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A global challenge and introducing RAISE (Responsible AI use in evidence SynthEsis)

We were asked to write some guidance…

… about which tool to use, and when

But found we couldn't!

The evidence base on which to base our advice was very limited

AI tools were being developed that were not engineered to be fit-for-purpose

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A challenge for the whole ecosystem

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- We need to support the wider adoption of AI
- We need cross-field standards *and an evidence base*
- We anticipate an ecosystem made up of individuals, collaborations, and organisations
- Each has a role to play in developing and using AI in a responsible way

- *(one person / organisation may play multiple roles)*

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AI development teams
Methodologists
Evidence Synthesists
Publishers of evidence synthesis
Users of evidence synthesis
Trainers of evidence synthesis methods
Organisations producing evidence synthesis
Funders of evidence synthesis
Our audience today

Recommendations for evidence synthesist (or ‘reviewer’ / ‘author’)

1. Remain ultimately responsible for the evidence synthesis
2. Report AI use in your evidence synthesis manuscript transparently
3. Ensure ethical, legal and regulatory standards are adhered to when using AI
4. Contribute to the ecosystem to help all roles continue to develop and grow

Recommendations for methodologists

1. Adhere to open science practices when researching and evaluating AI systems
2. Commit to objective and impartial evaluations and validation of AI systems
3. Develop best practice standards – and link with developers
4. Contribute to the ecosystem to help all roles continue to develop and grow

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Recommendations for organizations producing evidence synthesis

1. Ensure best practice standards for responsible AI use are clear and integrated in your policies and guidelines
2. Promote, guide and support responsible AI use in your evidence synthesis activities
3. Monitor the development and use of AI within your organization
4. Contribute to the ecosystem to help all roles continue to develop and grow

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Recommendations and guidance

Three-paper RAISE collection

1. Responsible AI in Evidence synthesis 1: Recommendations for practice
2. Responsible AI in Evidence synthesis 2: Building and evaluating evidence synthesis tools
3. Responsible AI in Evidence synthesis 3: Selecting and using evidence synthesis tools

Applying the RAISE recommendations in practice; what does it mean for authors?

New AI Methods Group - Who we are

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New AI Methods Group - What we are doing

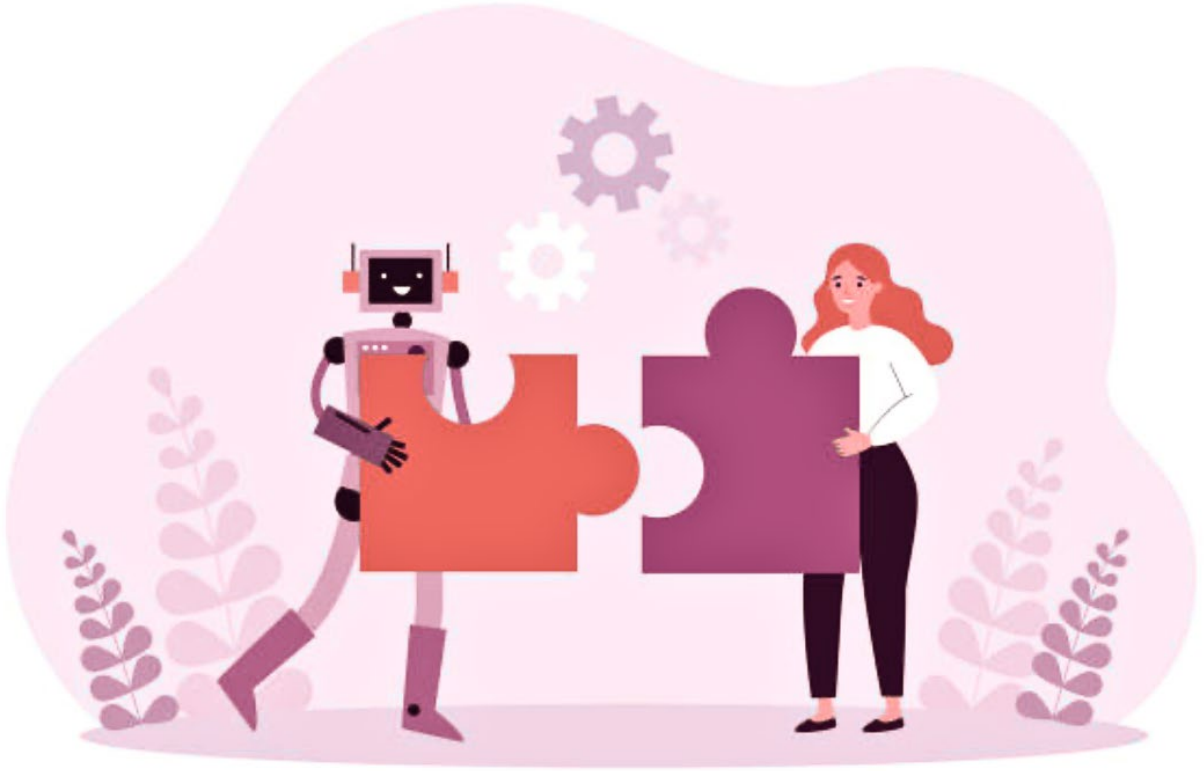
- Defining best practice
- Focusing on capacity strengthening & AI literacy
- Working with AI tool developers:

