Cochrane Methods
Rapid Reviews

Cochrane Rapid Review (RR) Methods: A Look at Interim Recommendations (Part 2)

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Aims of this section

- Provide some general context for Cochrane Rapid Reviews (RRs)
- Give a brief overview of how Cochrane RR methods were developed
- Present a high-level overview of the interim methods recommendations including use for Cochrane RRs related to COVID-19

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Poll

Have you previously been involved in conducting a rapid review (RR)?

If yes, indicate what your main role was

- Yes, as an author/co-author
- Yes, as a methodologist, epidemiologist or biostatistician
- Yes, as an information specialist
- Yes, other
- No, I've not conducted a rapid review before

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Context for RRs

- Rapid reviews (RRs) have emerged as an efficient tool to get evidence to decision-makers more quickly and are now considered part of the knowledge syntheses family.[1]
- Strong signals of increased use among researchers, policymakers, and other stakeholders in daily decision-making.[2-5]
- In 2017, 148 organizations identified as producers of RRs; underestimate back then and likely much higher now.
- RRs have been undertaken by respected national and international health agencies, for example, the World Health Organization (WHO) in urgent and emergent public health settings to inform guideline recommendations, [6-7] and the US Preventative Services Task Force (USPSTF).[8]
- We know RRs are having an impact – many examples to draw upon.

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Cochrane's Support for RRs

- In 2015, Cochrane officially approved the establishment of a methods group specific to RRs (Cochrane RRMG)
- RRMG has become a valued information-sharing network for people with interest in RRs (with over 300 members, >78 countries)

RRMG Remit:

- Serve as a discussion forum
- Provide consultation to various Cochrane entities
- Deliver training through Cochrane events and elsewhere
- Involved in RR methods research; importantly, leading development of RR methods guidance
- Website: https://methods.cochrane.org/rapidreviews/welcome

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Context for Cochrane RRs

- As part of Cochrane's Content Strategy to 2020, the RRMG started to explore the relevance and appropriateness of RRs as a formal Cochrane product.
- As a first step, we needed to identify and assess which methods, if any, can be abbreviated to expedite the conduct of a RR; and when this might be acceptable to Cochrane.
- Over the past 18-months, we've conducted various activities as part of Stage 1 of a strategic workplan to inform the feasibility of Cochrane RRs.

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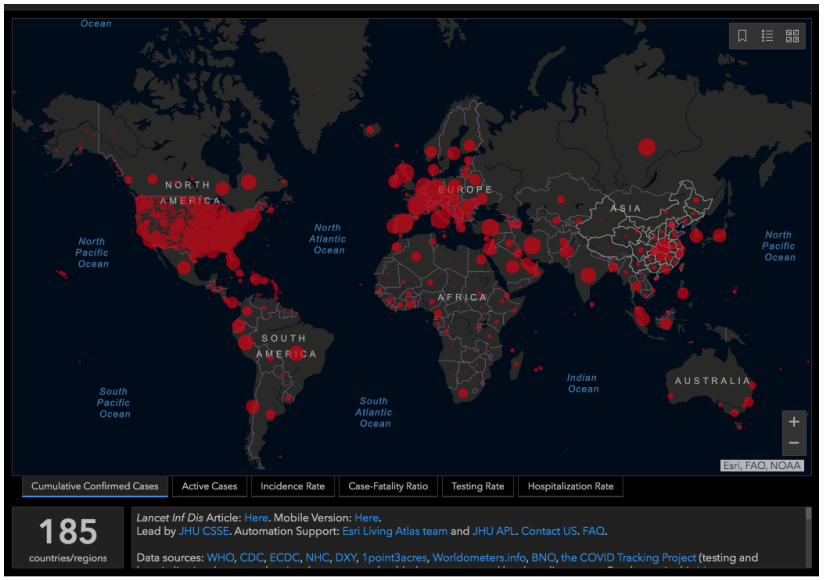
Cochrane RRs and COVID-19

- Completion of our stage 1 activities coincided with the unfolding of the COVID-19 pandemic in late February/early March (2020).
- Cochrane's comprehensive response to COVID-19 became the catalyst to releasing methods guidance (although provisional) to facilitate the production of RRs to address pressing questions related to the pandemic.



