Cochrane Training

Learning *Live*

Cochrane Methods Rapid Reviews

Rapid Scoping Reviews

Dr. Fiona Campbell

Senior Lecturer in Evidence Synthesis, Newcastle University

Editor, Campbell Collaboration

Cochrane Methods Rapid Reviews

BMJ Evidence-Based Medicine

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
- Software

- Rapid Qualitative Evidence Synthesis
- Rapid Scoping Reviews

Cochrane Methods
Rapid Reviews

Rapid Scoping Reviews

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

Rapid Scoping Review

- 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.'

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
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

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‘Rapid Scoping Search’

- Search terms
- Scale
- Already in progress or complete

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Rapid Reviews

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

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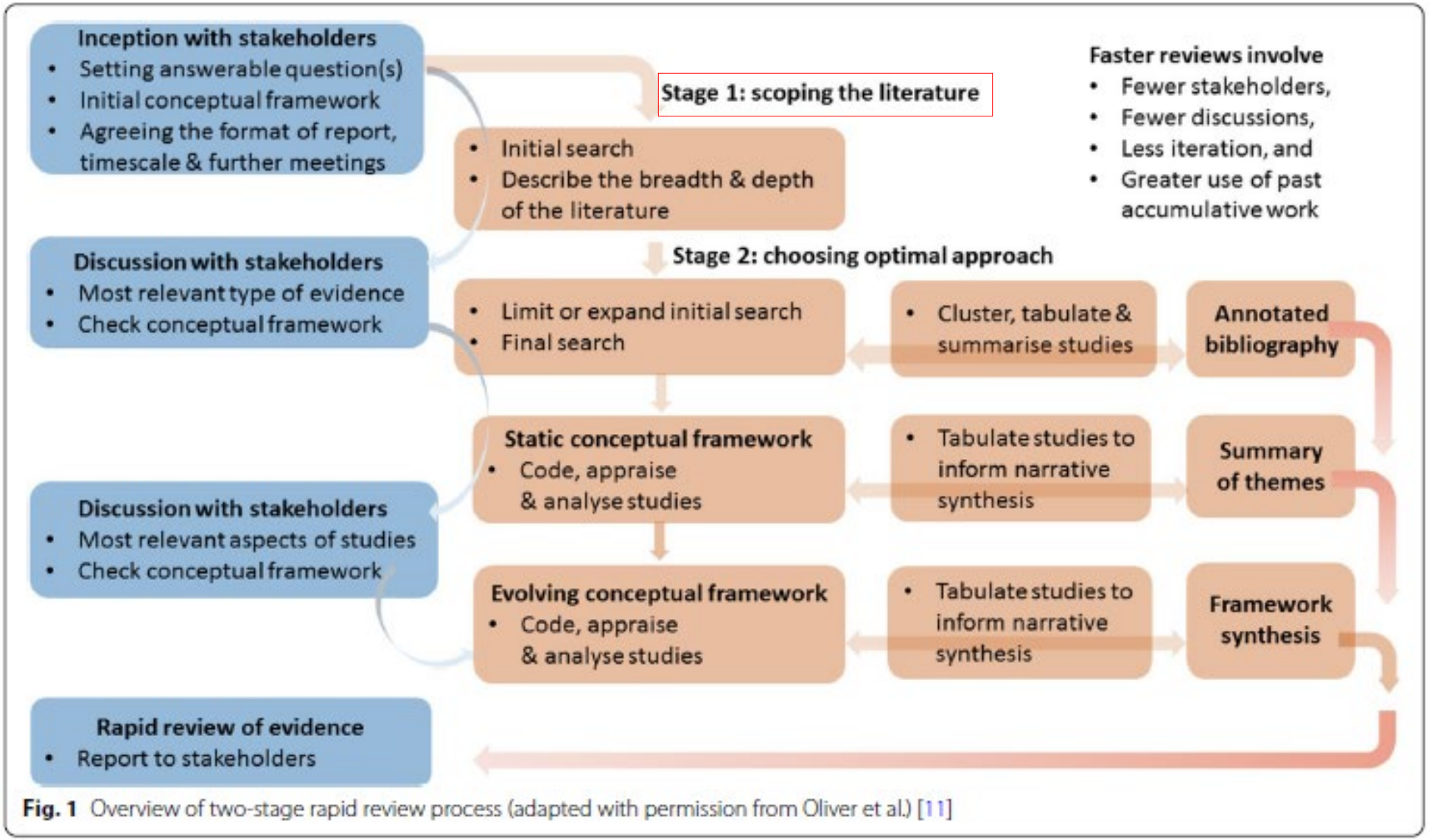

Fig. 1 Overview of two-stage rapid review process (adapted with permission from Oliver et al.) [11]

Wilson et al 2021

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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.

Munn et al 2022

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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.

Munn et al 2022

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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.

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The rise in the use of scoping reviews

https:dailytravelphotos.com

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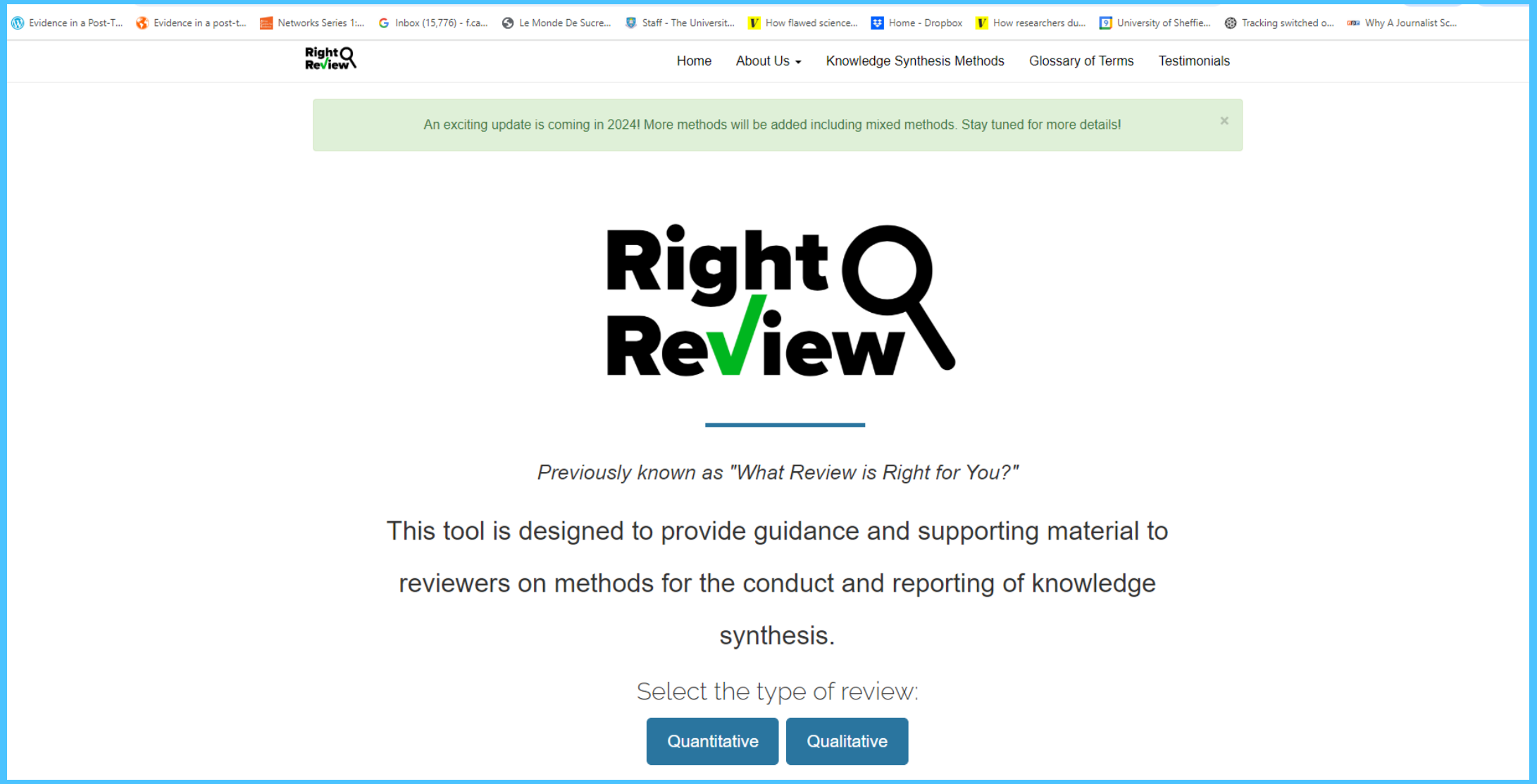

https://rightreview.knowledgetranslation.net/

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Guidance for Scoping Reviews

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

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.

Levac *et al. Implementation Science* 2010, **5**:69
http://www.implementationscience.com/content/5/1/69

IMPLEMENTATION SCIENCE

DEBATE Open Access

Scoping studies: advancing the methodology

Danielle Levac[1*], Heather Colquhoun[1], Kelly K O'Brien[1,2]

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 framework 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 Arksey and O'Malley methodology to propose recommendations that clarify and enhance each stage of the framework. Recommendations 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 translation 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 health research.

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

Systematic Reviews

COMMENTARY Open Access

Scoping reviews: reinforcing and advancing the methodology and application

Micah D. J. Peters[1,2,3], Casey Marnie[1], Heather Colquhoun[4,5], Chantelle M. Garritty[6], Susanne Hempel[7], Tanya Horsley[8], Etienne V. Lan, Wasifa Zarin[1,7] and Andrea C. T

Munn *et al. BMC Medical Research Methodology* (2018) 18:143
https://doi.org/10.1186/s12874-018-0611-x

BMC Medical Research Methodology

Abstract

Scoping reviews are an increasi guidance and resources to assi scoping reviews includes the J Analyses—Extension for Scopi to enhance and improve the c steps in scoping review metho of information regarding the di scoping reviews, and an updat

Despite available guidance, sor reporting and methodological tives or questions, standardised consistency of reporting and e objective(s) and question(s) are

Rigourous, high-quality scopin criteria. Stakeholder engageme with the results of evidence syr is evolving as a policy and deci date reporting standards is inte

Keywords: Scoping reviews, E guidance

DEBATE Open Access

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

Zachary Munn*, Micah D. J. Peters, Cindy Stern, Catalin Tufanaru, Alexa McArthur and Edoardo Aromataris

Abstract

Background: Scoping re guidance regarding the synthesising evidence. T scoping reviews and sys appropriate.

Results: Researchers ma review is to identify kno conduct. While useful in and can be used to con

Conclusions: Scoping r Although conducted for and transparent method guidance available regard reviews being performed

Keywords: Systematic re

Best practice guidance and reporting items for the development of scoping review protocols

Micah D.J. Peters[1,2,3] · Christina Godfrey[4] · Patricia McInerney[5] · Hanan Khalil[6,7] · Palle Larsen[8] · Casey Marnie[1] · Danielle Pollock[9] · Andrea C. Tricco[4,10,11] · Zachary Munn[9]

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ABSTRACT

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 comparisons based 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 transparency.

Keywords: evidence synthesis; evidence-based health care; PRISMA; protocol; scoping review

JBI Evid Synth 2022; 20(4):953–968.

Table. PRISMA-ScR Checklist

Section	Item	PRISMA-ScR Checklist Item
Title	1	Identify the report as a scoping review.
Abstract		
Structured summary	2	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 questions and objectives.
Introduction		
Rationale	3	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	4	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 questions and/or objectives.
Methods		
Protocol and registration	5	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.
Eligibility criteria	6	Specify characteristics of the sources of evidence used as eligibility criteria (e.g., years considered, language, and publication status), and provide a rationale.
Information sources*	7	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 executed.
Search	8	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†	9	State the process for selecting sources of evidence (i.e., screening and eligibility) included in the scoping review.
Data charting process‡	10	Describe the methods of charting data from the included sources of evidence (e.g., calibrated forms 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 investigators.
Data items	11	List and define all variables for which data were sought and any assumptions and simplifications made.
Critical appraisal of individual sources of evidence§	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 (if appropriate).
Summary measures	13	Not applicable for scoping reviews.
Synthesis of results	14	Describe the methods of handling and summarizing the data that were charted.
Risk of bias across studies	15	Not applicable for scoping reviews.
Additional analyses	16	Not applicable for scoping reviews.
Results		
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	20	For each included source of evidence, present the relevant data that were charted that relate to the review questions and objectives.
Synthesis of results	21	Summarize and/or present the charting results as they relate to the review questions and objectives.
Risk of bias across studies	22	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.
Limitations	25	Discuss the limitations of the scoping review process.
Conclusions	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.
Funding	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.

