Managing conflicts of interest in the development of health guidelines

Gregory Traversy MSc, Lianne Barnieh MSc PhD, Elie A. Akl MD PhD, G. Michael Allan MD, Melissa Brouwers PhD, Isabelle Ganache PhD, Quinn Grundy RN PhD, Gordon H. Guyatt MD MSc, Diane Kelsall MD MEd, Gillian Leng CBE, Ainsley Moore MD MSc, Navindra Persaud MD MSc, Holger J. Schünemann MD PhD, Sharon Straus MD MSc, Brett D. Thombs PhD, Rachel Rodin MD, Marcello Tonelli MD SM


Public awareness regarding the importance of disclosing and managing conflicts of interest (COIs) during the development of clinical practice and public health guidelines is growing, owing to recent high-profile news stories within and outside Canada.¹⁻⁹ Despite the existence of guidance on the development of high-quality guidelines,¹⁰ and although a broad range of standards, principles and policies have been developed for mitigating the effects of COIs on guidelines,¹¹⁻¹⁹ specific approaches vary widely among guideline producers. Some organizations take a stricter approach — excluding participants with any COI from guideline development — while others have no publicly available policies to indicate how COIs are managed.²⁰,²¹

We discuss best practices for managing COIs in the development of health guidelines, drawing on the approach articulated by the Guidelines International Network (GIN),¹² as well as on an environmental scan of the Canadian and international landscape, interviews with Canadian guideline developers and feedback received from various stakeholders through a Canadian Institutes of Health Research (CIHR) Best Brains Exchange²² (Appendix 1, available at www.cmaj.ca/lookup/doi/10.1503/cmaj.200651/tab-related-content). We also provide an online toolkit to support the implementation of robust processes for COI management (https://wiki.gccollab.ca/PHAC_Conflict_of_Interest_Toolkit_for_Guideline_Development).

Why is it important to carefully manage COIs in the development of guidelines?

Guidelines are “systematically developed statements to assist practitioner and patient decisions about appropriate health care for specific clinical circumstances.”¹¹ When developed using transparent and rigorous methods, guidelines can help practitioners to deliver care that is consistent with the best available evidence. Guideline development requires judgments about which evidence to include; the certainty of that evidence; the balance of benefits, harms and other desirable and undesirable consequences; and the strength of recommendations.

Conflicts of interest represent situations in which the judgment of an individual may be unduly influenced (consciously or not) by a secondary interest, such as the opportunity to derive personal benefit.¹¹ Although COIs can be financial, they can also be nonfinancial, arising from a competing professional, academic, personal or political role. Not all interests constitute a COI, and an assessment is needed to make this determination.²³ Conflicts of interest can bias recommendations (e.g., overly strong or enthusiastic for a particular intervention) and ultimately be harmful to patients and the health system if biased recommendations are implemented.²¹ Guidelines for which COIs have not been appropriately managed may not be credible to stakeholders, in turn diminishing their impact or reducing confidence in the guideline endeavour.²⁴

The involvement of individuals with content expertise is essential for enhancing the value of guideline recommendations. For example, content experts can provide unique insight into published research, help to identify relevant data or suggest clinically important nuances for interpreting the evidence. However, these individuals may have interests that could lead to COIs. Therefore, guideline development requires striking a balance between the needs to inform the guidance by sufficient expertise and to minimize the impact of COIs. Further, COIs are not restricted to content experts: they may arise for anyone who participates in guideline development, including funders of guidelines, systematic review authors, guideline panel members, patients or their representatives, peer reviewers, and...
researchers who advance scholarship in guideline development methods, dissemination and implementation. Finally, COIs can arise at any stage of guideline production, from topic selection to incorporating comments received during peer review. These considerations highlight the importance of a deliberate and thoughtful approach to avoiding and managing COIs in guideline development.

What approaches have been developed for managing COIs in guideline development?