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How we developed Cochrane RR methods

We undertook a suite of methodological research to inform the definition of and methods involved in Cochrane Rapid Reviews (RRs)

1) Scoping Review: RR definitions[9]	2) Scoping Review: Empirical studies evaluating RR methods[10]	3) Methods Study: Limiting to English only studies[11]	4) Methods Study: Single reviewer screening RCT (Cochrane Crowd)[12]
Identified common key constructs that resulted in a proposed broad definition (based on the most common themes from 216 RRs & 90 RR methods papers)	Identified 90 studies that described or evaluated RR methods; 14 formally assessed shortcuts. Results informed Cochrane RR methods	Informed an important identified methods gap in that exclusion of non-English studies for clinical interventions reviews may be viable option for most RRs	Informed an important identified methods gap in that single screening (that missed 13% of relevant studies) may be a viable approach for some RRs

Cochrane RRs Methods Options Survey

Input on definition & major identified streamlined RR methods

Cochrane Rapid Reviews (RRs) Interim Guidance

- Aim to improve the utility and robustness of Cochrane RR results as a useful evidence synthesis tool for timely decision-making in healthcare.

Cochrane RR Methods Options Survey

- Survey was developed with input from a team of methodologists with experience in conducting both SRs and RRs, including an expert advisory committee.
- Specifically, we asked respondents to rank order certain options and to solicit their preferences for certain abbreviated approaches.
- Covered two main parts: i) a question set to determine what types of RRs are most suitable for Cochrane and for what purposes; and ii) a question set to determine which major streamlined methods are viewed as most acceptable for producing Cochrane RRs.
- Where possible in the survey, we highlighted identified research supporting or cautioning the use of a particular shortcut or approach.

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Survey

- Sent to a purposive sample of 119 individuals representing 20 specific Cochrane entities
- Duration - 6 weeks (September 14 and November 1, 2019)
- 63 Response (53%); 53 Completed (46%)
- 76% extremely/very/somewhat familiar with RRs
- For more information on the survey, contact the RRMG.

Entities	Responses	
Cochrane EMD	11%	6
Cochrane ITS	4%	2
Cochrane Response	2%	1
Coordinating Editor	13%	7
Council member	2%	1
Editorial Board member	8%	4
Field Executive member	6%	3
Geographical Centre Executive member	6%	3
Handbook Editor	8%	4
Information Retrieval Methods Group convenor	4%	2
Information Specialist Executive member	0%	0
Managing Editors Executive member	4%	2
MECIR Author	4%	2
Methods Executive member	4%	2
Network Senior Editor	6%	3
Network Associate Editor	2%	1
Network Support Fellow	8%	4
Rapid Reviews Advisory Committee member	11%	6
Rapid Reviews Methods Group convenor	8%	4
Scientific Committee member	15%	8

*Not mutually exclusive categories

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Deriving Interim Recommendations

- As a preliminary approach, we recommended adopting items for which there was **high** or **moderate** level of agreement on the survey.

  HIGH-LEVEL (ITEMS ENDORSED BY ≥70% OF RESPONDENTS)

  MODERATE-LEVEL (ITEMS ENDORSED BY ≥50-69% OF RESPONDENTS)

  LOW-LEVEL (ITEMS ENDORSED BY <50% OF RESPONDENTS)

- Items ranking highest were also put forth for consideration
- In addition to the survey rankings, the proposed guidance is based on discussion and consensus among the RRMG convenors
- Guidance/recommendations intended to promote a flexible, and iterative RR process that if need be, can be adapted and tailored to the review question

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Interim Recommendation - Cochrane RR Definition

Definition of a Cochrane Rapid Review

We've recommended Cochrane adopt the following definition: "A rapid review is a form of knowledge synthesis that accelerates the process of conducting a traditional systematic review through streamlining or omitting specific methods to produce evidence for stakeholders in a resource-efficient manner."[9]

Further, based on endorsed survey items - Cochrane RRs should be driven primarily by requests for timely evidence for decision-making purposes including to address urgent and emergent health issues and questions deemed to be of high priority.

