre for Evidence-based Practice South Australia (CEPSA): A JBI Centre of Excellence, The University of Adelaide, Adelaide, SA, Australia, ⁴Queen's Collaboration for Health Care Conclusions: Scoping re Quality: A JBI Centre of Excellence, School of Nursing, Queen's University, Kingston, ON, Canada, ⁵The Wits-JBI Centre for Evidence-Based Practice Although conducted for A JBI Affiliated Group, Faculty of Health Sciences, University of the Witwatersrand, Johannesburg, South Africa, 6School of Psychology and Public and transparent method Health, Department of Public Health, La Trobe University, Melbourne, VIC, Australia, ⁷The Queensland Centre of Evidence Based Nursing and guidance available regard Midwifers: A JBI Centre of Excellence. Brisbane. OLD. Australia. ⁸Department of Applied Health Research, University College UCL, Odense iews being performed Denmark, ⁹JBI, Faculty of Health and Medical Sciences, The University of Adelaide, Adelaide, SA, Australia, ¹⁰Epide Keywords: Systematic re for Health, Management, and Evaluation, Dalla Lana School of Public Health, University of Toronto, Toronto, ON, Canada, and "Knowledge Translation Program, Li Ka Shing Knowledge Institute, St. Michael's Hospital, Unity Health Toronto, Toronto, ON, Canada

Objective: The purpose of this article is to clearly describe how to develop a robust and detailed scoping review protocol, which is the first stage of the scoping review process. This paper provides detailed guidance and a checklist for prospective authors to ensure that their protocols adequately inform both the conduct of the ensuing review and their readership.

Introduction: Scoping reviews are a common approach to evidence synthesis for researchers, clinicians, and policymakers across a variety of fields. Scoping reviews are not concerned with making analytical comparison sed on pooling results data from multiple primary sources of evidence, but rather on collating and describing the evidence and presenting the summation in a clearly illustrated format. Methods for undertaking and reporting scoping reviews continue to be refined. Some prospective reviewers may be uncertain how to plan, structure, and report scoping review protocols, as there is little or no specific guidance for scoping review protocols yet available.

Methods: This guidance was developed by members of the JBI Scoping Review Methodology Group based on previous experience and expertise in developing scoping review and evidence synthesis methodologies, protocols, and reviews, as well as through experiences working with and guiding authors to develop scoping review protocols. Elements of a comprehensive scoping review protocol are outlined and explained in detail.

Conclusion: Knowledge users of evidence syntheses rely on clear and transparent reporting to understand and use the results of published work to drive evidence-based improvements within health care and beyond. It is hoped that readers will be able to use this guidance when developing protocols to assist them in planning future scoping reviews and to carry them out with a high degree of transpare

Keywords: evidence synthesis; evidence-based health care; PRISMA; protocol; scoping review JBI Evid Synth 2022; 20(4):953-968.

Table, PRISMA-ScR Checklist Item PRISMA-ScR Checklist Item Section Title Identify the report as a scoping review. Abstract Structured summary Provide a structured summary that includes (as applicable) background, objectives, eligibility criteria, sources of evidence, charting methods, results, and conclusions that relate to the review question and objectives ntroduction Rationale Describe the rationale for the review in the context of what is already known. Explain why the review questions/objectives lend themselves to a scoping review approach. Objectives Provide an explicit statement of the questions and objectives being addressed with reference to their key elements (e.g., population or participants, concepts, and context) or other relevant key elements used to conceptualize the review guestions and/or objectives. Protocol and registration Indicate whether a review protocol exists; state if and where it can be accessed (e.g., a Web address); and if available, provide registration information, including the registration number. Specify characteristics of the sources of evidence used as eligibility criteria (e.g., years considered, Eligibility criteria uage, and publication status), and provide a rationale. Describe all information sources in the search (e.g., databases with dates of coverage and contact with authors to identify additional sources), as well as the date the most recent search was Information sources* executed Search Present the full electronic search strategy for at least 1 database, including any limits used, such that it could be repeated Selection of sources of evidence† State the process for selecting sources of evidence (i.e., screening and eligibility) included in the scoping review. 10 Describe the methods of charting data from the included sources of evidence (e.g., calibrated forms Data charting process! or forms that have been tested by the team before their use, and whether data charting was done independently or in duplicate) and any processes for obtaining and confirming data from 11 List and define all variables for which data were sought and any assumptions and simplifications Data items Critical appraisal of individual sources of 12 If done, provide a rationale for conducting a critical appraisal of included sources of evidence, describe the methods used and how this information was used in any data synthesis lif evidence§ Summary measures 13 Not applicable for scoping reviews. Describe the methods of handling and summarizing the data that were charted. Synthesis of results Risk of bias across studies Not applicable for scoping reviews. 15 Additional analyses 16 Not applicable for scoping reviews. Selection of sources of evidence 17 Give numbers of sources of evidence screened, assessed for eligibility, and included in the review, with reasons for exclusions at each stage, ideally using a flow diagram. Characteristics of sources of evidence 18 For each source of evidence, present characteristics for which data were charted and provide the citations. Critical appraisal within sources of evidence 19 If done, present data on critical appraisal of included sources of evidence (see item 12). Results of individual sources of evidence For each included source of evidence, present the relevant data that were charted that relate to the 20 review questions and objectives. Synthesis of results Summarize and/or present the charting results as they relate to the review questions and objectives. Risk of bias across studies Not applicable for scoping reviews. Additional analyses 23 Not applicable for scoping reviews. Discussion Summary of evidence 24 Summarize the main results (including an overview of concepts, themes, and types of evidence available), link to the review questions and objectives, and consider the relevance to key groups. Discuss the limitations of the scoping review process. Limitations 26 Provide a general interpretation of the results with respect to the review questions and objectives, as