International approaches
The World Health Organization,23 the National Institute for Health and Care Excellence,25 the United States Preventive Services Task Force26 and the American College of Physicians27 have all recently published literature and organizational policies.12

should be both disclosed and managed, based on a review of the Task Force on Preventive Health Care also recently reviewed its encouraged “the development of other repositories as necessary to that interests were not properly disclosed and managed.28

Santé can be stricken or reversed by legal authorities if it is deemed in fines. Further, decisions and advice from the Haute Autorité de vant interest can be liable for up to 5 years’ imprisonment and €75 000

can arise in primary, secondary and tertiary prevention recommendations.22,36,37

Canadian developments
The Institut national d’excellence en santé et en services sociaux (INESSS) in Quebec recently updated its COI policy, bringing it into alignment with the GIN principles and differentiating between interests and COIs, outlining how interests will be assessed for COI and how COIs will be managed when identified.13 The Canadian Task Force on Preventive Health Care also recently reviewed its policies on COIs to ensure consistency with GIN and has included an assessment of the specific actions taken in response.34

Yearning for a global network of guideline developers to share experience and best practices, and implement the GIN principles (expanded guidance can be found in Appendix 2, available at www.cmaj.ca/lookup/doi/10.1503/cmaj.200651/tab-related-content, and a checklist for GIN principle implementation in Appendix 3 at www.cmaj.ca/lookup/doi/10.1503/cmaj.200651/tab-related-content). Principle 1 states that only “a minority” of panel members should have COIs, without specifying a proportion.12 Developers may feel that a more restrictive threshold (i.e., closer to 0%) will reduce the expertise of the panel, thereby compromising the value of the recommendations. However, if a less-stringent threshold is chosen (i.e., closer to 49%), the panel may have too high a burden of conflict for the guideline to be credible. Developers should also consider that not all COIs are necessarily equal. For example, the presence of just 1 or 2 panelists with substantial financial COIs could unduly compromise the credibility of the panel.

Immediate tasks for each guideline developer will be to define key terms. For example, developers could define financial COIs using thresholds that are more (e.g., any amount of financial relationship) or less (e.g., payments of > $10 000) stringent. Definitions of nonfinancial COIs can encompass a wide range of secondary interests, and overly broad interpretation of such interests as conflicts could make nonfinancial COIs “appear so pervasive that they cannot be avoided but only disclosed.”39,40 Guideline developers should therefore take care to identify factors that differentiate interests from COIs (such as if a reasonable person would consider the interest to unduly influence the individual’s judgment as a member of the guideline panel). Developers may also consider that overly inclusive lists of nonfinancial interests that constitute COIs could inappropriately burden, infringe on the privacy of, or lead to discrimination against those who must fill out disclosures.40 Developers seeking to implement the GIN principles may wish to consult other groups that have established definitions.12,20,21,23,25–27,28

Guideline panel composition
Once key terms have been defined, developers can operationalize and implement the GIN principles (expanded guidance can be found in Appendix 2, available at www.cmaj.ca/lookup/doi/10.1503/cmaj.200651/tab-related-content, and a checklist for GIN principle implementation in Appendix 3 at www.cmaj.ca/lookup/doi/10.1503/cmaj.200651/tab-related-content). Principle 1 states that only “a minority” of panel members should have COIs, without specifying a proportion.12 Developers may feel that a more restrictive threshold (i.e., closer to 0%) will reduce the expertise of the panel, thereby compromising the value of the recommendations. However, if a less-stringent threshold is chosen (i.e., closer to 49%), the panel may have too high a burden of conflict for the guideline to be credible. Developers should also consider that not all COIs are necessarily equal. For example, the presence of just 1 or 2 panelists with substantial financial COIs could unduly compromise the credibility of the panel.