Interim Recommendations - Cochrane RR Methods

Setting the Research Question – Topic Refinement

- Involve key stakeholders (e.g., review users such as consumers, health professionals, policymakers, decision-makers) to set and refine the review question, eligibility criteria, and the outcomes of interest.
  - Consult with stakeholders to ensure the research question is fit for purpose, and regarding any ad-hoc changes that may occur as the review progresses.
- Develop a protocol that includes review questions, PICOS, and inclusion and exclusion criteria.
  - COVID-19 RRs, see the Standard Workflow document and Protocol Template to maximize quality and efficiency.

Notes

- Evidence suggests knowledge brokering of proposals significantly improved perceived clarity of information provided to policymakers and also improves confidence of reviewers that they can meet the policymakers' needs.[10]

Setting the Eligibility Criteria

Together with key stakeholders:

- Clearly define the population, intervention, and comparator
- Limit the number of interventions and comparators
- Limit the number of outcomes, with a focus on those most important for decision-making
- Consider date restrictions with a clinical or methodological justification
- Limit the publication language to English; add other languages only if justified
  - COVID-19 RRs: restricting to English-only is not recommended if it is expected that relevant studies are published in languages other than English (e.g., emerging COVID-19 studies from China and other countries).
- Place emphasis on higher quality study designs (e.g. systematic reviews) to streamline available evidence.

Notes

- Limits are important to ensure Cochrane RRs are manageable and timely.
- Although setting a date restriction is a pragmatic shortcut, this needs to be carefully considered for each topic.[13]
- Restriction to English-only studies may be a practical when conducting RRs for conventional interventions[11] but as you can see for COVID-RRs there is justification to search other languages.

Searching

- Involve an Information Specialist.
- Limit main database searches to Cochrane CENTRAL, MEDLINE (e.g., via PubMed) and Embase (if available access).
- Recommend searching specialized databases (e.g., PsycInfo, CINAHL) for certain topics but should be restricted to 1-2 additional sources, or omitted if time and resources are limited.
  - COVID-19 RRs resources to search:
    - Cochrane's COVID study register: https://covid-19.cochrane.org/;
    - LITCOVID: US National Library of Medicine - central access to >6000 (and growing) relevant articles in PubMed, and;
    - WHO-COVID19 Database – contains results of daily literature searches
- Consider peer review [i.e., Peer Review of Electronic Search Strategies (PRESS)] of at least one search strategy (e.g., MEDLINE).

Notes

- Recommending peer-reviewing a search strategy (PRESS) is encouraged based on recent evidence.[14]
- Overall, the selection of databases to search will depend on the topic under review and access to these sources.

Searching (continued)

- Limit grey literature and supplemental searching to trials registries and bibliographies of other reviews or included studies.

Notes

- We suggest doing the grey literature searching AFTER screening of the abstracts and full texts.
- Screening reference lists can detect studies that were missed when searching electronic databases or eligible studies that were excluded in error during screening.

Study Selection (Title/Abstract Screening)

- Using a standardized title and abstract form, conduct a pilot exercise using the same 30-50 abstracts for the entire screening team to calibrate and test the review form.
- Then, use two reviewers for dual screen of at least 20% (ideally more) of abstracts, with conflict resolution.
- Use one reviewer to screen the remaining abstracts; with a second review to screen all excluded abstracts, with conflict resolution.

Notes

- We do not recommend using only one reviewer to screen all titles/abstracts (least acceptable according to survey ranking).
- Software should be used to make screening more efficient.
- Artificial intelligence/automation may facilitate this step in the very near future.