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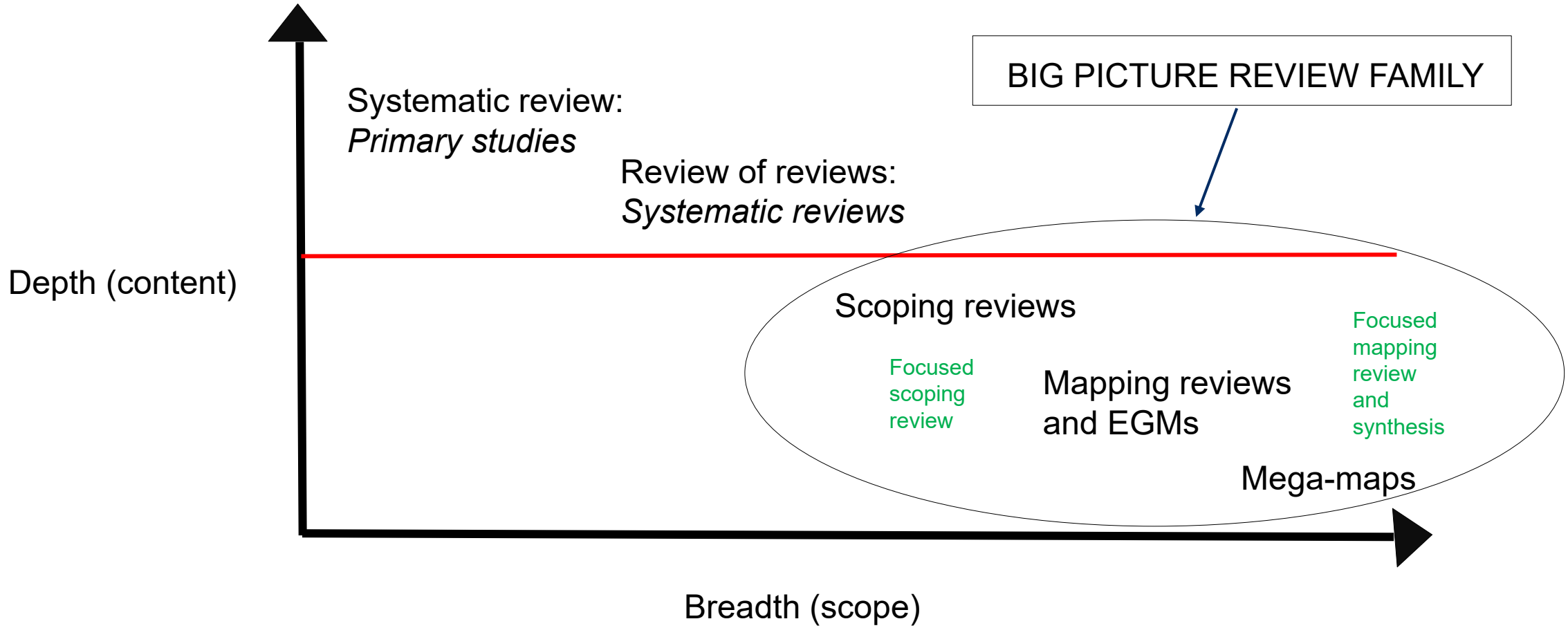

Saran & White 2018

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

Systematic Reviews

METHODOLOGY Open Access

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

Fiona Campbell[1*], Andrea C. Tricco[2], Zachary Munn[3], Danielle Pollock[3], Ashrita Saran[4], Anthea Sutton[5], Howard White[6] and Hanan Khalil[7]

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

	Scoping Reviews	Mapping Reviews	Evidence and Gap Maps (EGMs)
Purpose	Clarifies and identifies key concepts/definitions, characteristics or factors related to a concept	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 Questions	Several broad questions	Fewer questions, clearly specified and feasible within time and resource constraints
Searches	Exhaustive searches	Limitations on search
Data extraction	In depth and concerned with knowledge generation	Tailored and limited to address commissioner decision needs
Presentation of findings	Published, detailed description	Often published in grey literature, more limited presentation of findings

Khangura et al 2012

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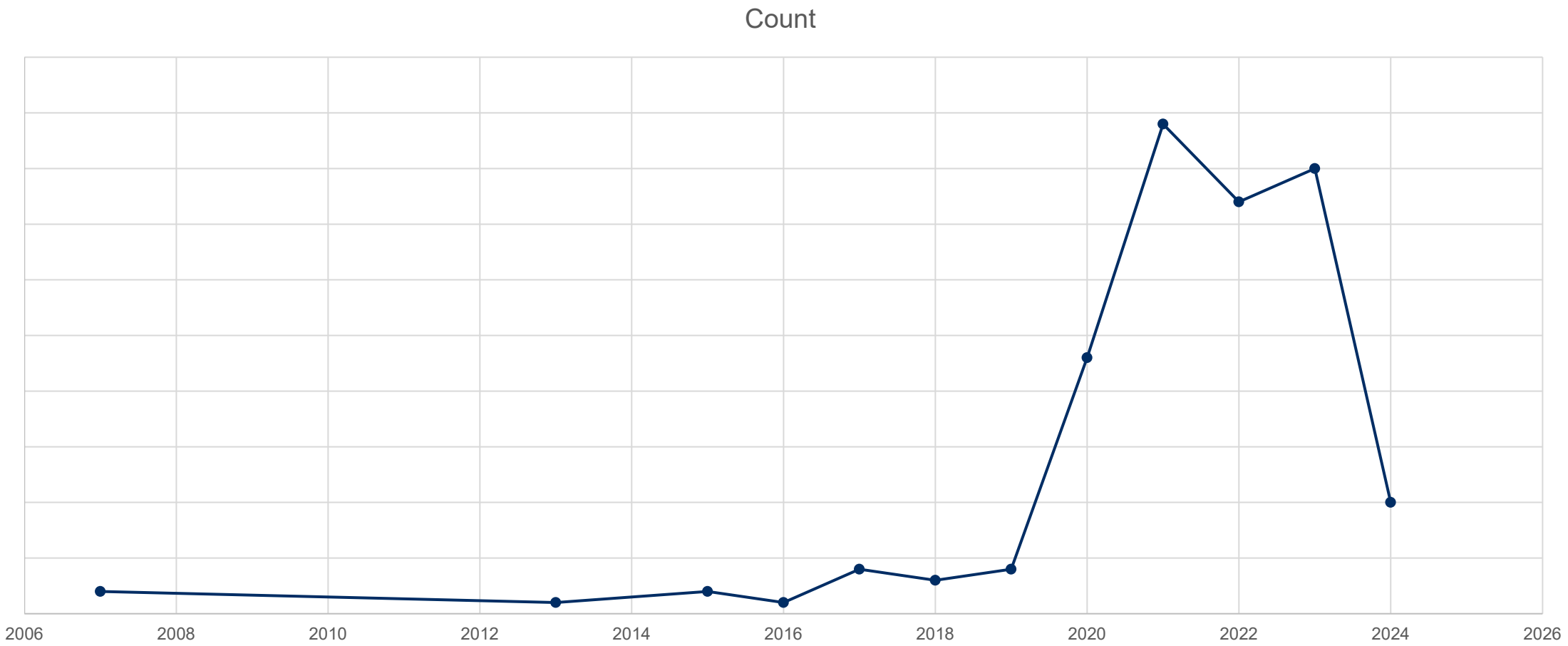
Increasing use of ‘Rapid Scoping Reviews’



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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)

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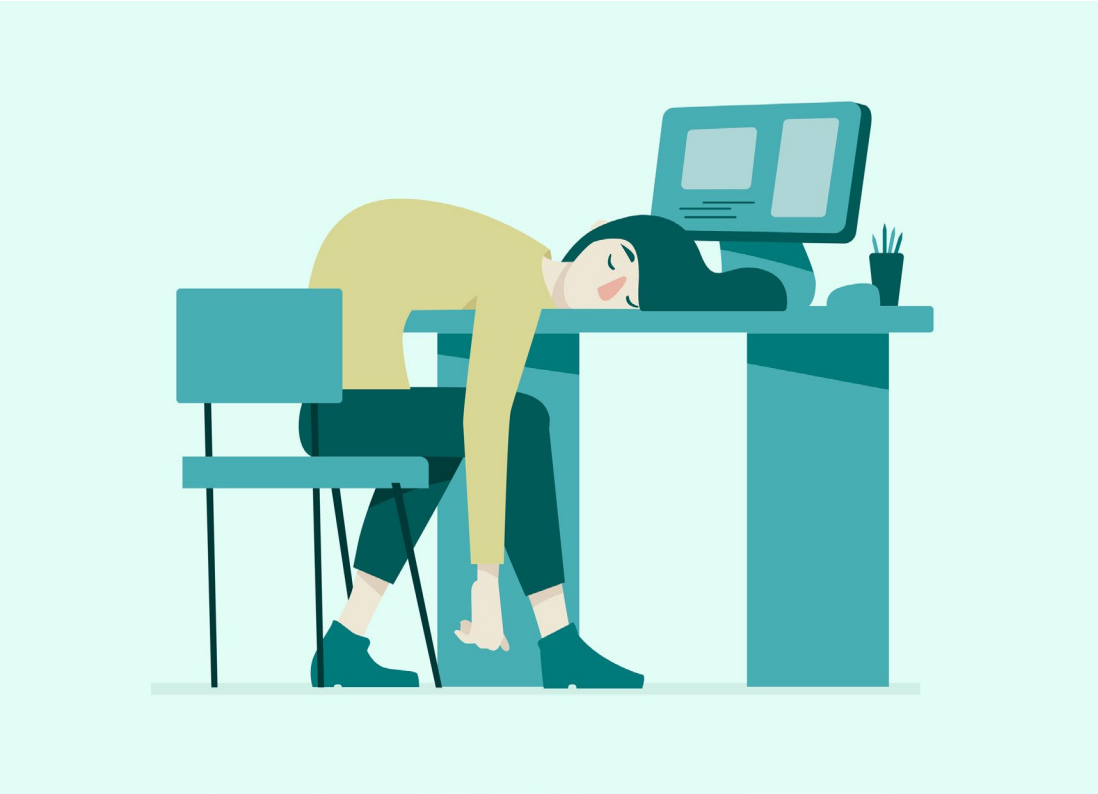
So…when would you consider a *RAPID* Big Picture approach

- Urgent clinical scenarios
- Emergent issues
- Policy timeframes
- Lack of resources



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How long does a Big Picture review take?

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https://predicter.github.io/

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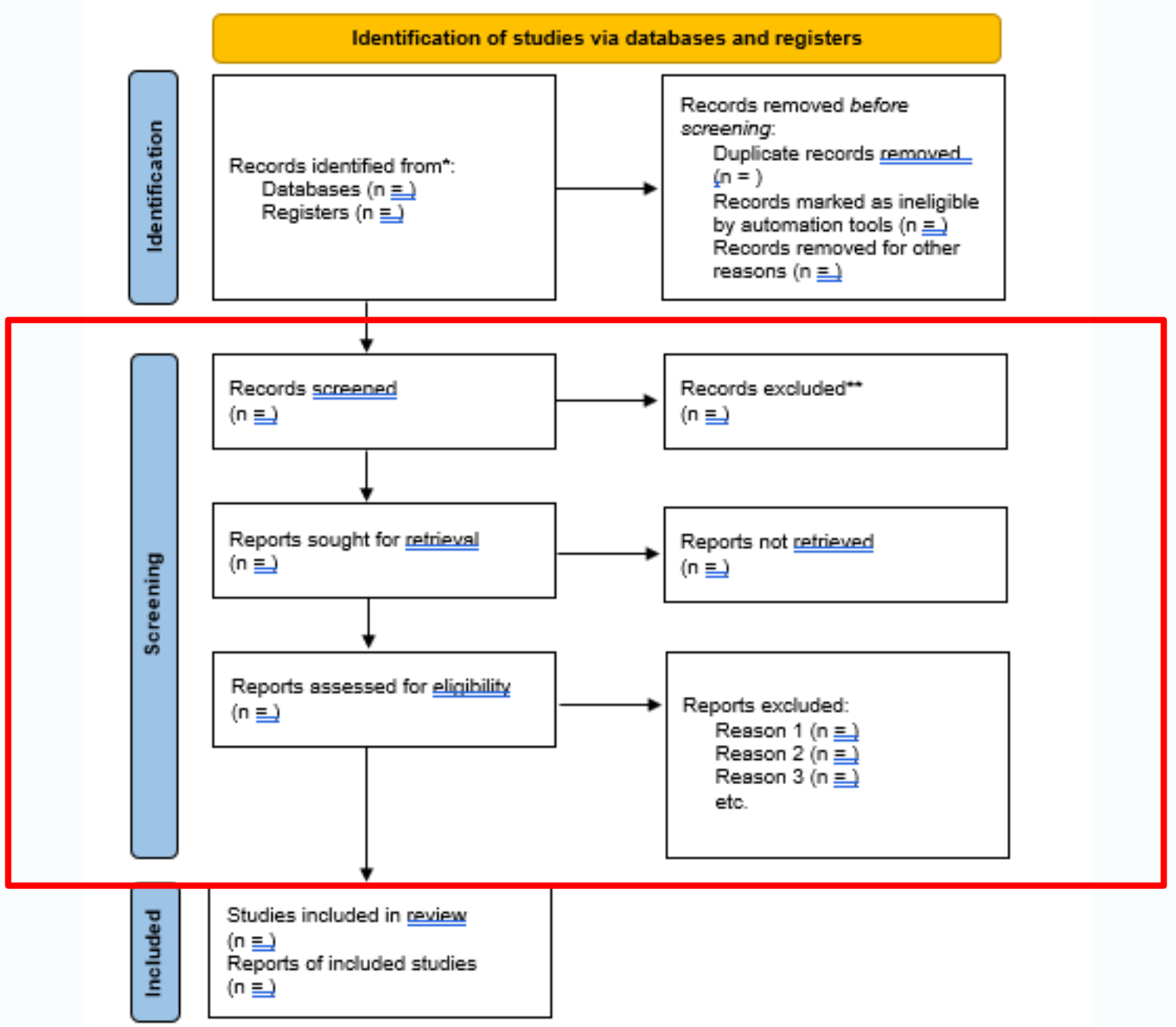
Haddaway and Westgate 2018