Defining key terms
Immediate tasks for each guideline developer will be to define key terms. For example, developers could define financial COIs using thresholds that are more (e.g., any amount of financial relationship) or less (e.g., payments of > $10 000) stringent. Definitions of nonfinancial COIs can encompass a wide range of secondary interests, and overly broad interpretation of such interests as conflicts could make nonfinancial COIs “appear so pervasive that they cannot be avoided but only disclosed.”39,40 Guideline developers should therefore take care to identify factors that differentiate interests from COIs (such as if a reasonable person would consider the interest to unduly influence the individual’s judgment as a member of the guideline panel). Developers may also consider that overly inclusive lists of nonfinancial interests that constitute COIs could inappropriately burden, infringe on the privacy of, or lead to discrimination against those who must fill out disclosures.40 Developers seeking to implement the GIN principles may wish to consult other groups that have established definitions.12,20,21,23,25–27,28

Guideline panel composition
Once key terms have been defined, developers can operationalize and implement the GIN principles (expanded guidance can be found in Appendix 2, available at www.cmaj.ca/lookup/doi/10.1503/cmaj.200651/tab-related-content, and a checklist for GIN principle implementation in Appendix 3 at www.cmaj.ca/lookup/doi/10.1503/cmaj.200651/tab-related-content). Principle 1 states that only “a minority” of panel members should have COIs, without specifying a proportion.12 Developers may feel that a more restrictive threshold (i.e., closer to 0%) will reduce the expertise of the panel, thereby compromising the value of the recommendations. However, if a less-stringent threshold is chosen (i.e., closer to 49%), the panel may have too high a burden of conflict for the guideline to be credible. Developers should also consider that not all COIs are necessarily equal. For example, the presence of just 1 or 2 panelists with substantial financial COIs could unduly compromise the credibility of the panel.

Defining key terms
Immediate tasks for each guideline developer will be to define key terms. For example, developers could define financial COIs using thresholds that are more (e.g., any amount of financial relationship) or less (e.g., payments of > $10 000) stringent. Definitions of nonfinancial COIs can encompass a wide range of secondary interests, and overly broad interpretation of such interests as conflicts could make nonfinancial COIs “appear so pervasive that they cannot be avoided but only disclosed.”39,40 Guideline developers should therefore take care to identify factors that differentiate interests from COIs (such as if a reasonable person would consider the interest to unduly influence the individual’s judgment as a member of the guideline panel). Developers may also consider that overly inclusive lists of nonfinancial interests that constitute COIs could inappropriately burden, infringe on the privacy of, or lead to discrimination against those who must fill out disclosures.40 Developers seeking to implement the GIN principles may wish to consult other groups that have established definitions.12,20,21,23,25–27,28

Guideline panel composition
Once key terms have been defined, developers can operationalize and implement the GIN principles (expanded guidance can be found in Appendix 2, available at www.cmaj.ca/lookup/doi/10.1503/cmaj.200651/tab-related-content, and a checklist for GIN principle implementation in Appendix 3 at www.cmaj.ca/lookup/doi/10.1503/cmaj.200651/tab-related-content). Principle 1 states that only “a minority” of panel members should have COIs, without specifying a proportion.12 Developers may feel that a more restrictive threshold (i.e., closer to 0%) will reduce the expertise of the panel, thereby compromising the value of the recommendations. However, if a less-stringent threshold is chosen (i.e., closer to 49%), the panel may have too high a burden of conflict for the guideline to be credible. Developers should also consider that not all COIs are necessarily equal. For example, the presence of just 1 or 2 panelists with substantial financial COIs could unduly compromise the credibility of the panel.

Defining key terms
Immediate tasks for each guideline developer will be to define key terms. For example, developers could define financial COIs using thresholds that are more (e.g., any amount of financial relationship) or less (e.g., payments of > $10 000) stringent. Definitions of nonfinancial COIs can encompass a wide range of secondary interests, and overly broad interpretation of such interests as conflicts could make nonfinancial COIs “appear so pervasive that they cannot be avoided but only disclosed.”39,40 Guideline developers should therefore take care to identify factors that differentiate interests from COIs (such as if a reasonable person would consider the interest to unduly influence the individual’s judgment as a member of the guideline panel). Developers may also consider that overly inclusive lists of nonfinancial interests that constitute COIs could inappropriately burden, infringe on the privacy of, or lead to discrimination against those who must fill out disclosures.40 Developers seeking to implement the GIN principles may wish to consult other groups that have established definitions.12,20,21,23,25–27,28