Public details on AI systems with clear T&Cs

Public & transparent evaluations

Clarity on strengths, limitations, biases and generalizability

Human oversight



AI should be a companion, not a replacement

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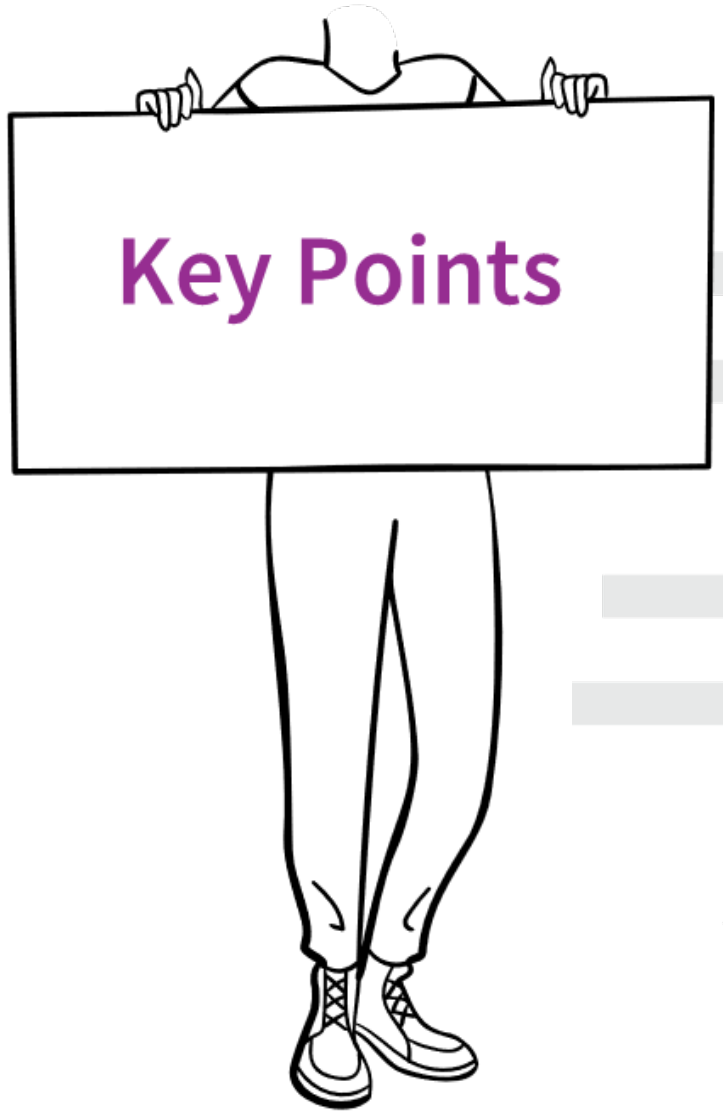
Evidence synthesists are ultimately responsible for their evidence synthesis, including the decision to use AI and ensuring adherence to legal and ethical standards.

- Plagiarism and provenance
- Copyright and intellectual property (IP)
- Jurisdiction and licensing
- Terms and conditions of use
- Ethical considerations



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Evidence synthesists can use AI as long as they can demonstrate that it will not compromise the methodological rigor or integrity of their synthesis.