Identification of studies via databases and registers
Identification
Records identified from*:
Databases (n =)
Registers (n =)
Records removed *before screening*:
Duplicate records removed (n =)
Records marked as ineligible by automation tools (n =)
Records removed for other reasons (n =)
Screening
Records screened
(n =)
Records excluded**
(n =)
Reports sought for retrieval
(n =)
Reports not retrieved
(n =)
Reports assessed for eligibility
(n =)
Reports excluded:
Reason 1 (n =)
Reason 2 (n =)
Reason 3 (n =)
etc.
Included
Studies included in review
(n =)
Reports of included studies
(n =)

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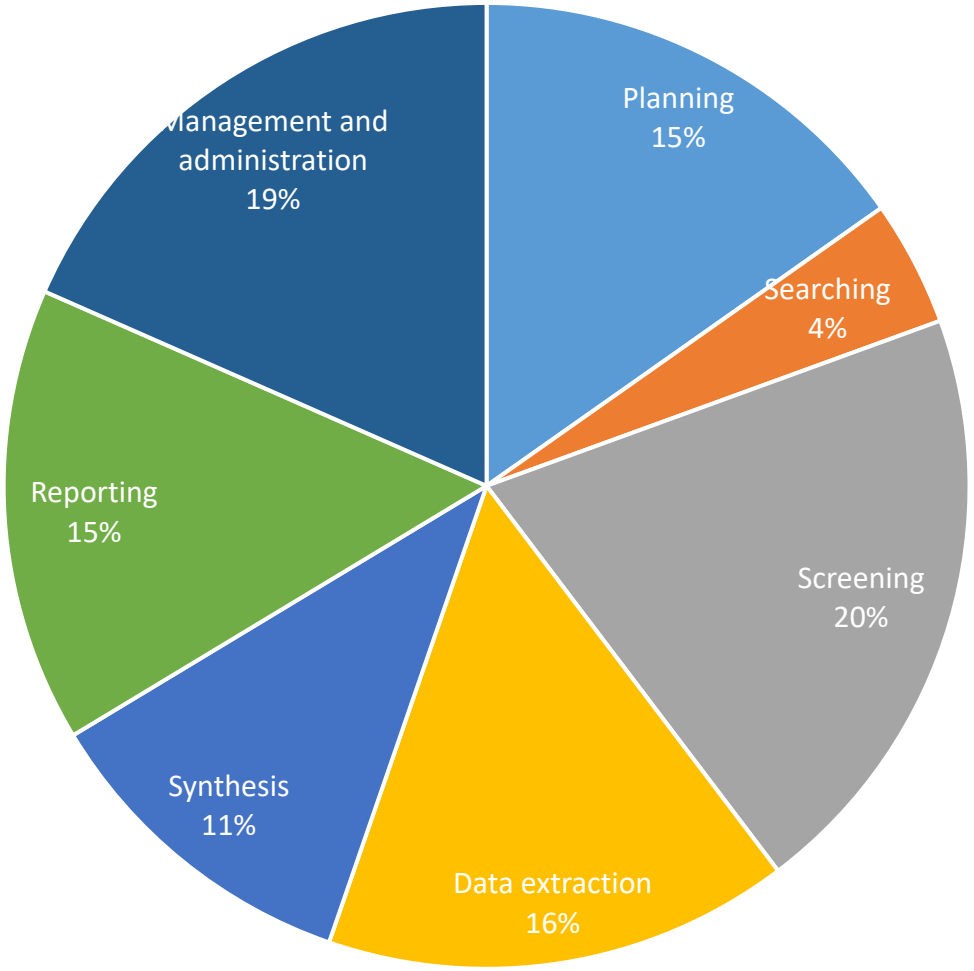
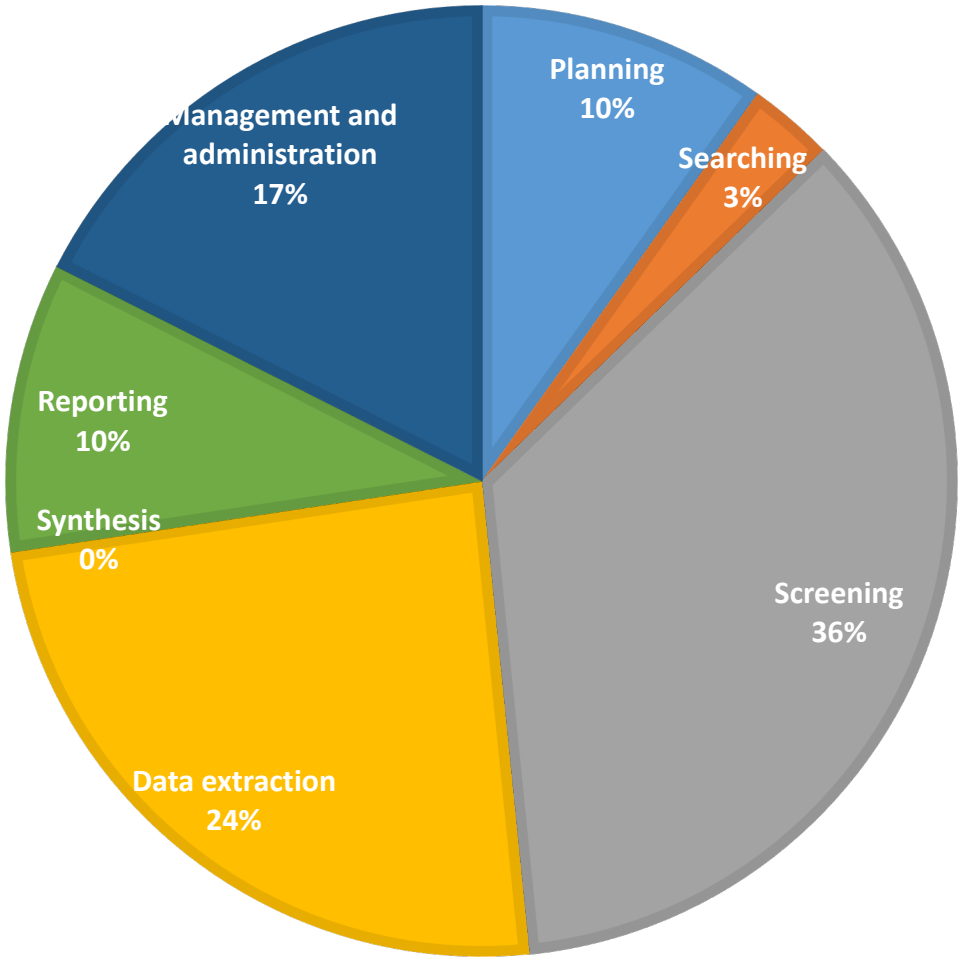
SYSTEMATIC REVIEW



SYSTEMATIC MAP



How do we reduce the time resource on screening?

Reduce the search yield

Accelerating the process of screening

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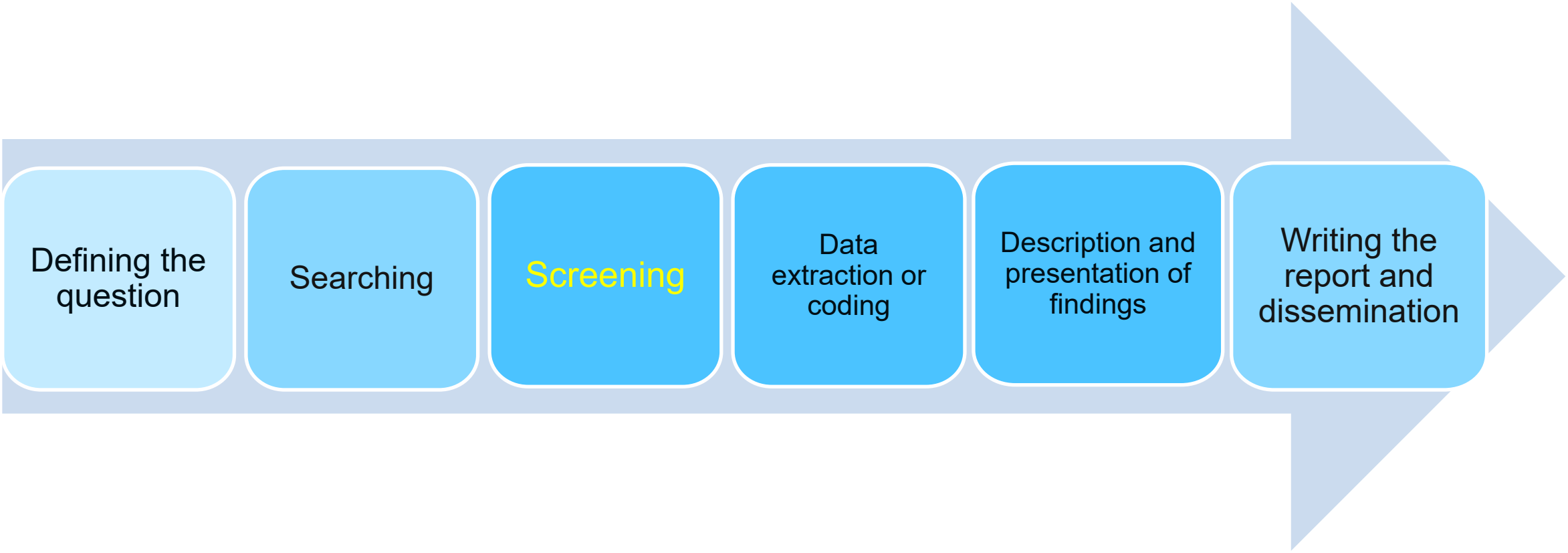
Stages of the Review