well as potential implications and/or next steps. 27 Describe sources of funding for the included sources of evidence, as well as sources of funding for

the scoping review. Describe the role of the funders of the scoping review.







Breadth (scope)

Saran & White 2018



Campbell et al. Systematic Reviews (2023) 12:45 https://doi.org/10.1186/s13643-023-02178-5

METHODOLOGY

Mapping reviews, scoping reviews, and evidence and gap maps (EGMs): the same but different— the "Big Picture" review family

Fiona Campbell^{1*}[®], 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-



Systematic Reviews

Open Access

IBI 🔿 🥆	The Big Picture Review Family										
	Scoping Reviews		Mapping Reviews		Evidence and Gap Maps (EGMs)						
Purpose ►	Clarifies and identifies key concepts/definitions, characteristics or factors related to a concept	Þ	Collates, describes, and catalogues the available evidence related to the question of interest	•	Systematic evidence synthesis product which visually displays the available evidence and identify research gaps relevant to a specific research question						
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						

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

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



Increasing use of 'Rapid Scoping Reviews'



Count



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/













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





Stages of the Review



Defining the question







Developing the parameters for the review question

 Received: 24 April 2019
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 Accepted: 23 July 2019

 DOI: 10.1111/jep.13251

SPECIAL ISSUE

WILEY Journal of Evaluation in Clinical Practice

Mismatches in the production of a scoping review: Highlighting the interplay of (in)formalities

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Abstract

The move towards evidence-based medicine has generated rapid growth in reviews of research literature. The scoping review is one of the new literature reviews that has emerged from traditional systematic reviews. A scoping review aims to map the literature on a particular topic or research area. As scoping reviews become more popular, methods for conducting scoping reviews are rapidly increasing. In light of these recent developments, this paper investigates how complex scoping reviews are conducted. As an analytical framework, we draw on previous work about (in)formalities (ie, the interplay of formalities and informal judgments in scientific research). We show how the process of constructing a population, intervention, comparison, and outcome (PICO), searching and selecting relevant literature, requires informal deliberations, judgments, and choices that are not considered in the formal methodology used when conducting scoping reviews. This paper asks the following questions: What could be learned from this empirical case of conducting a scoping review by applying theoretical insights about (in)formalities? What are the possible

Mapping review challenges

- Large volume of data to screen
- Complexity and ambiguity around the search terms affecting the search strategy
 (Khalil et al '24)





Contents lists available at ScienceDirect

Public Health

LSEVIER

journal homepage: www.elsevier.com/locate/puhe

Review Paper

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



RSPH

PUBLIC

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

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ARTICLE INFO

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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, 2999 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

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



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,



Study Selection / Screening

Tool	Increase SPEED	Increase risk of BIAS/ ERROR
Single reviewer screening or limited dual approach	Yes	Yes
Multiple reviewers (parallelisation of processes)	Yes	No
Expert Reviewers	No	No
Crowdsourcing	Yes	No
Automation aided screening	Yes	Yes

How long does to screen 10,000 titles and abstracts?



Cochrane Methods Rapid Reviews

8

How long does to screen 10,000?



