

Supplemental File 1. Potential limitations of rapid reviews (RRs) and approaches to mitigate drawbacks.

Potential limitations	Approaches to mitigate drawbacks
<p>Reduced methodological rigor - RRs often require accelerated or omitted methods to expedite the review process. This can result in a trade-off between timeliness and methodological rigor. Due to time constraints, there may be compromises in study selection, critical appraisal of the included studies, data extraction, and synthesis methods, which could introduce biases or limit the overall reliability of the findings.</p>	<ul style="list-style-type: none"> • Follow established RRs methods that are evidence-informed to the extent possible [1,2]. • By adhering to well-established and recognized RR methods guidance, researchers can mitigate potential biases and maintain a higher level of reliability in the review process and findings. • While some steps may be abbreviated or omitted for timeliness, not all need to be accelerated. <ul style="list-style-type: none"> • For instance, if the topic is complex, study selection could employ dual, independent screening to avoid misunderstandings and mistakes. • Teams can decide which steps to accelerate based on the specific topic.
<p>Limited scope and inclusion criteria - RRs may have a narrower scope compared to systematic reviews (SRs). This can result in exclusion of certain study designs, outcomes, and/or sources of evidence (see Search strategies and publication bias below). Limiting the scope and inclusion criteria may affect generalizability to populations outside the narrowed scope and the overall conclusions (if there are a narrow set of included study designs and outcomes).</p>	<ul style="list-style-type: none"> • Working with the knowledge users to determine the population, the most important outcomes to make decisions, and what study designs are best suited to make these decisions is critical [3,4]. • If feasible, performing GRADE will help determine the certainty of the evidence and should increase the value and certainty of the RR conclusions [5].
<p>Search strategies and publication bias - The search strategies employed in RRs might be less comprehensive or restricted (e.g., no supplemental searching), potentially missing relevant studies and leading to incomplete evidence synthesis. This can introduce publication bias, as studies with positive or statistically significant results are more likely to be published and accessible within the short time frame of when the RR is being conducted and</p>	<ul style="list-style-type: none"> • To reduce publication bias in RRs, conduct a comprehensive search, involve subject matter experts, and use a transparent search strategy. • Actively include grey literature if appropriate and time allows, and register the review in a publicly accessible database to minimize publication bias and selective outcome reporting

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are more easily found in the more common comprehensive biomedical bibliographic databases (e.g., MEDLINE, Embase).	<ul style="list-style-type: none"> • Consult published guidance for RR searching [6]. • Studies suggest that RR conclusions are rarely affected by omitting grey literature searches, using abbreviated searches, or applying language restrictions at the study selection stage [6–8].
Limited time for thorough critical appraisal (i.e., risk of bias, quality assessment) - Due to time constraints, some may skip or inadequately perform critical appraisal of the included studies, leading to insufficient consideration of study limitations, biases, and conflicts of interest, thereby compromising the reliability and validity of the RR.	<ul style="list-style-type: none"> • We recommend following published guidance [4], and at a minimum doing this stage of the RR using reliable tools, with one reviewer to do the assessments with another individual to verify the responses. • Any disagreements should be discussed between the reviewers, with consensus reached.
Insufficient time for knowledge user engagement - By their very nature, RRs necessitate involving the requestor or commissioner (often the decision-maker) in their initial design and throughout. However, time constraints make it challenging to meaningfully engage knowledge users, including subject experts, patient representatives, or policymakers in RRs.	<ul style="list-style-type: none"> • It is important to recognize the value of involving a variety of knowledge users and to allocate time for their meaningful input. • Published guidance provides strategies for engaging knowledge users in the rapid review process, enhancing the relevance, applicability, and impact of the findings[9].
Limited time to address heterogeneity – Assessing heterogeneity can be time-consuming for both SRs and RRs. Heterogeneity reflects the extent of variation among the results of the studies included in the review. The time constraints of RRs may limit the capacity to conduct comprehensive subgroup analyses or formulate robust conclusions across diverse contexts or populations.	<ul style="list-style-type: none"> • To address the challenge of limited time to handle heterogeneity in RR, report the degree of variability among the included studies' results by measuring the I² statistic, similar to SRs [10]. • Heterogeneity in RRs can arise from various sources, including differences in study populations, methodologies, interventions, outcome measures, publication bias, study quality, contextual factors, data analysis techniques, and random variation in study results. • If feasible, techniques like subgroup analyses or sensitivity analyses can help explore and understand the sources of heterogeneity and its impact on the review's conclusions.

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	<ul style="list-style-type: none"> • Also, involve subject matter experts to gain insights into potential sources of heterogeneity.
<p>Analysis/synthesis is not comprehensive - RRs are often focused on specific aspects of the research question or key outcomes, sacrificing the comprehensiveness at the synthesis stage. This can result in a limited understanding of the overall body of evidence, potential conflicting findings, or gaps in the evidence base.</p>	<p>To mitigate risks at the synthesis stage of a RR:</p> <ul style="list-style-type: none"> • Transparently document the methods used, including search strategy [6], study selection, data extraction, and synthesis approach including analysis to ensure reliability [11]; • Involve subject matter experts, researchers, and knowledge users to guide with interpretation of findings [9]; • Conduct a critical appraisal of the included studies to inform evidence interpretation[4]; • Use narrative synthesis to describe heterogeneous studies; manage time effectively to avoid rushed critical tasks; • Report limitations and potential biases transparently; and if time permits, perform sensitivity analyses to understand the impact of methodological choices. • If possible, seek external peer review for further feedback and improvement.
<p>Speed may introduce error - Speed in RRs can lead to errors as the RR team may feel pressured to complete tasks quickly, and may not spend sufficient time on doing study selection, data extraction, and critical appraisal accurately. This rushed process can also hinder the ability to properly verify and interpret the evidence, reduce overall thinking time and thoroughness across the review stages.</p>	<ul style="list-style-type: none"> • To avoid mistakes caused by working too quickly in rapid reviews (RRs), it's crucial to have skilled individuals with expertise in systematic review (SR) methods involved in the process [4]. • Utilizing SR tools can help minimize human errors in screening and data extraction, increasing overall efficiency and allowing more time for thoughtful analysis[12].

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	<ul style="list-style-type: none"> <li data-bbox="1133 301 1877 389">• A well-defined protocol also ensures a structured and streamlined process, preventing major detours that could consume time and introduce errors. <li data-bbox="1133 411 1906 469">• By implementing these measures, the reliability and validity of the RR can be enhanced while maintaining a timely completion.

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