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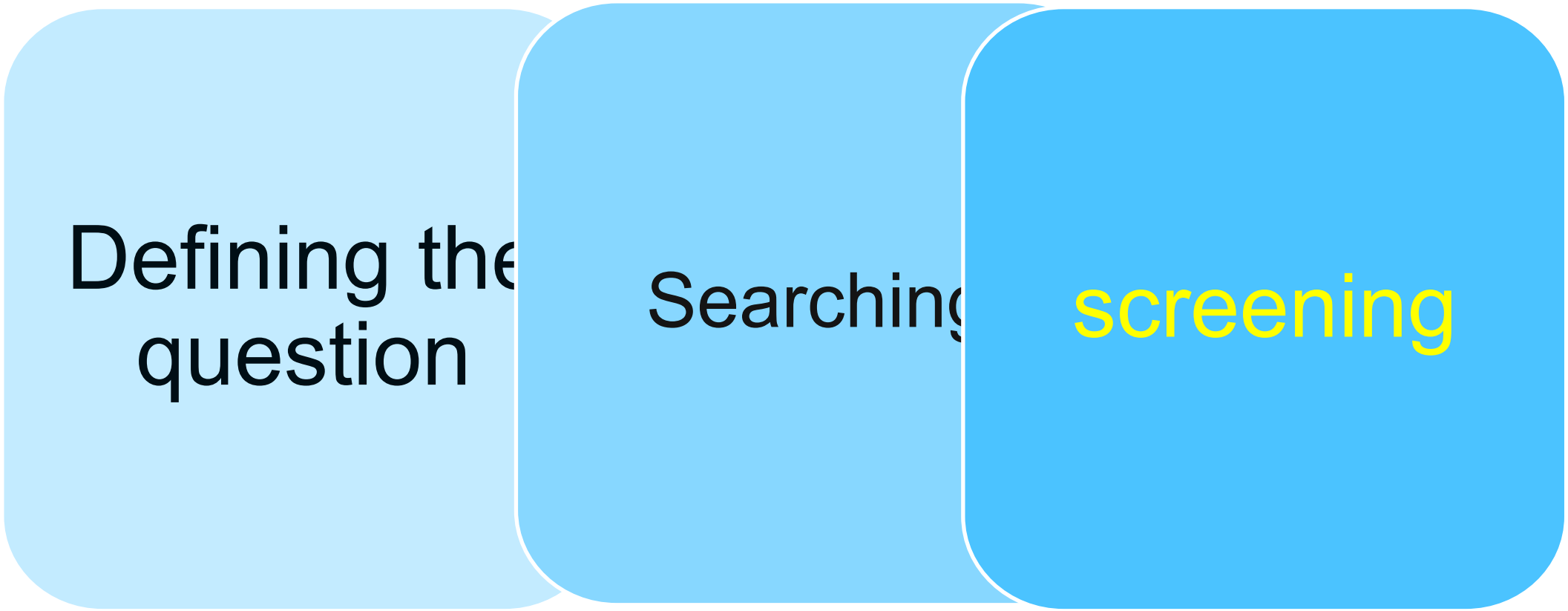
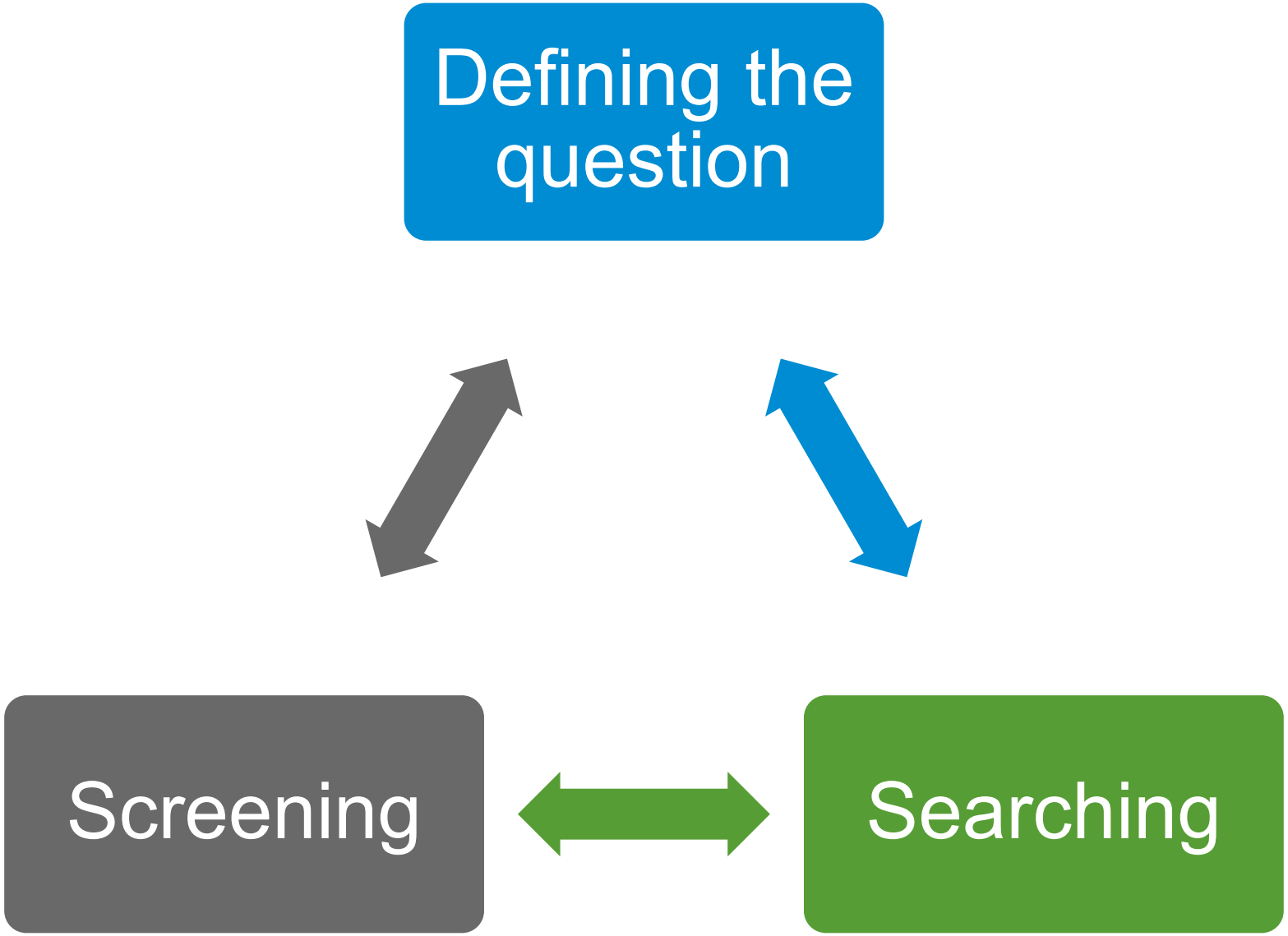
Stages of the Review





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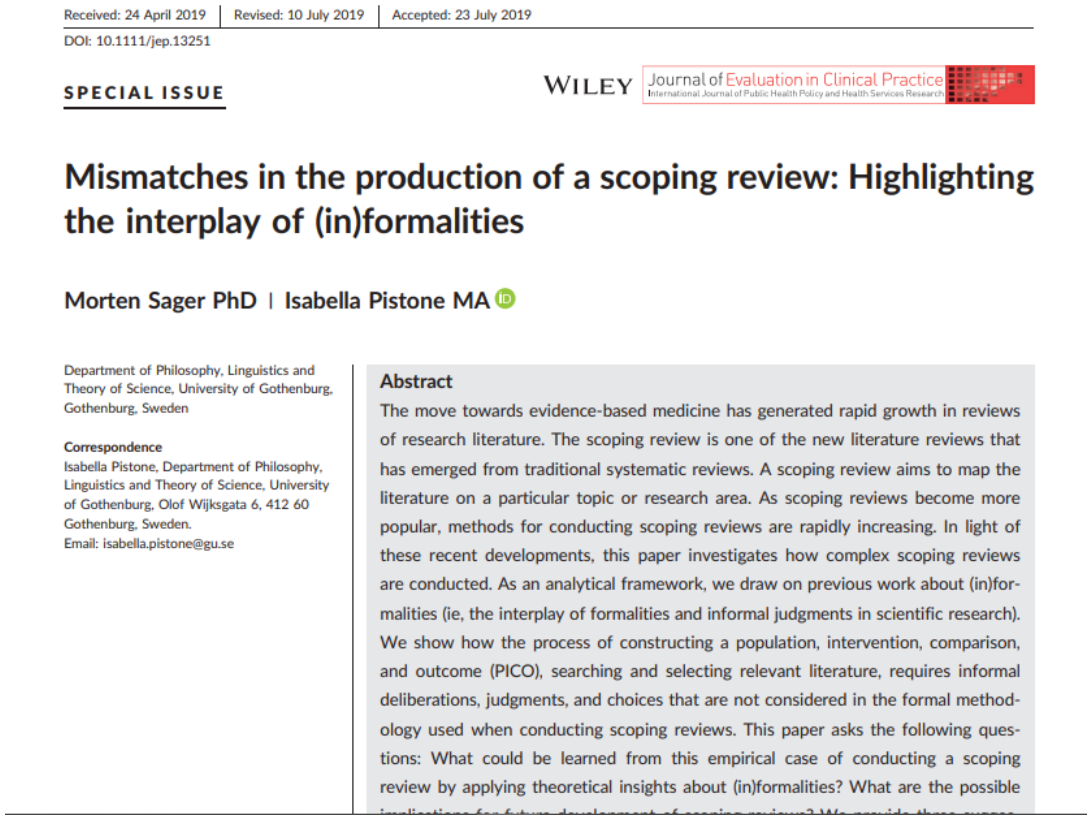
Developing the parameters for the review question



Received: 24 April 2019 | Revised: 10 July 2019 | Accepted: 23 July 2019
DOI: 10.1111/jep.13251

SPECIAL ISSUE

WILEY Journal of Evaluation in Clinical Practice
International Journal of Public Health Policy and Health Services Research

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)

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Contents lists available at ScienceDirect

Public Health

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

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
Received in revised form
30 May 2021
Accepted 15 June 2021
Available online 26 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, 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,

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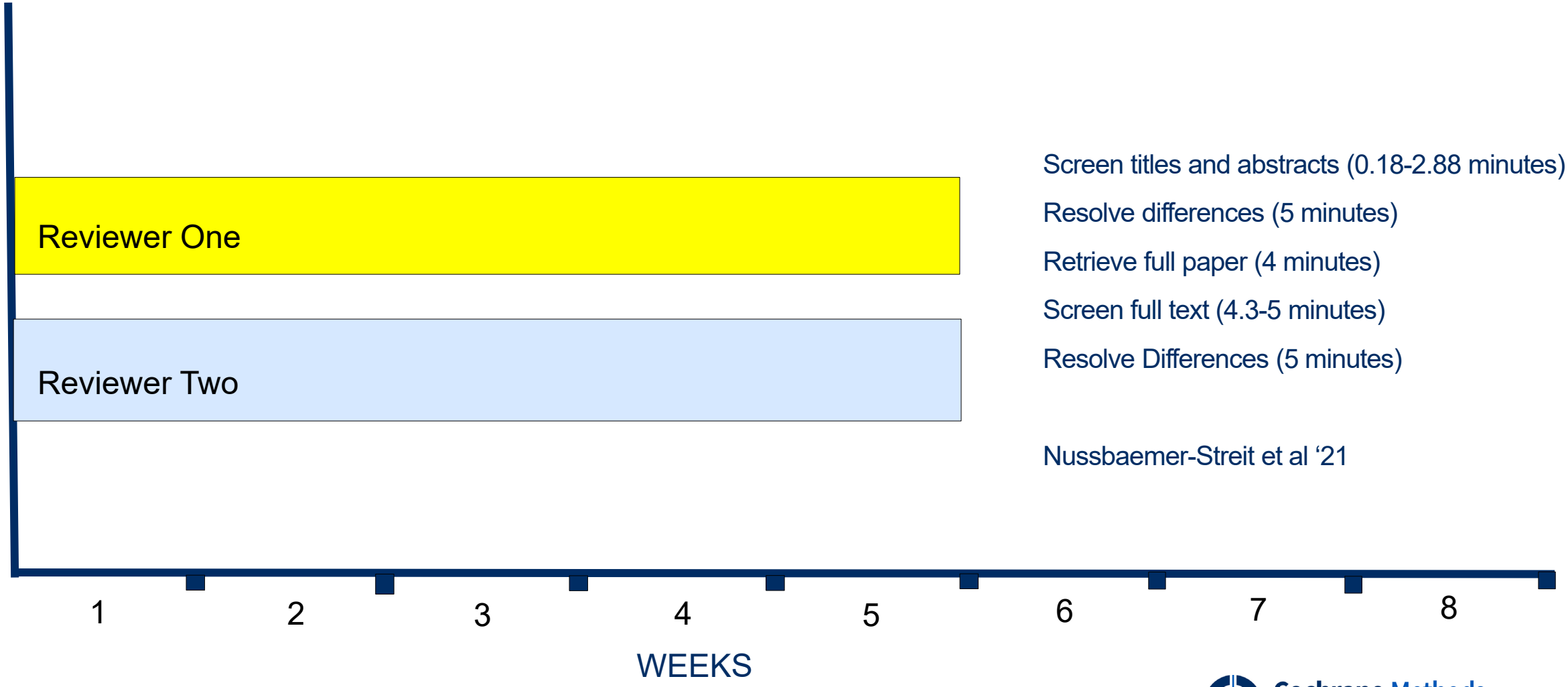
Study Selection / Screening (Haby et al ’23)

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	?
Automation aided screening	Yes	Yes

How long does 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)

