

# Rapid review methodological challenges during COVID-19

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# Acknowledgement of Traditional Land

*I wish to acknowledge the land on which my research team operates in Toronto, Ontario, Canada.*

*For thousands of years it has been the traditional land of the Huron-Wendat, the Seneca, and most recently, the Mississaugas of the Credit River.*

*This land is still home to many Indigenous people from across Turtle Island and we are grateful to have the opportunity to work on this land.*

# Conflicts of Interest

No conflicts of interest to declare

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# Presentation Objective

- Types of rapid reviews products
- Rapid reviews during COVID-19
- Challenges and proposed solutions



# Types of Rapid Review Products

# Rapid Evidence Products

| Category              | Description  |
|-----------------------|--|
| Inventories           | Inventories only list the evidence that is available on a given topic. There is no attempt to appraise, summarize or synthesize the evidence for further use, nor is there an attempt to present conclusions or recommendations to the knowledge user.   |
| Rapid response briefs | Rapid response briefs present a summary of the best available evidence in a synthesized and contextualized manner, in direct response to a decision-maker's question. They are knowledge translation products created through formal methods to synthesize and appraise the evidence. They do not generate new knowledge but use findings that are already available, especially from existing systematic reviews. |
| Rapid reviews         | Rapid reviews represent a knowledge generation strategy. They synthesize findings and assess the validity of research evidence using "abbreviated" systematic review methods, modifying these methods to generate evidence in a short time.  |



# Conduct of Rapid Reviews

- Guidance for conduct of rapid reviews for health policy and systems research developed in collaboration with WHO
- WHO guide recommends researchers tailor methods to needs of decision-makers
- Several ways that rapid reviews can be streamlined to accommodate decision-makers' needs related to both scope of review and timeliness across all steps of review process