Single vs Dual Reviewer Checking

Edwards et al 2002	increased the number of randomized trials identified by an average of 9% (range 0 to 32)
Doust et al 2005	Diagnostic review – 1 study missed
Pham et al 2016	At least 1 relevant study missed
Stoll et al 2019	6.6-9.1% additional eligible studies identified
Shemilt et al 2016	1 study missed
Gartlehner et al 2020	13% of relevant studies missed
Nama et al 2021	targeted application of single-reviewer screening







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



	Outcome	es																						
	Children	and you	ng people (entred out	comes																«	Older peo	ple centre	d outco
	Attainme knowled	ent and ge	Mental	health	Agency		Mental v	vellbeing	Loneline social is	ess and olation	Attitudes		Intergen interacti	erational ons	Peer inte	eractions	Physical health outcomes	Health	promotion	Other		Attainmer knowledg	nt and e	Menta
Demonstration projects	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•
Level 6 Ongoing intergenerational programmes	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	••••	•	•	•	•	•	•	
Level 7 Intergenerational community settings	•	•			•	•	•	•			•	•	•	•	•	•					•		•	
Multiple levels (systematic reviews)	•	•		•		•	•	•			•	•		•		•	•		•		•	•	•	

RCT
 Comparative intervention study (non-RCT)
 Observational study
 Mixed methods study
 Qualitative study
 Systematic review

Generated using v.2.2.3 of the EPPI-Mapper powered by <u>EPPI Reviewer</u> and created with \bigcirc by the <u>Digital</u> Solution Foundry team. v:952 u:642

Cochrane RR methods guidance

RESEARCH METHODS AND REPORTING

CON OPEN ACCESS



For numbered affiliations see end of the article Correspondence to: C Garritty chantelle.garritty@uottawa.ca (or @cgarritty on Twitter ORCID 0000-0002-2207-9958) Additional material is published online only. To view please visit the journal online. Citethisas: BM/2024;384:e076335

http://dx.doi.org/10.1136/ bmj-2023-076335 Accepted: 02 January 2023

Updated recommendations for the Cochrane rapid review methods guidance for rapid reviews of effectiveness

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This article provides updated guidance on methods for conducting rapid reviews of effectiveness, targeted at Cochrane and other stakeholders. interested in the methodology reviews. The guidance, developed the Cochrane Rapid Reviews Method Group, builds upon previous interim guidance, and incorporates changes based on an evaluation of its application, a scope of the literature on rapid review methodology, and input from a diverse group of experts in rapid review methods. The guidance consists of 24 specific recommendations supporting the conduct of rapid reviews, applicable both within and outside Cochrane. It underscores the importance of considering the

rtners, healthcare providers, kers), are outlined. The paper a definition of a Cochrane

iew process. In conclusion, ane Rapid Review Methods pdated guidance, concented by examples, seeks to guide thodological decisions in the design and conduct of rapid reviews, facilitating timely decision making in healthcare.

Introduction

In recent years, the Cochrane Collaboration, a global leader in producing high quality systematic reviews and methodological guidance, has taken steps to 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 proportic of records (eg, 20%) and assess reviewer agreement if agreement is good (eg, κ is ≥ 0.8), proceed with single screening

How long does to screen 10,000 titles and abstracts?



How long does to screen 10,000 titles and abstracts?



Covidence – Screening Progress

Turnour vacci	ine immunotherap	y for advanced NS	Find a s	tudy Q	🛔 Julian Elliott 👻 🥹
Import studie	s Expo	rt studies			O Settings
fitle and	abstract s	screening		46 imelevant	179 studies to screen
TEAM PROGRESS				JULIAN, YOU CA	IN STILL
				RESOLVE	SCREEN
92	99	20	60	20	60
DONE	ONE VOTE	CONFLICTS	NO VOTES	Resolve conflicts	Continue
Team setting:	•			ill You've screened 210	studies so far
Eull toxt	screening			4 excluded	38 studies to select

EPPI-Reviewer

Screenir	g Distribute Work Create refer	rence groups	Create new code	eate coding assignment Crea	te comparison Auto Comp	parison(s)			
Revie	wers	Codin	ig Assignments	;					Collapse
ID	Name	^ Id ↓	Name	Study Group	Codes to apply	Allocated	Started	Remaining	
7962 17015	Anthea Sutton Kevin St-Martin	100378	Michaela Rogers	Coding on 'Mega-Map Mapping tool template' (Michaela Rogers)	Mega-Map Mapping tool	15	10	5	Delete
16708 16710	Lilly Estenson Kelly Marnfeldt	99615	Salma Rehman	Coding on 'Mega-Map Mapping tool template' (Salma Rehman)	Mega-Map Mapping tool	38	37	1	Delete
14091 14120	Jieyun Lee	99614	Lilly Estenson	Coding on 'Mega-Map Mapping tool template' (Lilly Estenson)	Mega-Map Mapping tool	23	22	1	Delete
9869	Fiona Campbell	99613	Lilly Estenson	Sheff-Kent team	Mega-Map Mapping tool	38	22	16	Delete
17148	Yongjie Yon	99612	Salma Rehman	Sheff-Kent team	Mega-Map Mapping tool	38	37	1	Delete
17182	Mark Byrne	99282	Jieyun Lee	For translation - Mandarin	Mega-Map Mapping tool	13	3	10	Delete
17186	Marie Beaulieu			Coding on 'Mega-Map					
17188	Christopher Mikton	98738	Christopher Mikton	Mapping tool template'	Mega-Map Mapping tool	57	14	43	Delete
17180	Julien Cadieux Genesse	-							[21 Assignments