Guideline panel composition
Once key terms have been defined, developers can operationalize and implement the GIN principles (expanded guidance can be found in Appendix 2, available at www.cmaj.ca/lookup/doi/10.1503/cmaj.200651/tab-related-content, and a checklist for GIN principle implementation in Appendix 3 at www.cmaj.ca/lookup/doi/10.1503/cmaj.200651/tab-related-content). Principle 1 states that only “a minority” of panel members should have COIs, without specifying a proportion.12 Developers may feel that a more restrictive threshold (i.e., closer to 0%) will reduce the expertise of the panel, thereby compromising the value of the recommendations. However, if a less-stringent threshold is chosen (i.e., closer to 49%), the panel may have too high a burden of conflict for the guideline to be credible. Developers should also consider that not all COIs are necessarily equal. For example, the presence of just 1 or 2 panelists with substantial financial COIs could unduly compromise the credibility of the panel.
**Table 1: Options for the management of conflict of interests from various organizations**

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Full involvement (disclosure only)</td>
<td>No action other than the process of open declaration — the person can engage in all aspects of the committee’s work. This is usually because nothing is considered to represent a perceived COI, but may in some circumstances be because an open declaration is considered sufficient to mitigate any risk of conflict. Open declaration will usually be sufficient if a financial interest occurred in the last 12 months and is no longer held; for example. In these cases, the potential to benefit has ceased.</td>
<td>Information disclosure only. Member may participate as primary lead,(^{*}) and discuss and vote on the topic.</td>
<td>Not applicable</td>
<td>No action required beyond declaration at the guideline development group meeting and reporting in the published guideline.</td>
</tr>
<tr>
<td>Limited involvement</td>
<td>The person can engage in committee discussion or provide advice (for example, because of their expert knowledge), but is excluded from developing recommendations and decision-making on the matter relating to their declared interest. Involvement may be limited to answering questions from the committee.</td>
<td>• Member may not participate as the primary lead of the topic specific to the conflict, but may serve as a nonprimary lead(^{*}) on the topic workgroup and discuss and vote on the topic.</td>
<td>• Panel members with any form of COI cannot be chairs of the working group.</td>
<td>• The individual with the conflict may be excluded from the formulation of specific recommendations but allowed to participate in all discussions.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Member may not participate as the primary spokesperson for the topic specific to the conflict, but may serve as a nonprimary lead on the topic workgroup and discuss and vote on the topic.</td>
<td>• A co-chair with no COIs can be appointed if a chair with COI is unavoidable.</td>
<td>• The individual with the conflict may be barred from participating in discussions as well as in the formulation of the recommendations. They can be asked to leave the meeting during the development and ratification of any recommendations related to their COI.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Member may not participate as a lead in the topic workgroup specific to conflict, but may discuss and vote on the topic.</td>
<td>• Panel members with a relevant financial COI should not be involved in deciding about the direction or strength of a recommendation. These members should not participate in this phase of guideline development and should be physically absent from the discussion about the direction and strength of the recommendation.</td>
<td></td>
</tr>
<tr>
<td>No involvement (complete exclusion)</td>
<td>The person can have no input to a specific topic, either from the start (nonappointment) or for part of the committee’s work relating to that topic. It may be appropriate in these cases to withhold any confidential meeting papers for that item, especially when the person could benefit from the information.</td>
<td>Member may not participate as a lead on the topic workgroup specific to the conflict, or discuss or vote on the topic. Member will leave the meeting room for all discussion and voting. Member’s recusal will be denoted in the publicly released recommendations.</td>
<td>Not applicable</td>
<td>No participation is allowed — the COI is deemed serious enough to preclude membership in the guideline development group or participation as a contractor for the World Health Organization in a specific guideline development process.</td>
</tr>
</tbody>
</table>

Note: COI = conflict of interest.