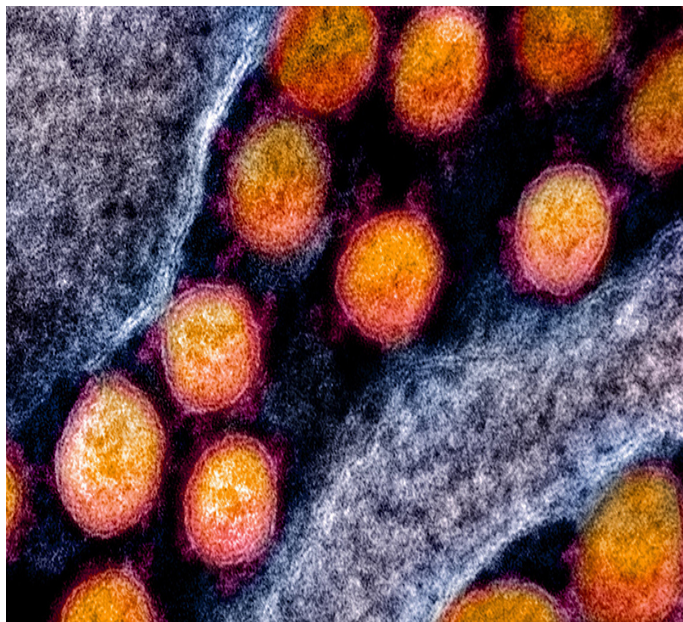






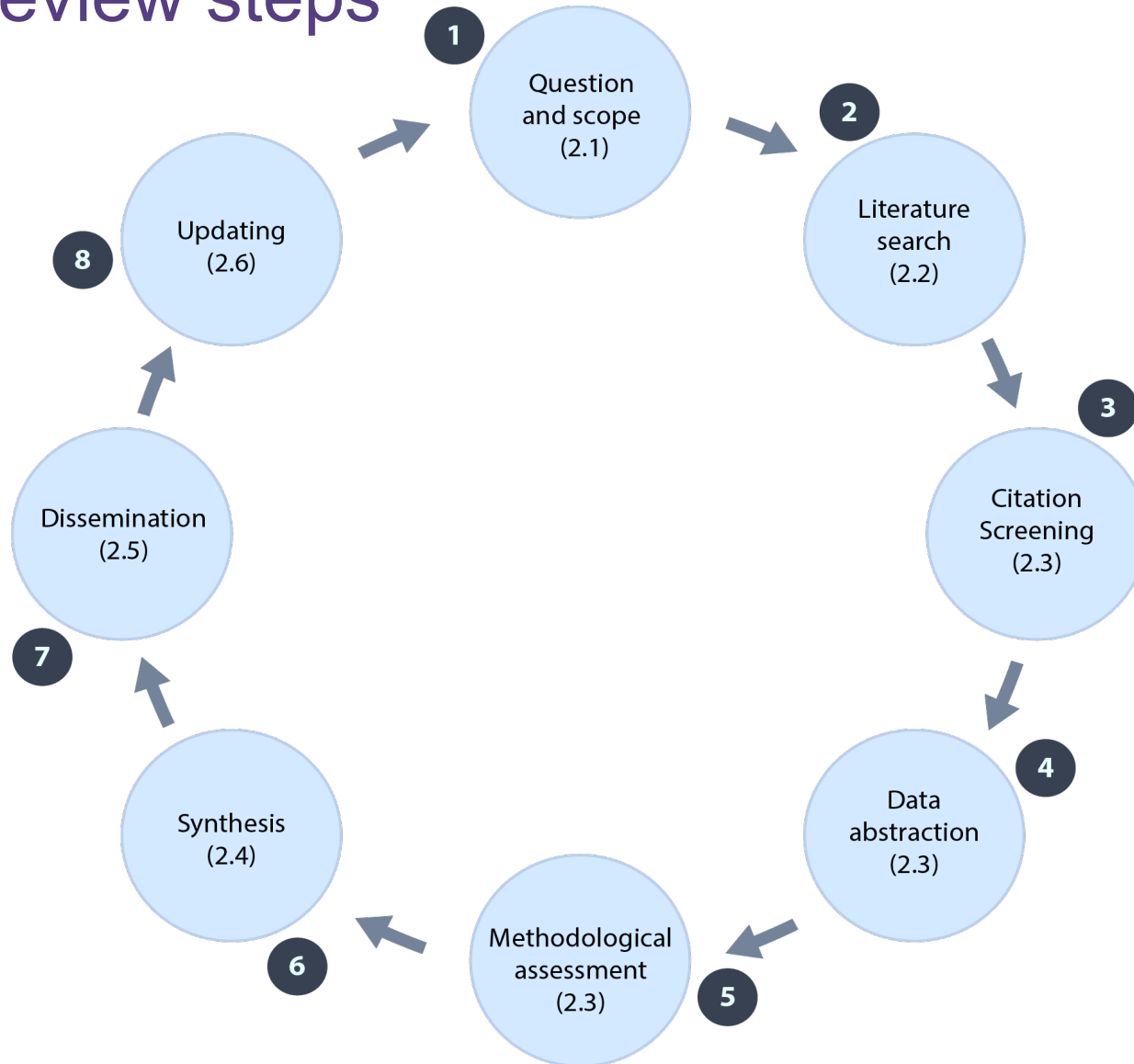
# Rapid Reviews during COVID-19

# Emergence of COVID-19



- The Public Health Agency of Canada (PHAC) is a knowledge user seeking to answer questions on the safety and efficacy of drug treatments on COVID-19
- They are seeking this information to improve the health of Canadians and provide more effective health services
- How do we generate answers to these questions?
  - Knowledge Synthesis

# Rapid Review steps



# Step 1: Question and Scope

## Main challenges:

- Involve decision-makers to set and refine review question, eligibility criteria, and outcomes of interest
- Timelines and fast turnaround periods
- Address views of front-line clinicians who are dealing with COVID-19
- Little coordination of the needs of decision-makers between local, provincial/regional and global level making it difficult for research to mitigate duplication and research waste



# Step 1: Question and Scope

## Solutions:

- Guidance and tools on rapid reviews conduct to help tailor methods
- Decisions about scope of project - include types of studies or sources of evidence to ensure the review is feasible and relevant
- Make use of collaborative tools to interact with decision-makers e.g. online meeting platforms
- Consulting with experts to provide their insight on contextualizing the rapid review findings via phone calls



# Step 1: Question and Scope

## Solutions continued:

- COVID-END on reducing duplications
- Access and assess existing evidence syntheses
- Identify ongoing evidence syntheses