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

Machine learning

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

Data extraction/charting/coding

ΤοοΙ	Increases speed	Increases risk of bias or error
Limiting the data extracted	Yes	No
Single reviewer data extraction or partial dual extraction	Yes	Yes
Multiple reviewers	Yes	No
Expert Reviewers	Yes	No
Dual monitors	Yes	No
Automation	Yes	Yes

Are our Evidence Based Methods Evidence Based?

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

Data Extraction/Coding/Charting





Data extraction/Coding



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**



Reviewer	Item Details	Feedback Help Support Fiona Campbell Logou								
+	First Previous Next Last Item 1 of 87	Auto Advance 🗌 Show terms 🗹 🥔 Close/ba								
 Pollutants 	Item Details Links Arms Timepoints PDF Coding Record									
 Gaseous pollutants 	Ref. Type: Journal, Article	Edit Show optional fields?								
O3 (ozone) Info	Add relevant term Add irrelevant term Remove term Show/Hide Terms	Change Style: -								
SO2 (sulphur dioxide) Info	Understanding the effect of indeer air pollution	on phoumonia in children under 5 in low, and								
CO (carbon monoxide) Info	middle-income countries: a systematic review of evidence									
NO2 (nitrogen dioxide) Info	Abstract:									
□ NO (nitric oxide) Info	Exposure to indoor air pollution increases the risk of pneumonia in children, according to the solid fuel carbon monoxide (CO) black carbon (BC) and particulate ma	ounting for about a million deaths globally. This study investigates the individual atter (PM)2.5 on pneumonia in children under 5 in low- and middle-income								
Radon Info	countries. A systematic review was conducted to identify peer-reviewed and grey	y full-text documents without restrictions to study design, language or year of								
CO2 (carbon dioxide) Info	Information Networks (IRIN), the World Meteorological Organization (WMO)-WH	IO and Intergovernmental Panel on Climate Change (IPCC). Exposure to solid fuel								
PCDD/Fs Info	use showed a significant association to childhood pneumonia. Exposure to CO s association when physically measured, whilst eight studies that used solid fuel a	showed no association to childhood pneumonia. PM2.5 did not show any s a proxy for PM2.5 all reported significant associations. This review highlights the								
Benzene Info	need to standardise measurement of exposure and outcome variables when investudies should account for BC, PM1 and the interaction between indoor and outcome variables when investigation of the studies should account for BC.	estigating the effect of air pollution on pneumonia in children under 5. Future door pollution and its cumulative impact on childhood pneumonia.								
SO4 Info	Author(s) Adaji Enemona Emmanuel; Ekezie Winifred ; Clifford Michael ; R	Phalkey Revati ;								
□ NO3 Info	Journal Environmental Science and Pollution Research									
□ NH4 Info	Item is Included ID 90541902	Imported ID 88								
EC Info	Year 2019	ISSN 1614-7499								
OC Info	Short Title Adaji (2019)	Pages 3208-3225								
THC Info										



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Educational Intervention	ns				4	
Evidence-based Interge	enerational				3	
Intergenerational Conta	ıct				2	
Intergenerational Intera	ctions				6	
Older People					7	
Paper Presents a Syste	matic Literature Review				2	
Physical Activity					4	-

- Screen on Full Text
- Allocations
- Retrieval status
- 🕨 🕨 🔏 🚔 Risk Of Bias (Cochrane)
 - 🤱 Data Extraction
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 - 🤱 Data Extraction
 - ROBIS: RoB in Systematic Reviews
 - 🕨 🤱 🚰 Lingo3G clusters
 - Lingo3G clusters



Recommendations for Data Extraction/Coding/Charting

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

GENERALISABILITY / COMPREHENSIVENESS

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



■ local = regional ■ national = supranational* = global ■ total number of publications



							Vear	Number of Publications
Number of Publications Per Year About Robots in Healthcare							1994	Number of Publications
							1995	
100						•	1996	
140						/	1997	
120							1998	
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							2015	5
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Review

Health impact assessment and climate change: A scoping review

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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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