\(^{*}\)Each topic team (see US Preventive Services Task Force Procedure Manual Section 1.9) includes the Agency for Healthcare Research and Quality Medical Officer, a Task Force chair or co-vice chair, representatives from the evidence-based practice center conducting the systematic evidence review, and several Task Force members, known as ‘leads.’ One of the Task Force leads serves as the primary lead for that topic.\(^{*}\)

We suggest that the allowable threshold for panel members with COIs should be developed on a group-by-group basis, considering their thresholds for different forms of COI in the context of their panel’s mandate, as well as the following points. First, GIN principle 7 suggests that expert input can be obtained from individuals who are not members of the panel, such as expert advisers. In such cases, the guideline panel could be composed primarily of panelists without COIs who seek input from these advisers to inform
Box 1: Guidelines International Network: principles for disclosure of interests and management of conflicts in guidelines 12

- Principle 1: Guideline developers should make all possible efforts to not include members with direct financial or relevant indirect conflicts of interests (COIs).
- Principle 2: The definition of COI and its management applies to all members of a guideline development group, regardless of the discipline or stakeholders they represent, and this should be determined before a panel is constituted.
- Principle 3: A guideline development group should use standardized forms for disclosure of interests.
- Principle 4: A guideline development group should disclose interests publicly, including all direct financial and indirect COIs, and these should be easily accessible for users of the guideline.
- Principle 5: All members of a guideline development group should declare and update any changes in interests at each meeting of the group and at regular intervals (for example, annually for standing guideline development groups).
- Principle 6: Chairs of guideline development groups should have no direct financial or relevant indirect COIs. When direct or indirect COIs of a chair are unavoidable, a co-chair with no COIs who leads the guideline panel should be appointed.
- Principle 7: Experts with relevant COIs and specific knowledge or expertise may be permitted to participate in discussion of individual topics, but there should be an appropriate balance of opinion among those sought to provide input.
- Principle 8: No member of the guideline development group deciding about the direction or strength of a recommendation should have a direct financial COI.
- Principle 9: An oversight committee should be responsible for developing and implementing rules related to COIs.


their judgments about the relative benefits and harms of an intervention. 41,42 By analogy, a judge ruling on a case of breach of contract for construction services does not need to be an expert in construction standards. Rather, the judge is an expert in jurisprudence who weighs the evidence from both parties, together with input from content experts (e.g., engineers).

Second, to find panellists without COIs, developers might consider broadening their search beyond their usual pool of candidates to include those at earlier career stages, from other clinical areas or even from other disciplines, provided that they have the requisite skills for guideline development; this will also increase the diversity of perspectives in the process. Third, panels may also obtain expert input through consultations, peer review or other external review processes — although disclosures of interests should be completed by all reviewers for panels to consider when interpreting comments.

Fourth, organizations should develop clear policies for how COIs will be managed, so that rules for participating are clear to prospective panellists. The knowledge that receiving financial benefits from an entity may preclude future participation in a guideline panel (see principles 6 and 8) will place the responsibility of accepting such benefits on the prospective panellist. Fifth, once policies are finalized, developers will need to consider the anticipated total number of recusals for discussions on any given topic when selecting panel members. As this can be challenging, an approach that recruits panellists without COIs is preferable.

Establishing procedures

Principle 6 states that the panel chairs must be free of COIs. 12 Principles 7 and 8 indicate that experts and panellists with COIs may be permitted to participate in panel discussions, but that members with financial COIs should be physically absent from discussions “about the direction and strength of the recommendation.” 12 Managing the restrictions of principle 8 will require strong leadership from panel chairs, along with explicit policies to guide how input is sought and incorporated. For example, groups should determine and describe in advance the potential management options when a COI is identified, enabling transparency and consistency in application. 23,25–27

Transparency

Public disclosure of COIs, regular updating of COI information and declaration of interests by panellists are addressed by principles 3, 4 and 5. 12 Implementation of these principles will require the availability of suitable forms for recording secondary interests and decisions regarding COIs and a platform for making this information publicly accessible. Groups should also consider whether they will verify COI declarations, and how they will deal with inaccurate declarations.