Study Selection (Full Text)

- Using a standardized full text form, conduct a pilot exercise using the same 5-10 full-text articles for the entire screening team to calibrate and test the review form.
- Then, use one reviewer to screen all included full text articles, with a second reviewer to screen all excluded full text articles.

Notes

- A pilot exercise is extremely important for abstract/full text screening to ensure there is no misunderstanding the inclusion/exclusion criteria.
- To reiterate, review teams should also use software to make screening, tracking, and documentation more efficient whenever possible.

Data Extraction

- Use a single reviewer to extract data using a piloted form.
- Use a second reviewer to verify the data is correct and complete (including study characteristics and outcomes data).
- Limit data extraction to a minimal set of required data items to streamline how much information is extracted about the study (i.e., study characteristics, the interventions, as well as outcomes details).

Notes

- Using skilled extractors will be key to minimizing errors rates for Cochrane RRs.

Risk of Bias Assessment

- Use a valid risk of bias tool, if available for the included study designs.
- Use a single reviewer to rate risk of bias, with full verification of all judgements (and support statements) by a second reviewer.
- Limit risk of bias ratings to the most important outcomes as determined by stakeholders at the outset

Synthesis

- Evidence should be synthesized narratively.
- Consider a meta-analysis only if appropriate (i.e., studies are similar enough to pool).
  - Standards for conducting a meta-analysis for a systematic review equally apply to a RR. Meta-analysis will depend on the nature of the data and information provided in the individual studies identified.
- Use a single reviewer to grade the certainty of evidence, with verification of all judgements (and footnoted rationales) by a second reviewer.

Other Considerations for Cochrane RRs

- RRs should be preceded by a protocol submitted to and approved by Cochrane – see available resources for COVID-19 RRs (e.g., Workflow (topic refinement), Protocol template) https://covidrapidreviews.cochrane.org/resources
- Protocol should be:
  - Registered (e.g., PROSPERO or Open Science Framework)
    - For Cochrane COVID-19 RRs, authors are being encouraged to register the protocol, and the protocol must be complete before inclusion/exclusion decisions are made, and submitted to the Cochrane editorial team before the full review is submitted.
- Incorporate to use of online SR software (e.g., Covidence, DistillerSR, EPPI-Reviewer) to streamline the stages of the process.

Importantly, methods selected for each Cochrane RR will need to take into account the RR timeline (1 week up to 6 months, starting once protocol details are approved) and available resources using a tailored approach.

Helpful Hints for Cochrane COVID-19 RRs

- Consider languages other than English (e.g., Chinese, Korean, Italian, Spanish). Otherwise, early studies may be missed.
- Teams need the ability to do translations quickly. Have a plan. You may need to call on Cochrane's international community for assistance.
- RR author teams should be used to working together and have shared access to and training in the software used – having teams that are 'ready to go' is most efficient.
- Teams need to be able to work in parallel across review tasks, and that the project lead is always 1-2 steps ahead of team – online SR software will allow for this.
- Important for the team to be able to focus on the RR and put all other tasks aside when working to tight deadlines on the COVID-19 RRs.

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Rapid Reviews

In Summary

- Cochrane RR recommendations are interim guidance – still a work in progress.
- Although a formal recommendations process was not followed, a strength of this guidance was that it was informed by a suite of studies, through surveying a wider group of researchers from within Cochrane, and discussions with RR methodology experts.
- Importantly, the recommendations are based on what is currently known about RR methods, and is being 'test piloted' in real time for COVID-19 RRs
- We encourage continued use of this guidance - though we recognize that further enhancements and fine-tuning are needed.
- If you have used our guidance in urgent, real time RR scenarios or will be using it, we welcome feedback.

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We welcome your feedback.

Please also reach out to us if you require more information.

Contact us at: rapidreviews@cochrane.at

Interim Guidance:

https://methods.cochrane.org/rapidreviews/cochrane-rr-methods

Cochrane Methods
Rapid Reviews

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Cochrane Methods Rapid Reviews

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