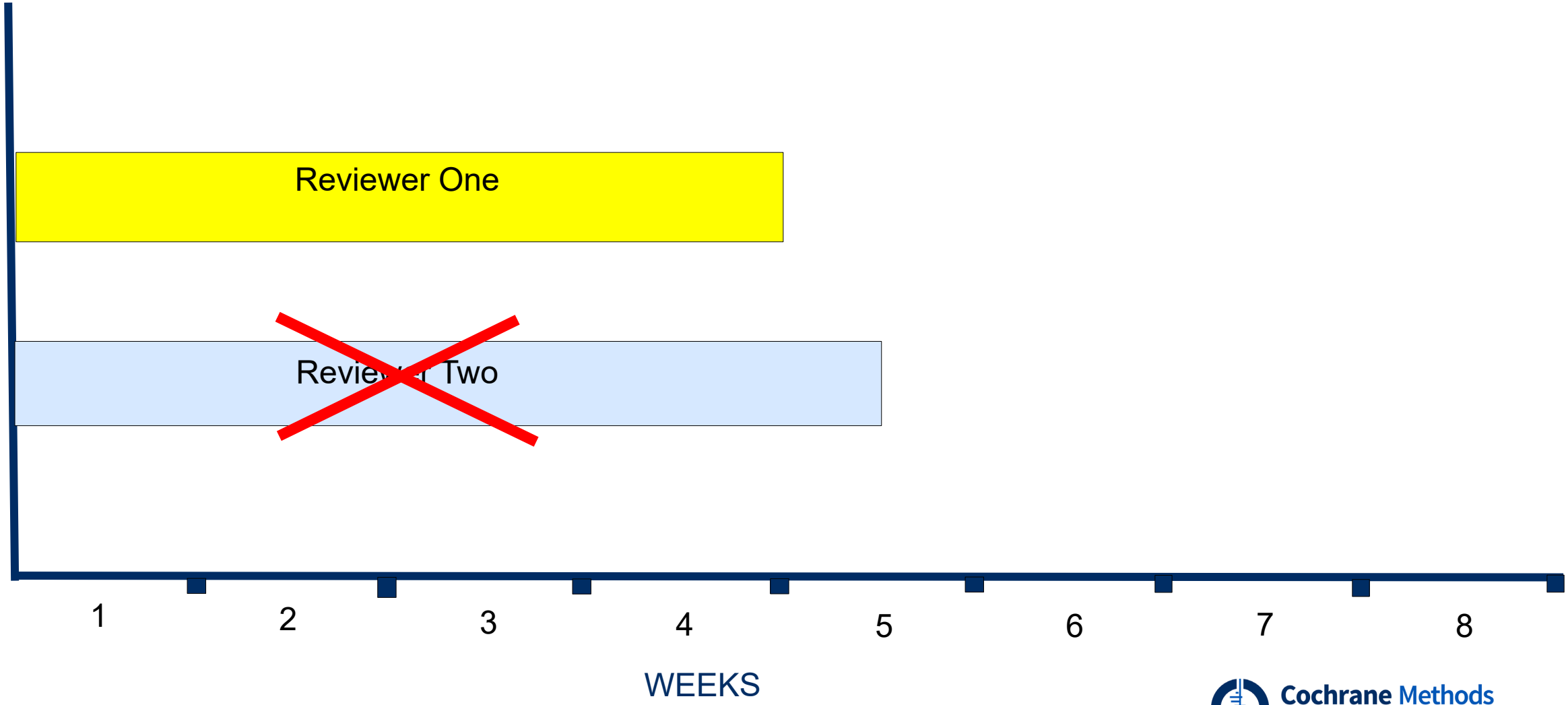
Screen full text (4.3-5 minutes)

Resolve Differences (5 minutes)

Nussbaemer-Streit et al ‘21

Cochrane Methods
Rapid Reviews

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



Cochrane Methods
Rapid Reviews

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

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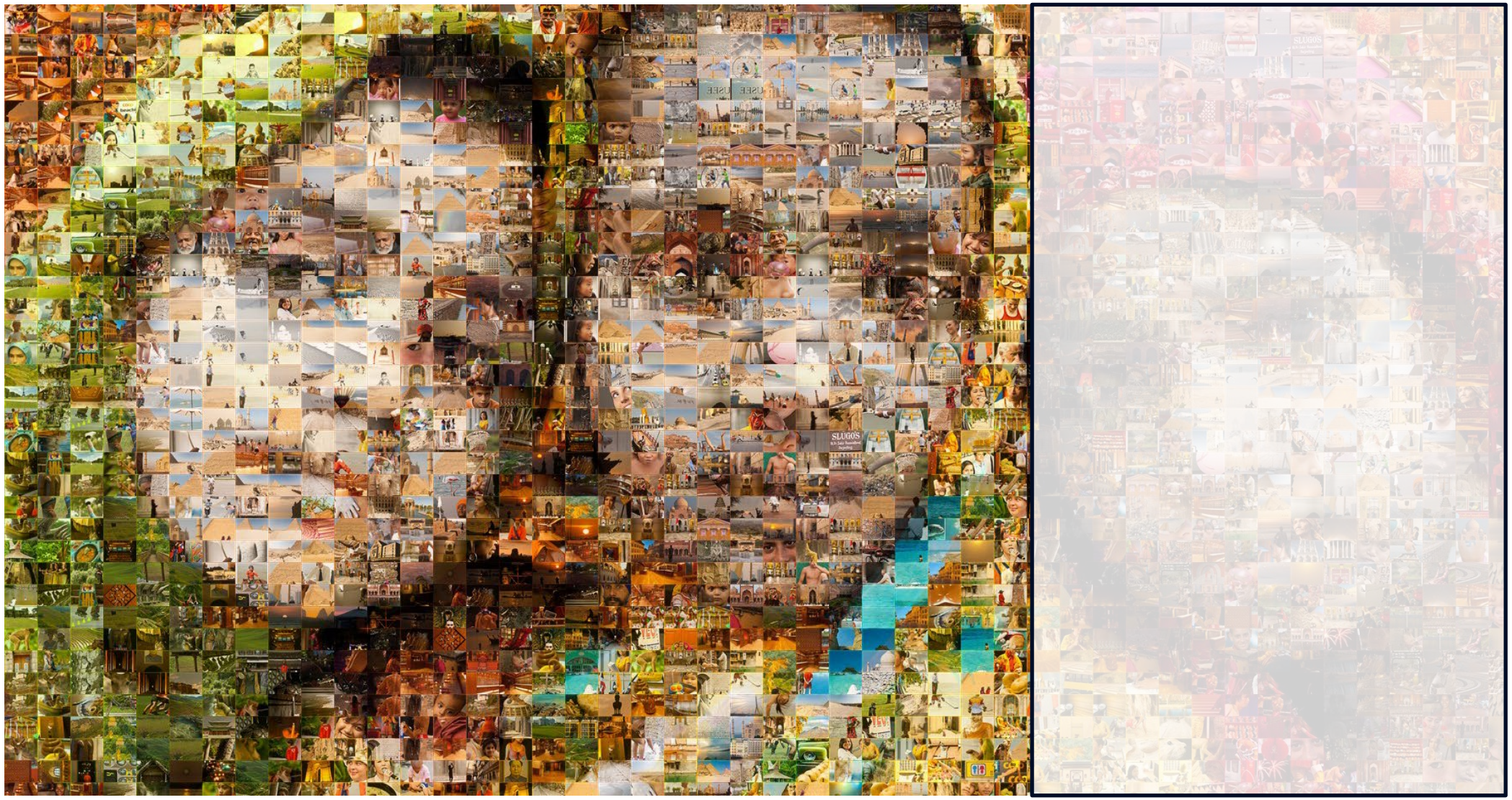

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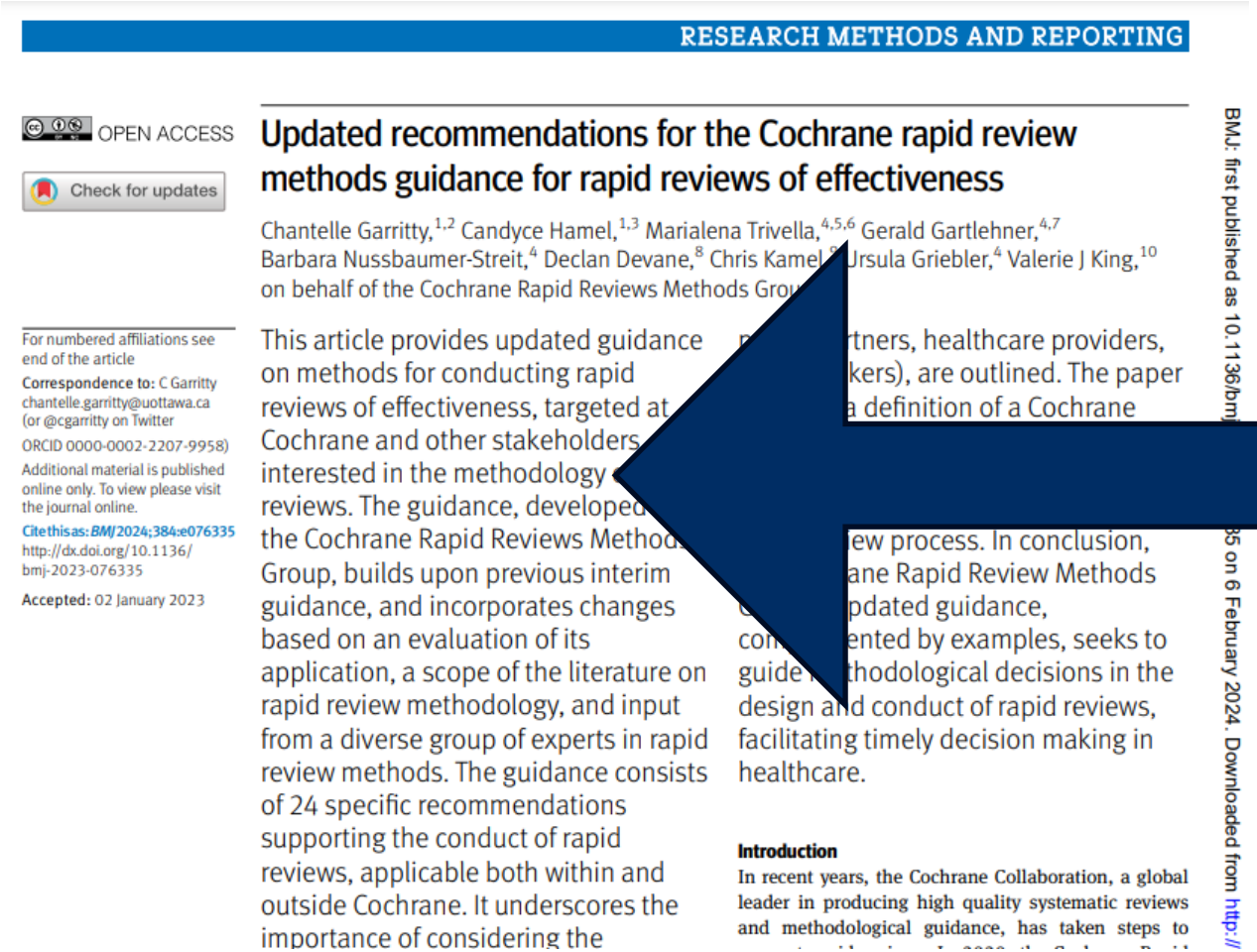
Non-familial Intergenerational Interventions and their Impact on the Social and Mental Wellbeing of Younger and Older People a Mapping Review and Evidence and Gap Map

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 EPPI Reviewer and created with ♥ by the Digital Solution Foundry team. v:9 5 2 u:6 4 2

Cochrane RR methods guidance



RESEARCH METHODS AND REPORTING

OPEN ACCESS

Check for updates

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

Chantelle Garritty,[1,2] Candyce Hamel,[1,3] Marialena Trivella,[4,5,6] Gerald Gartlehner,[4,7] Barbara Nussbaumer-Streit,[4] Declan Devane,[8] Chris Kamel,[9] Ursula Griebler,[4] Valerie J King,[10] on behalf of the Cochrane Rapid Reviews Methods Grou

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Additional material is published online only. To view please visit the journal online.