The online toolkit (https://wiki.gccollab.ca/PHAC_Conflict_of_Interest_Toolkit_for_Guideline_Development) includes sample forms for collecting COIs. Groups may also consider using or adapting the updated ICMJE forms, or online repositories, as appropriate. 30

Oversight committee

Principle 9 specifies that guideline developers should strike an oversight committee to develop, manage and implement COI policies, including much of the work described above. 12 Oversight committees may be asked to make decisions about how to deal with unique COI situations of various panellists and experts. As with guideline development itself, these decisions will require judgment, which can be facilitated by transparent rules and procedures for identifying and managing COIs.

Although the GIN principles do not explicitly say so, members of oversight committees should be free of COI, and these committees may include independent members drawn from outside the guideline developer’s organization. When an organization developing a guideline depends on industry funding and produces guidelines related to products from industry partners, the oversight committee would ideally be extra-organizational. 43

What tools are available to assist Canadian guideline developers?

At the Best Brains Exchange, participants highlighted the need for national leadership to help Canadian developers improve the disclosure and management of COIs in guidelines. Accordingly, as mentioned earlier, the Public Health Agency of Canada’s Guidance Innovation Hub offers an online toolkit (https://wiki.gccollab.ca/PHAC_Conflict_of_Interest_Toolkit_for_Guideline_Development)
to assist internal and external developers of guidelines in implementing the GIN principles and other best practices for disclosing and managing COIs. In addition to providing sample COI forms, the toolkit highlights resources from various groups that describe how hypothetical financial and nonfinancial COIs might be handled by developers, including a discussion of factors that might be considered when making these judgments.

What important issues have not been addressed by the GIN principles?

Although the GIN principles are an important framework for assessing and managing COIs, they are not exhaustive, and additional challenges remain. The GIN principles do not require sponsoring or funding organizations to disclose their interests and do not address other institutional conflicts of interest, such as funding from industry to universities, but the principles suggest that public and standardized disclosure forms are used that should include such funding, if known.44 Because industry funding is common among Canadian guideline producers, more work will be required on how to ensure that these COIs are appropriately disclosed and managed.43,45 Patient involvement in guidelines, particularly if patient partners receive funding to advocate for their condition, must also be considered. In addition to the potential future expansion of the GIN principles, journal editorial requirements and tools for evaluating guidelines46–48 could both play a role in addressing these gaps. For example, one new tool obtains information directly from guideline group members on whether COIs were managed appropriately during development.46

Conclusion

Conflicts of interest represent a potential threat to the trustworthiness, credibility and utility of guidelines produced in Canada and abroad. The GIN principles represent a rigorous approach to identifying and managing these interests. Although implementation may pose challenges, international and domestic examples suggest that this goal is feasible. Implementing the GIN principles will help to protect the integrity, scientific rigour, transparency and accountability of Canadian guidance.

References

2. Lenzer J. French guidelines are withdrawn after court finds potential bias among authors. BMJ 2011;342:d4007.


36. Funding: No funding was received for the development of this manuscript.

37. This article has been peer reviewed.

38. Content licence: This is an Open Access article distributed in accordance with the terms of the Creative Commons Attribution (CC BY-NC-ND 4.0) licence, which permits use, distribution and reproduction in any medium, provided that the original publication is properly cited, the use is noncom- mercial (i.e., research or educational use), and no modifications or adapta- tions are made. See: https://creativecommons.org/licenses/by-nc-nd/4.0/

39. Disclaimer: Diane Kellsal is a consulting editor, and Navindra Persaud is an associate editor, for CMAJ and were not involved in the editorial decision-making process for this article.