- Methodologically sound AI tools
- Trustworthiness and reliably of your findings or conclusions are not undermined
- It is appropriate to use the AI in the context of your specific synthesis

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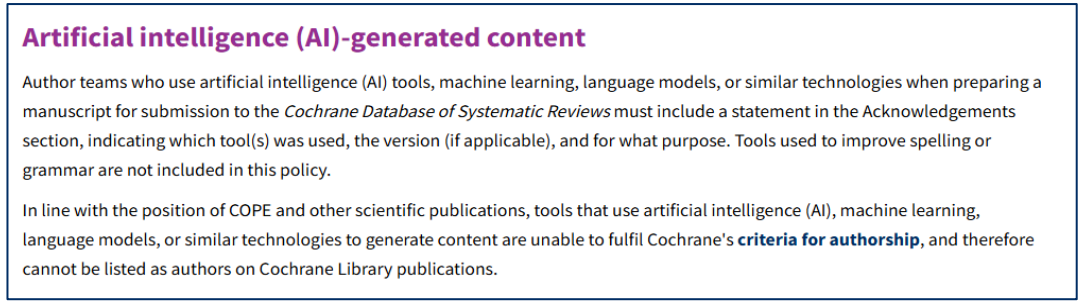
Any AI that makes or suggests judgements should be fully and transparently reported in the evidence synthesis manuscript.



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Research Methods & Reporting

PRISMA 2020 explanation and elaboration: updated guidance and exemplars for reporting systematic reviews

BMJ 2021 ; 372 doi: https://doi.org/10.1136/bmj.n160 (Published 29 March 2021)
Cite this as: *BMJ* 2021;372:n160

Linked RMR
The PRISMA 2020 statement: an updated guideline for reporting systematic reviews

Article | Related content | Metrics | Responses | Peer review

Matthew J Page, senior research fellow [1], David Moher, director and professor [2], Patrick M Bossuyt, professor [3], Isabelle Boutron, professor [4], Tammy C Hoffmann, professor [5], Cynthia D Mulrow, professor [6], Larissa Shamseer, doctoral student [7], Jennifer M Tetzlaff, research product specialist [8], Elie A Akl, professor [9], Sue E Brennan, senior research fellow [1], Roger Chou, professor [10], Julie Glanville, associate director [11], Jeremy M Grimshaw, professor [12], Asbjørn Hróbjartsson, professor [13], Manoj M Lalu, associate scientist and assistant professor [14], Tianjing Li, associate professor [15], Elizabeth W Loder, professor [16], Evan Mayo-Wilson, associate professor [17], Steve McDonald, senior research fellow [1], Luke A McGuinness, research associate [18], Lesley A Stewart, professor and director [19], James Thomas, professor [20], Andrea C Tricco, scientist and associate professor [21], Vivian A Welch, associate professor [22], Penny Whiting, associate professor [18], Joanne E McKenzie, associate professor [1]

- **Name, version** and **dates**
- **Purpose** and **impact** on the synthesis
- **Justification**, e.g., citing evaluations, make the inputs and outputs publicly available, etc.
- Declare any financial and non-financial **interests** in AI system or tool

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Summary of how to approach using AI

1. AI should be used as a companion to humans, not as a replacement.
2. You are ultimately responsible for your evidence synthesis, inc. the decision to use AI and ensuring adherence to legal and ethical standards.
3. You can use AI as long as you can demonstrate that it will not compromise the methodological rigor or integrity of your synthesis.
4. Any AI that makes or suggests judgements should be fully and transparently reported in the manuscript.

What's on the AI Methods Group agenda?

1. Organizational approach to assessing AI tools and systems
2. Frameworks to understand whether an AI tool could be used in a specific evidence synthesis
3. Defining classifications for AI use in evidence synthesis and which are acceptable to use
4. Defining acceptable accuracy standards for AI systems
5. Other training and resources to support evidence synthesists and editors...

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Defining acceptable AI accuracy standards

Understanding expectations for evidence synthesis when using AI

Until **2 July**, approx. **35 mins**

Digital Evidence Synthesis Tool INnovation for Yielding Improvements in Climate & Health)

We need AI

We need to make better use of technology (including AI) in evidence synthesis

We need AI to help make evidence synthesis sustainable

The evidence synthesis community needs to know how to make the most of AI in a way that doesn't compromise on the core principles of evidence synthesis.

Thank you!

Questions?