Cite this as: *BMJ* 2024;384:e076335 http://dx.doi.org/10.1136/bmj-2023-076335

Accepted: 02 January 2023

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

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

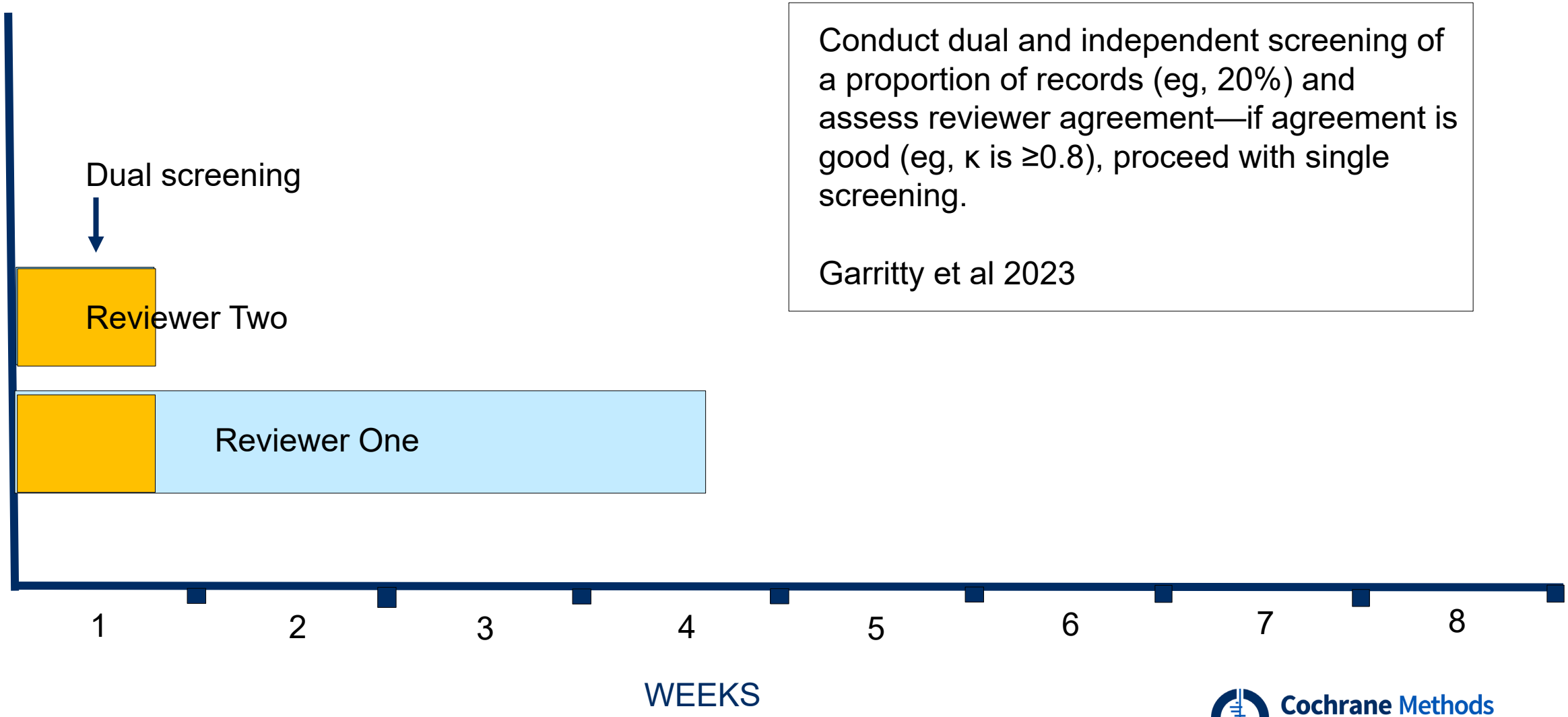
Introduction

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 proportio 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?

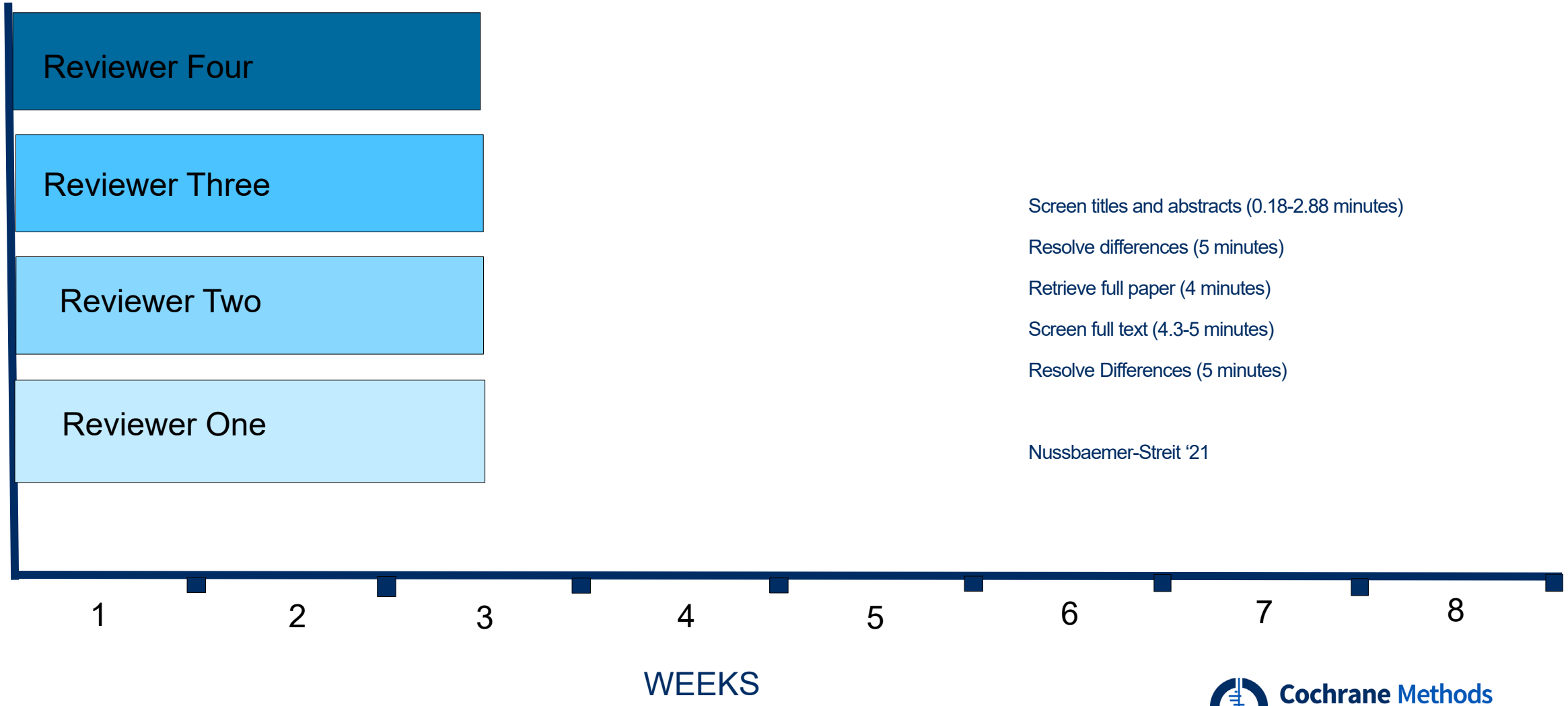


Conduct dual and independent screening of a proportion of records (eg, 20%) and assess reviewer agreement—if agreement is good (eg, κ is ≥0.8), proceed with single screening.

Garritty et al 2023

Cochrane Methods Rapid Reviews

How long does 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)

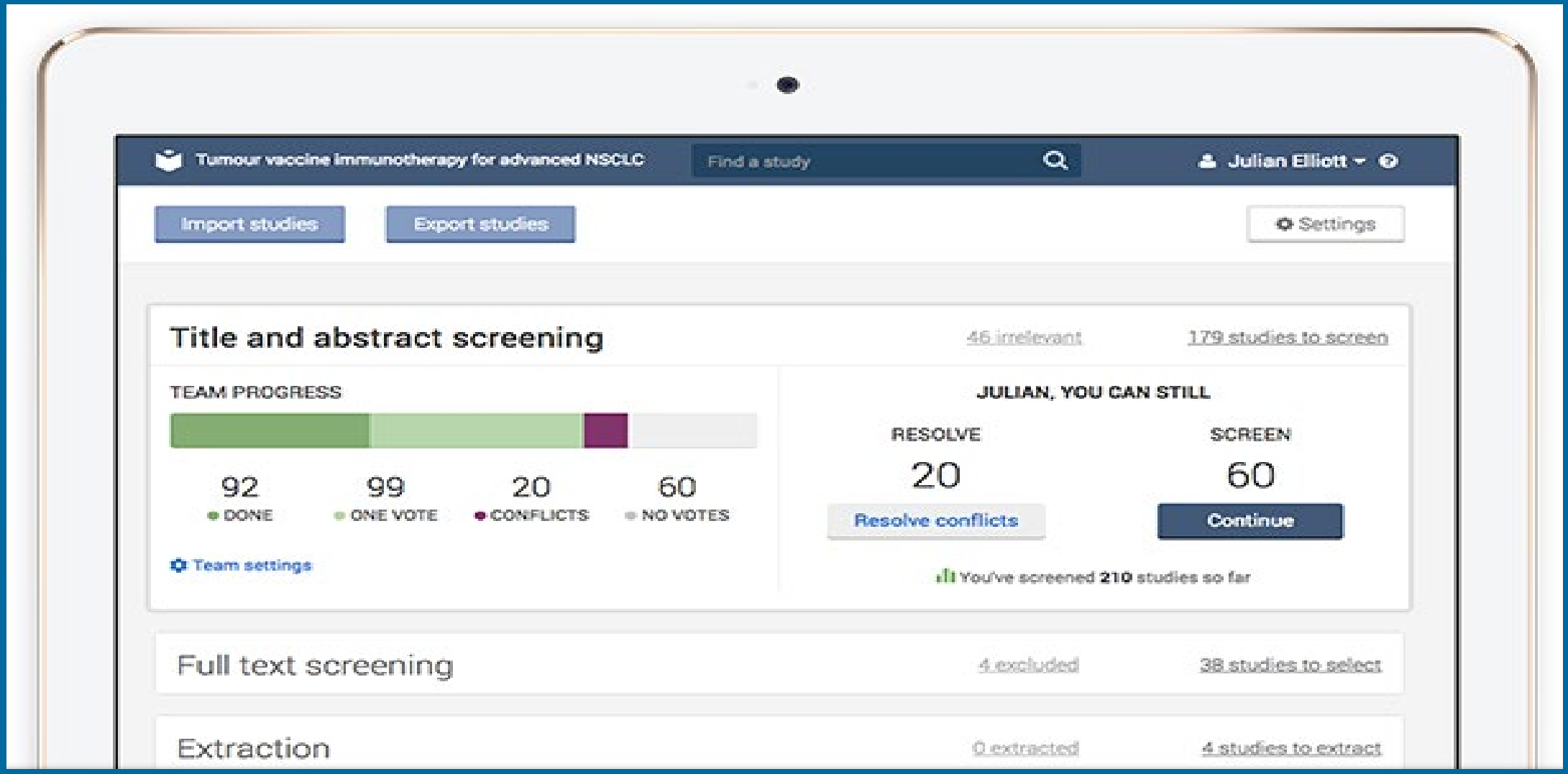
Screen full text (4.3-5 minutes)

Resolve Differences (5 minutes)

