Peer reviewer comments

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Article title: Canadian Association of Radiologists Diagnostic Imaging Referral Guidelines: a guideline development protocol

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Reviewer 1: Dr. Roger Ghys, Clinique du sein Bourassa

Comments to the Author

You rightly say in your abstract (and develop the idea in the text) that the CAR Diagnostic Imaging Referral Guidelines published in 2012 should be updated, made freely available and comprehensive: good idea! For this project, in each of the 13 sections (e.g., CNS, thoracic, trauma, etc.) of the Guide, proper methodology should be developed by a number of committees made of radiologists, referring physicians and "patient advisors" who will of course be "supervised" by epidemiologists: another bunch of wise ideas. You INTEND to do all these things, but everything is still a project...
I am sure that many members of the CMA, GP's and specialists alike, shall enjoy having these guidelines at their disposal... when they exist. At this stage, both CAR and CMA certainly should encourage and helps this project. A publication in CMAJ will probably be welcome, when its readers can learn something by reading it, which is not the case presently. I nevertheless take the liberty to make a few remarks to the author which, I think, might improve the future guidelines.

Response: Thanks for your positive feedback and your thoughtful comments.

As the author recognizes (p. 7, l. 46), the 13 sections in Table 1 represent a bunch of different things, which might overlap.

Response: There is definitely overlap within these sections. As we've been working with the first several Expert Panels we are cognisant of this overlap. To address this, we point to other scenarios in other sections and even within sections and will continue to do so as more guidelines are developed. This is common practice and was done is 2012. Overlap and/or related scenarios will also be highlighted once integrated into a Clinical Decision Support system.

On page 13, l. 7 -25, you state that -1) "the future results shall be published in English?"and -2) you will limit the search to guidelines published in the last 5 years.

1) At the very end of 1895, a physicist, Wilhelm Röntgen, published a paper "Über eine neue Arte von Shtrahlen" ("about a new kind of rays"), which won him the 1st Nobel prize in Physics (1901) and, by making an X-ray of one of his wife's hands, he "invented" radiology. Within 2 months, distinguished physicians, all over the Western world, had become "radiologists"... because they could read German. I am fluent in English and French, I can read and understand a medical paper written in Dutch, German or Spanish: presently, I am now an exception: English has become the language of science. If and when

(most probably not before 2023) the planned guidelines are published in CMAJ, in our “bilingual” country, they shall have to be translated n French: do not worry, the CMA will make an excellent job!

2) I am more concerned by your decision to limit reading the literature to guidelines published before 2018 (to replace guidelines which came out in 2012, while keeping the division to the original 13 sections). I understand there are limits to what can be done. But is everything published more than 5 years ago so bad or outdated that it should be ignored?

Response: Thanks for this information, very interesting! Once these guidelines are published in English (on the CAR website, not in CMAJ), they will be translated into French as well. We want to make sure these guidelines are use throughout Canada, not just in the English-speaking parts. As far as the search dates go, we chose 5 years for feasibility. We are a small team of epidemiologists and have several scoping reviews to perform and guidelines to prepare in a relatively short period of time. We are certain that the included guidelines have used evidence from primary studies well beyond 5 years ago. In fact, during our scoping reviews so far, we have excluded relevant guidelines performed in 2016 and 2017, as they have already been updated by the guideline group in 2020 and 2021. For those who can read other languages, we are providing a list in each section of which records were excluded due to language of publication. As we did not translate these documents, we cannot confirm if they would have been included (i.e., met our inclusion criteria), but an interested reader could access these if required.

Reviewer 2: Dr. Anshula Ambasta, The University of British Columbia

Comments to the Author

In this manuscript the authors describe the proposed methodology for development of updated (previously created in 2012) Canadian Association of Radiology (CAR) diagnostic imaging referral guidelines. There will be an expert panel for each of the 13 sections, with each panel including radiologists, referring clinicians, patient advisors and epidemiologists. Using systematic rapid evidence reviews, each expert panel will attempt to develop recommendations for each clinical/diagnostic scenario, grade them and contextualize them to the Canadian healthcare system. The rationale for why these guidelines are needed is well-stated.

Response: Thank you for your thoughtful feedback. We have addressed your comments below.

Major comments:
-Although the rationale for why the guidelines need to be updated is well-stated, it is not clear why an update to the methodology (and hence description of this new methodology) was needed. A more explicit rationale for why a new methodology was needed since 2012 will help strengthen the narrative.