Correspondence to: Gregory Traversy, gregory.traversy@canada.ca

Competing interests: Diane Kellsal was the interim editor-in-chief of CMAJ until October 2019, and is currently editor for CMAJ Open and consulting editor for CMAJ. Gillian Leng is an executive director of the National Institute for Health and Care Excellence, which also has a policy on declaring and managing conflicts of interest, and is the chair of the Guidelines International Network, which provides advice on managing potential conflicts of interest. Brett Thombs, Ainsley Moore and Navindra Persaud are, respectively, chair, vice-chair and a member of the Canadian Task Force on Preventive Healthcare, which develops clinical practice guidelines and also has a policy on declaring and managing conflicts of interest. Navindra Persaud reports receiving research funding from the Canadian Institutes of Health Research, the Ontario SPOR Support Unit, and the Canada Research Chairs program, outside of the submitted work. Holger Schünemann is a member of the GRADE working group and was the lead author on the Guidelines International Network principles for disclosure of interests, and is the corresponding author on the manuscript describing the PANELVIEW instrument. Rachel Rodin and Marcello Tonelli report receiving funding from the Canadian Institutes of Health Research to host the Best Brains Exchange referred to in the article. Elie Akl reports contributing to a number of studies on conflicts of interest. G. Michael Allan reports being an author of guidelines, who has received travel support, honoraria for speaking at conferences, and research support. The supports have been from nonprofit sources. Dr. Allan has received no funding from the pharmaceutical industry. Isabelle Ganache reports receiving personal fees from Institut national d’excellence santé et en services sociaux (INESSS), as director of the Bureau – Methodologies and Ethics (which is responsible for the institutional policy on declaring and managing conflicts of interest), during the conduct of the study. Quinn Grundy reports receiving grants from the Social Science and Humanities Research Council and a Connaught New Research Award from the University of Toronto, outside of the submitted work. No other competing interests were declared.

Contributors: Gregory Traversy, Lianne Barnieh, Rachel Rodin and Marcello Tonelli contributed to the conception and design of the work and writing of the initial draft, as well as reviewing and editing of subsequent drafts. Elie Akl, G. Michael Allan, Melissa Brouwers, Isabelle Ganache, Gordon Guyatt, Quinn Grundy, Diane Kellsal, Gillian Leng, Ainsley Moore, Navindra Persaud, Holger Schünemann, Sharon Straus and Brett Thombs contributed to writing the initial draft, and reviewed and edited subsequent drafts. All of the authors participated in the planning and design of the Best Brains Exchange referred to within the manuscript. All of the authors revised the manuscript critically for important intellectual content, gave final approval of the version to be published and agreed to be accountable for all aspects of the work.

Funding: No funding was received for the development of this manuscript.

Affiliations: Centre for Communicable Diseases and Infection Control (Traversy, Rodin), Public Health Agency of Canada, Ottawa, Ont.; Department of Medicine, University of Calgary (Barnieh, Tonelli), Calgary, Alta.; Department of Internal Medicine (Akl), American University of Beirut, Beirut, Lebanon; Department of Family Medicine (Allan), University of Alberta, Edmonton, Alta.; School of Epidemiology and Public Health (Brouwers), University of Ottawa, Ottawa, Ont.; Institut national d’excellence en santé et en services sociaux (Ganache), Montréal, Que.; Lawrence S. Bloomberg Faculty of Nursing (Grundy), University of Toronto, Toronto, Ont.; Department of Health Research Methods, Evidence and Impact (Guyatt, Schünemann), McMaster University Faculty of Health Sciences, Hamilton, Ont., CMAJ (Kellsal), Ottawa, Ont.; National Institute for Health and Care Excellence (NICE) (Leng), London, UK; Department of Family Medicine (Moore), McMaster University, Hamilton, Ont.; Department of Family and Community Medicine (Persaud) and Li Ka Shing Knowledge Institute (Straus), St. Michael’s Hospital, Toronto, Ont.; Lady Davis Institute and Department of Psychiatry (Thombs), Jewish General Hospital and McGill University, Montréal, Que.; Institut fürEvidence in Medicine (Schünemann), Medical Center & Faculty of Medicine, University of Freiburg, Freiburg, Germany.