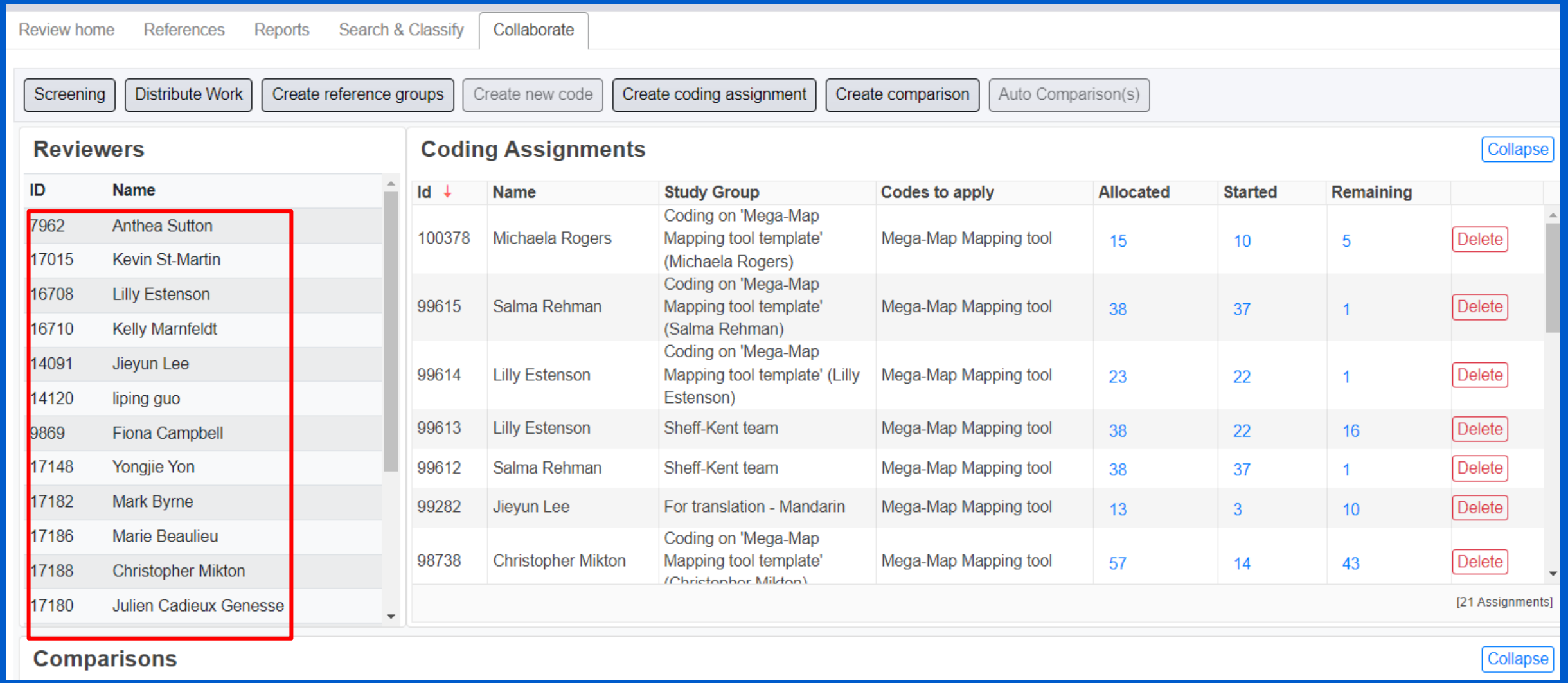
Nussbaemer-Streit ‘21

Cochrane Methods
Rapid Reviews

Covidence – Screening Progress



EPPI-Reviewer



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

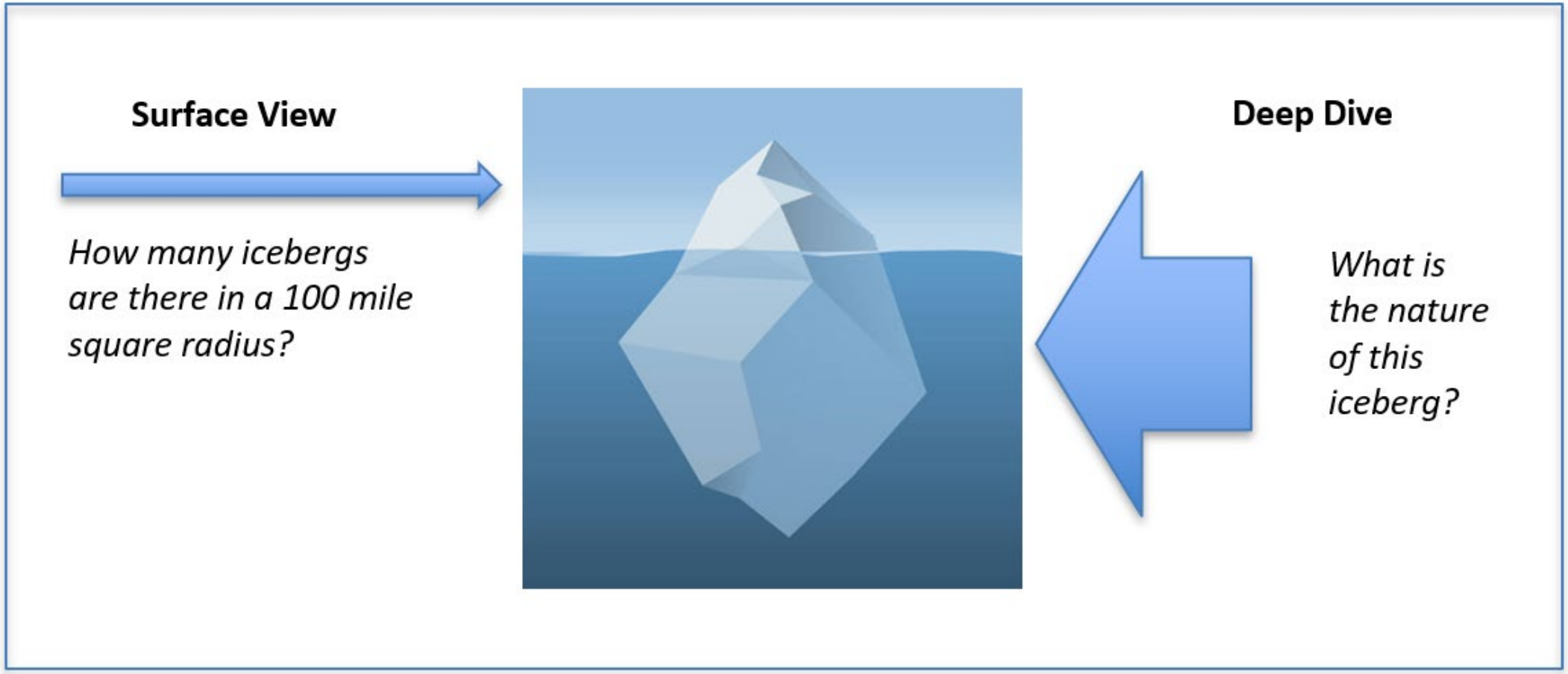
Data extraction/charting/coding (Haby et al ’23)

Tool	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
Semi-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

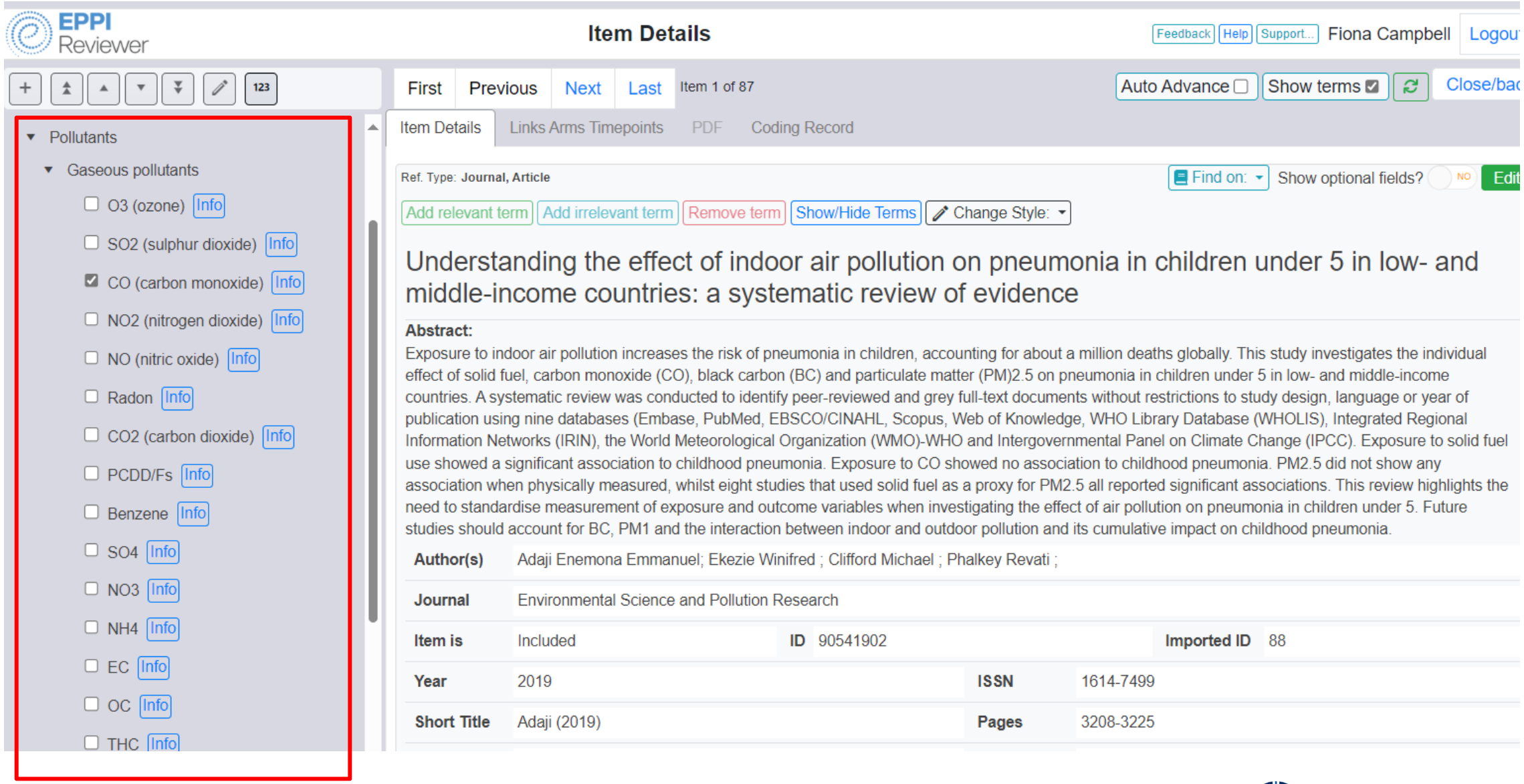


Cochrane Methods
Rapid Reviews

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**

Cochrane Methods
Rapid Reviews



Cochrane Methods Rapid Reviews

Columns: *Not set (only used for Crosstabs)* Set

Filter: *Not set (optional)* Set Filter Clear Filter

Get Frequencies | Get CrossTab | ○ Included ○ Excluded ◉ Both | Current code: **Lingo3G clusters**

Show results as: ◉ Table ○ Pie chart ○ Bar chart ☑ Show 'None of the codes above' Export

Code	Count
Educational Interventions	4
Evidence-based Intergenerational	3
Intergenerational Contact	2
Intergenerational Interactions	6
Older People	7
Paper Presents a Systematic Literature Review	2
Physical Activity	4

- Screen on Full Text
- Allocations
- Retrieval status
- Risk Of Bias (Cochrane)
- Data Extraction
- EPPI Support Temp
- Data Extraction
- ROBIS: RoB in Systematic Reviews
- Lingo3G clusters
- Lingo3G clusters

Cochrane Methods Rapid Reviews

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 knowledge user.

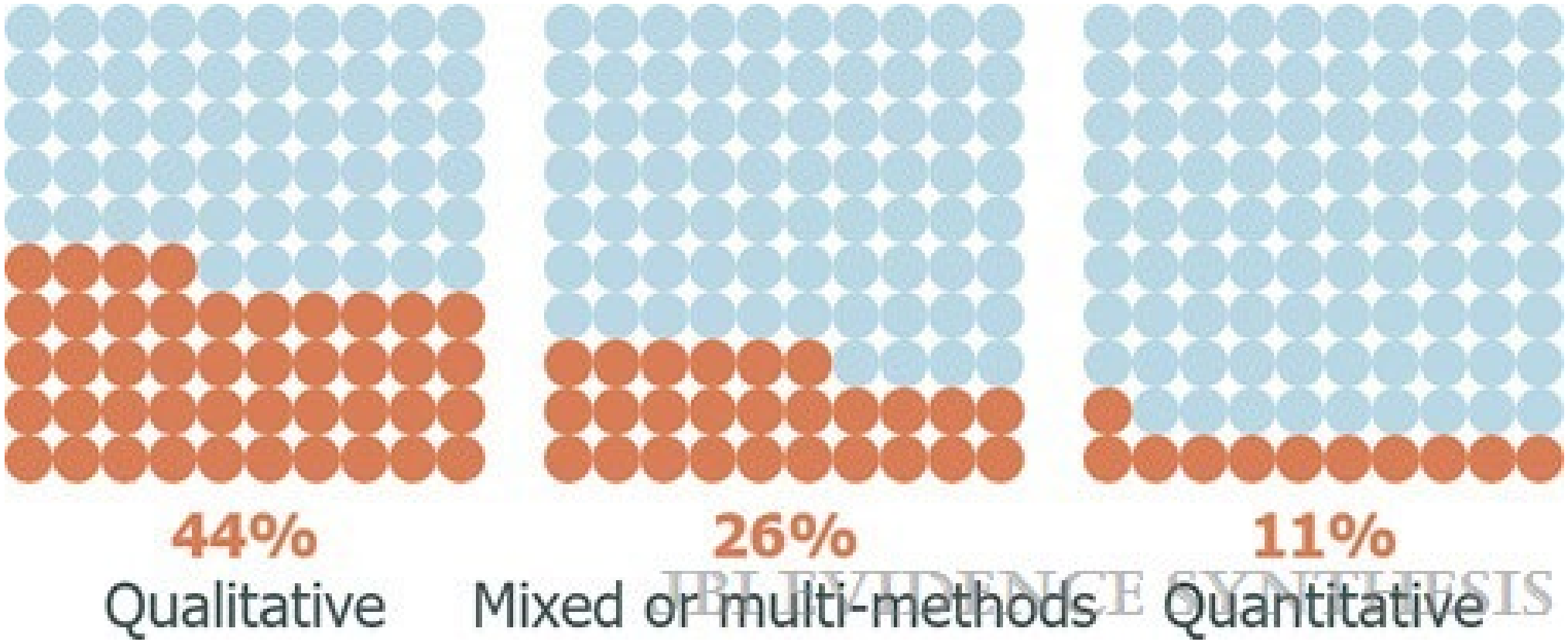
Reporting Findings…Rapidly

- **Author familiarity with the software**
- **Plan with your KU, commissioner, and team in advance.**