Response: I have responded to a similar question above, but in case you do not get access to these other responses I will paste here. We decided to undertake this overhaul of the recommendations for several reasons: (1) They are over 10 years old; (2) We wanted to use a more robust, systematic methodology using the contextualization concepts of GRADE (which wasn't used in 2012); (3) We wanted to ensure the involvement of referring clinicians (e.g., physicians, nurse practitioners) in the guideline development process, as they are the primary users of these recommendations; and (4) We wanted to create recommendations that were written and structured for entry into CDS systems. We have modified the introduction to include these details (page 5).

-Under Methods (Page 7), 'recruitment of expert panel': It is important to define how an 'expert' was defined and who was qualified to enter the panel. What were the clinical/research/skill-sets unique to

the experts in the study, and how might that be different for each section? Also, the process of recruitment needs to be better described. What systematic efforts were made to advertise and recruit expert members broadly and transparently across Canada (websites, social media, conferences etc. What efforts will be made to ensure broad representation from referring doctors in different disciplines, practice settings etc.?

Response: Due to word count restrictions, we have added an appendix with further details (Appendix 1, page 23-24).

-Under Methods (Page 8), the authors state that they will use the CAR's existing COI policy to manage any COI. Given the nature of the study, I think it will be important to spell out what the policy is, and how that will be used to ensure the resultant recommendations are free from conflict.

Response: Our COI policy aligns with the tri-council agencies COI policy. We have chosen not to provide additional information around this in the manuscript, as how COIs are handle may differ depending on the COI itself.

-Under Methods (Page 8), 'Revise and restructure list of clinical/diagnostic scenarios': it is not clear how the initial scenarios were arrived at, nor is it clear the criteria that will be used to revise these scenarios. What will happen if members disagree on which scenarios should be included or how they are worded. More information is needed on the foundational criteria that will be used to guide scenario development and selection.

Response: We have described it as "…revise and restructure the clinical/diagnostic scenarios that were included in the 2012 CAR recommendations." We have also added some additional text for clarity "The list is finalized once consensus is reached. Once the formulation of recommendation begins, there may be slight modifications to this list (e.g., for clarity, for clinical reasons)." (page 9)

-Even though there is mention of inclusion of a patient and family advisor in the working group, it is not clear if and how patient values and preferences will be integrated into grading and development of recommendations. How will the voice of the patient representative (and existing literature on patient values) systematically be used to reflect patient values and preferences?

Response: The patient advisor is an active member of the Expert Panel, attends all meetings, participates in the revision and restructure of the scenarios, helps with wording of the recommendations, reviews and provides feedback on all versions of the guideline. Their role is to provide the patient perspective in terms of understand the terminology and discussion the patient and family advisor perspective. I have added some text around this in Appendix 1 with the information of the Expert Panel recruitment. Additionally, EP members are provided with a presentation (and supplementary GRADE material) around the contextualization of the recommendations (e.g., value and preferences, cost, equity, accessibility). The guideline methodologist ensures these are considered during the discussions when the recommendations are formulated. We recognized that although there is a lot of literature published in the area of patient involvement, this is not always easy to implement.

-Under Methods 'Development of Recommendation's page 13, the authors state that 'for clinical/diagnostic scenarios that do not have included guidelines, EP members will formulate recommendations through discussion and consensus': The manuscript will be strengthened if the authors can state better how the EP groups will include critical appraisal of primary data (in addition to

critical appraisal of existing guidelines) to help with developing recommendations. Although for the rapid reviews the unit of inclusion are existing guidelines, if there are no existing applicable recommendations, or if existing guidelines are divergent, will the EP members engage in direct appraisal of primary data to make recommendations?

Response: No, for feasibility, there will not be a formal undertaking of identifying primary evidence and performing critical appraisal. Although these recommendations can be considered "less certain", this is a common practice in guideline development where there is a lack of evidence or a lack of good evidence. We consider this to be the same as providing a "Good Practice" statement or a level 5 on the OCEMB level of evidence (i.e., mechanism-based reasoning).

-Under Methods 'Peer Review' page 15, what methods will be used to identify the external stakeholders relevant to each guideline and what groups will they represent (patients, hospital administrators, clinicians etc.)

Response: We have made edits to this section as follows "Once WG feedback is incorporated into the guideline, EP members will nominate additional external stakeholders (e.g., referring physicians) to approach for external peer-review and will be invited via email." (page 17)

Minor comments:

-Figure 1, box titled Meeting # 1, 'Introduce EP membes' typo: please correct to members -Although it is mentioned that the recommendations will be configured to optimize integration into CDS systems, it is not clear when or how that configuration will occur

Response: Thanks for catching this, it didn't show up as a spelling error. It has now been fixed (page 8).