# COVID-END

COVID-19 Evidence Network  
to support Decision-making

# Step 2: Literature Search

## Challenges:

- Lack of indexing and poor functionality of search interface
- Grey literature increasingly important because emergent literature on COVID-19 is scattered across numerous sources:
  - Websites, social media, news sources
  - Public health guidelines
  - Organizational policies and procedures
  - Clinical trials
  - COVID-19 repositories
  - Pre-print servers (e.g., medRxiv)



## Step 2: Literature Search

### Solutions:

- COVID-19 repositories and research/resource guides with lists of traditional and grey literature sources can be used
- For COVID-19 rapid reviews, studies in all languages should be considered for inclusion
- Teams have prioritized specificity rather than sensitivity to make the literature searches more manageable for COVID-19 rapid reviews.
- Updating the literature search the same week as the rapid review becomes publicly available





# Step 3: Citation Screening, Data Abstraction, and Methodological Assessment

## Challenges:

- Impact unclear of using several different approaches – such as semi-automated screening tools, crowd sourcing, or having only one person involved with the screening may have on results of the rapid review
- Unclear whether certain data extraction tools (with or without data mining features) are accurate and reliable.
- Related to appraisal of methodological limitations, the literature included in COVID-19 rapid reviews may be of lower methodological quality, due to the rapid nature that the primary studies themselves have been conducted



# Step 3: Citation Screening, Data Abstraction, and Methodological Assessment

## Solutions:

- Methods must be transparently reported and limitations need to be discussed
- Conducting data abstraction across multiple team members with live (synchronous) sharing of data or using crowd-sourcing approaches
- Use of online software (e.g., DistillerSR, Covidence)
- Appraising the methodological limitations takes time yet can be incorporated into applying GRADE (or GRADE CERQual) of the evidence
- Limit methodological assessments to only studies that are included in analysis



## Step 4: Synthesis

### Challenges:

- Challenging to extrapolate findings to COVID-19, impacting interpretation of results
- Outcomes examined in primary studies included may vary, contributing heterogeneity and making any statistical pooling (e.g., meta-analysis) inappropriate
- Working at an incredibly fast pace and this makes it more challenging to interpret results
- Challenging to include interpretation of results from decision-makers



# Step 4: Synthesis

## Solutions:

- Interpretation of results needs to carefully consider any streamlined methods used
- Be specific and transparent about what might have been lost in process and what needs to be addressed in future
  - More comprehensive review and when review should be done
- Report effect sizes with confidence intervals
- In qualitative synthesis, it may not be possible to conduct sub-group analyses, but again can be addressed in future updates
- Working closely with decision-makers to interpret results will ensure that end-product is relevant and fit-for-purpose



# Step 5: Dissemination

## Challenges:

- Traditional academic publishing model cannot keep up with wave of evidence being produced.
- Decision-makers cannot wait for rapid review to be published
- Findings to be presented in complete and unbiased way and in format that is clear to understand
- Developing plan for dissemination challenging when timeline is reduced



# Step 5: Dissemination

## Solutions:

- Open Science Framework, Zenodo or pre-print servers
- Use of short evidence summaries
- Linkages with teams of data mobilizers and academic detailers
- Communication teams
- Use of evidence-informed dissemination strategies
- Considering targeted dissemination mediums:
  - Infograms; Podcasts and media releases; YouTube; LinkedIn; Twitter; ResearchGate



# Step 6: Updating

## Challenges:

- Decision-makers requesting rapid reviews that are updated on a continuous basis (i.e., living reviews)
- Unclear when optimal timing of updates or full reviews should take place
- Communication of updates of how results and conclusion have changed
- Do not have funding to conduct continuous updates of rapid reviews, creating a sustainability issue



# Step 6: Updating

## Solutions:

- Using automation in searching and screening to convert rapid reviews into living rapid reviews
- Working with decision-makers to reconsider funding structures to allow living rapid reviews to be conducted on an ongoing basis during COVID-19
- Organizations have processes in place for regular updates of published reviews
  - Helpful for authors of rapid reviews that may want to return at a later stage to continue their review







Questions?

**Thank you for your attention**  
**And special thanks to Shazia Siddiqui for putting together these slides!**

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