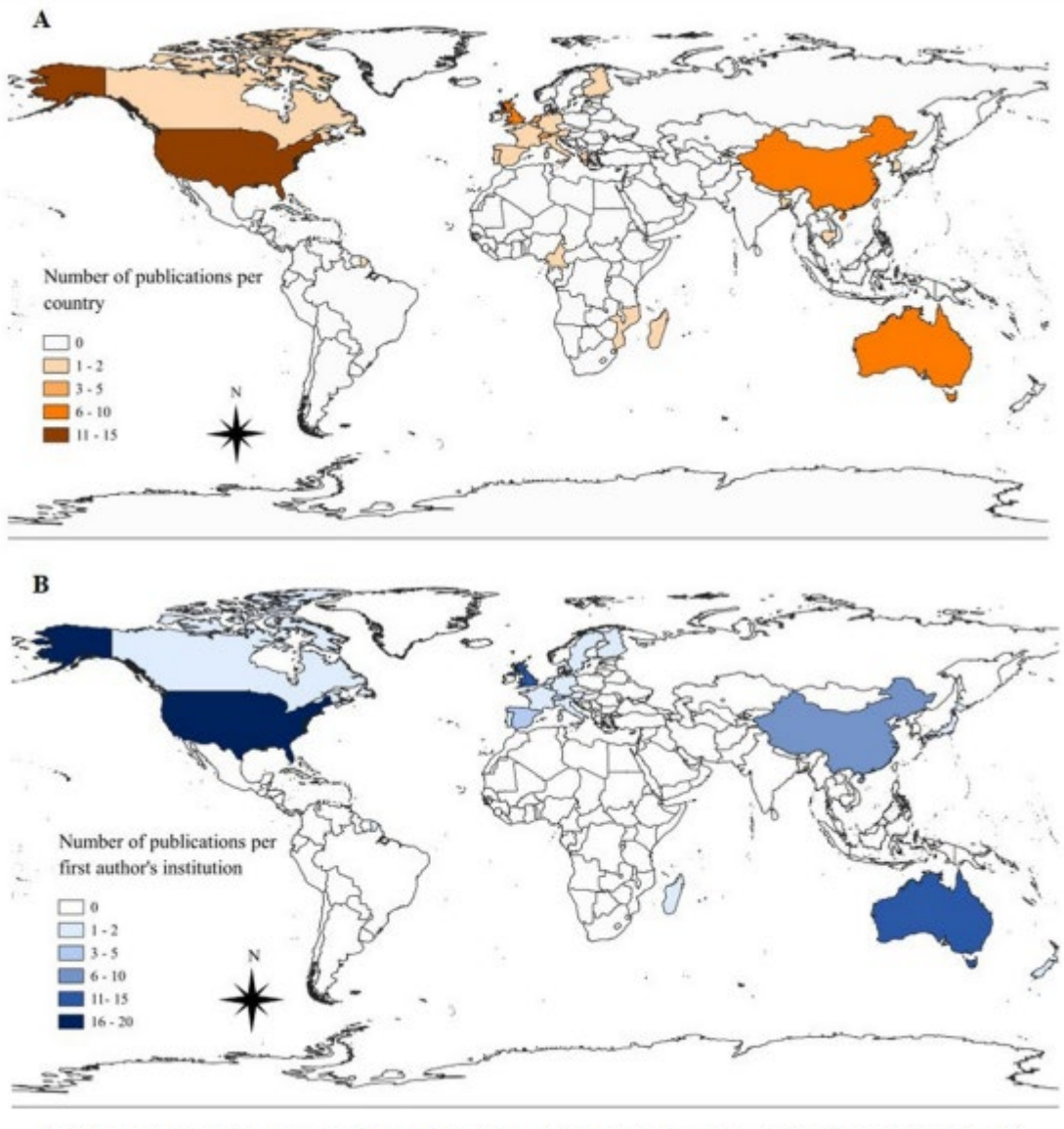
Cochrane Methods Rapid Reviews

Cochrane Methods
Rapid Reviews

Tools to support creation of visuals during reporting



Pollock et al ‘23


A
Number of publications per country
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1 - 2
3 - 5
6 - 10
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B
Number of publications per first author's institution
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16 - 20
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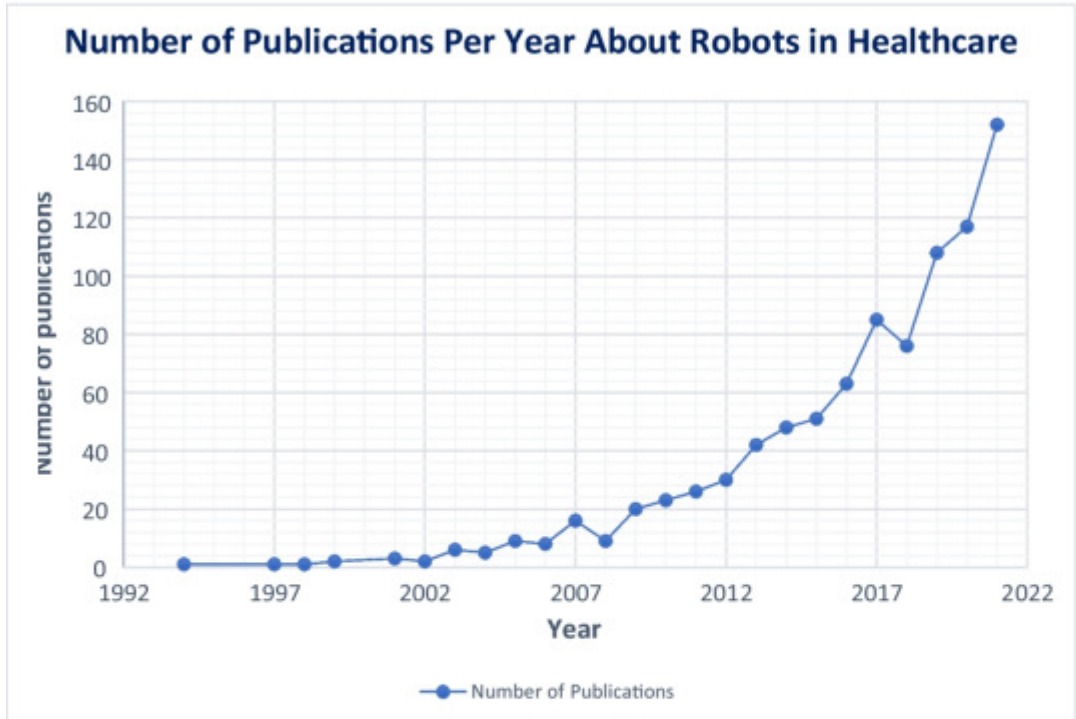

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1996	0
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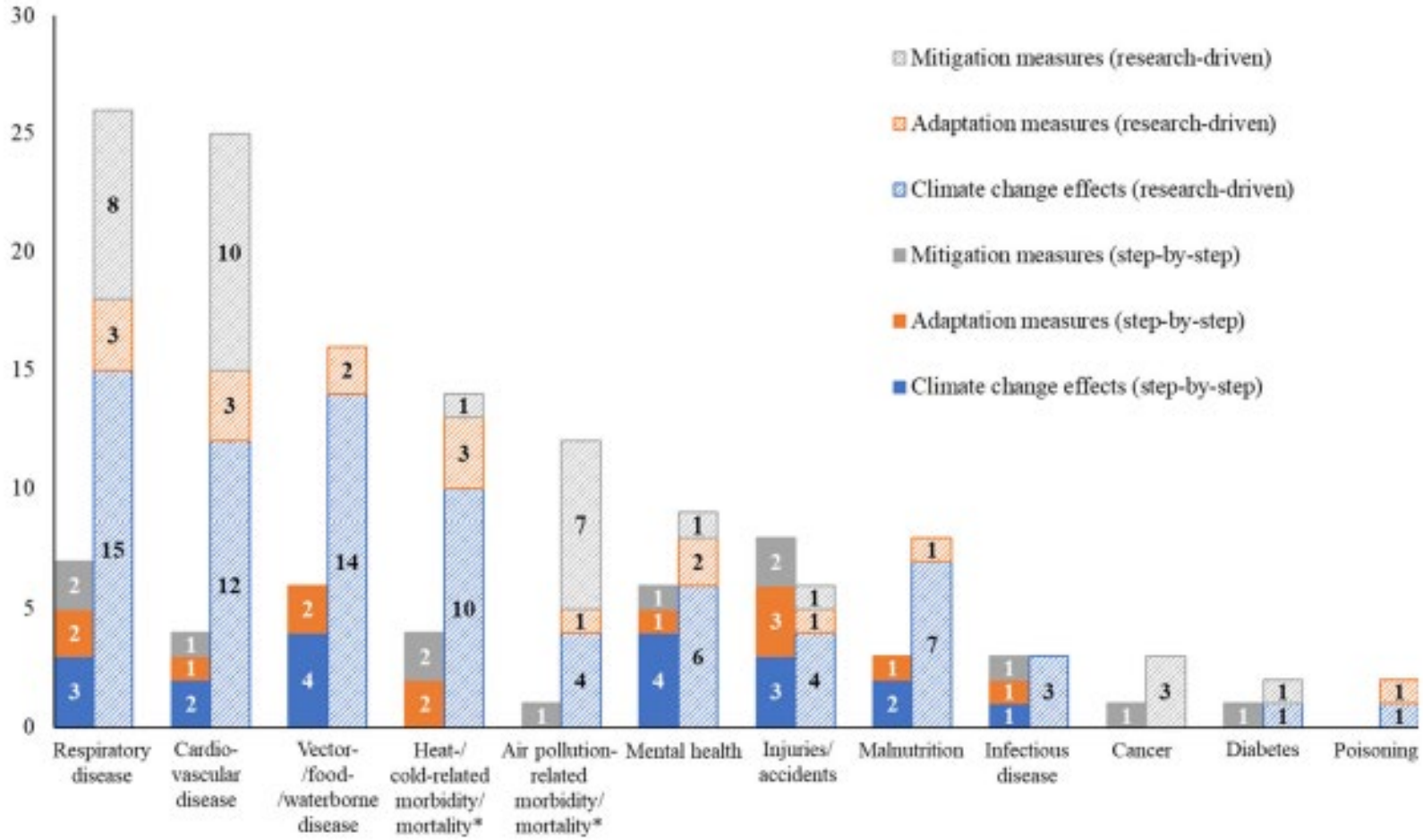
1999	2
2000	0
2001	3
2002	2
2003	6
2004	5
2005	9
2006	8
2007	16
2008	9
2009	20
2010	23
2011	26
2012	30
2013	42
2014	48
2015	51
2016	63
2017	85
2018	76
2019	108
2020	117
2021	152

Review

Health impact assessment and climate change: A scoping review

Priska Ammann[a,b,*], Dominik Dietler[a,b], Mirko S. Winkler[a,b]

[a] Swiss Tropical and Public Health Institute, P.O. Box, CH-4002 Basel, Switzerland
[b] University of Basel, P.O. Box, CH-4003 Basel, Switzerland



Cochrane Methods
Rapid Reviews

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)

R Shiny

To Conclude

- Scoping, mapping reviews and EGMs – 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

Cochrane Methods
Rapid Reviews

Cochrane Methods
Rapid Reviews

Thank you for listening

Fiona.campbell1@ncl.ac.uk

@FionaBell19

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