Author’s response to reviews

Title: The effectiveness of guideline implementation strategies in the dental setting: A systematic review

Authors:
Amy Villarosa (amy.villarosa@westernsydney.edu.au)
Della Maneze (della.maneze@health.nsw.gov.au)
Lucie Ramjan (l.ramjan@westernsydney.edu.au)
Ravi Srinivas (ravi.srinivas@health.nsw.gov.au)
Michelle Camilleri (michelle.camilleri@health.nsw.gov.au)
Ajesh George (a.george@westernsydney.edu.au)

Version: 1 Date: 01 Nov 2019

Author’s response to reviews:

Dear Paul Wilson & Michel Wensig,

Editors in Chief, Implementation Science

Thank you for providing us the opportunity to revise our manuscript for Implementation Science. Below is an outline of how we addressed the comments from the reviewers. The amended sections have been highlighted in the revised manuscript.

Reviewer 1

Comment 1

It wasn't completely clear to me why they excluded papers that had "guideline dissemination as part of the intervention” in line 113 by stating that the comparison group had not been exposed to the guidelines. Are they trying to say that there are papers where some practitioners were unaware of the guidelines and so couldn't implement them for patients? Are they saying the intervention took place before guidelines existed so it wasn't a fair comparison? Please clarify

Response 1

This exclusion criterion has been clarified by rewording it to the following: “Involved guideline dissemination as part of the intervention, meaning the comparison group or participants at
baseline would not be aware of the guidelines to be able to implement them into practice.” (See Table 1)

Comment 2

On line 117, they excluded “participants with another medical specialization related to the mouth but not considered a dental practitioner.” Does this mean they excluded any paper with an author who wasn't a dental practitioner or that they excluded papers where the setting of patient care/intervention was a non-dental specialist?

Response 2

For clarity, this criterion has been revised to state “Included participants that follow oral or dental-related guidelines but are not a dental practitioner, for example an ear, nose and throat surgeon or a nurse providing oral care” (See Table 1)

Comment 3

For their search strategy, they describe using the word "dentist" but did they also include "dental" or "dent*" as a way to ensure complete capture of relevant articles?

Response 3

Variations to the key word “dentist” such as “dental” and “dentist*” were used in the search strategy, as can be seen in Additional File 2. However, following consultation with a librarian, it was decided to not use the term dent*, as it was too broad and resulted in the use of key words such as “dentin”, “dentition”, and “dentate” which were not relevant to the study. Despite this, the use of the “dentists” medical subject heading in addition to these search terms should have helped to ensure a complete capture of relevant articles.

Comment 4

They describe assessment of study quality by one reviewer and then review by a second author. Does this mean that the second author saw the first author's review before conducting his/her own review? If so, please explain why they chose not to have two independent reviews that could then be compared, rather than risking bias by letting reviewer 2 see reviewer 1’s thoughts.

Response 4

We have clarified the quality assessment process undertaken by rewording this section to state the following, “This was initially performed by the first author, and then independently reviewed by a second author (LR or DM). In the instance of any discrepancies in assessment, a third
Comment 5

On line 190, they mention weaknesses of the RCT's include lack of blinding. Please comment on whether blinding was feasible in those circumstances.

Response 5

Thank you for this suggestion. A comment on the feasibility of blinding has been added as follows: “This was expected due to the nature of the interventions making blinding difficult and unfeasible at times. Despite this, one RCT was able to implement a study design that permitted blinding.” See page 10 lines 222-224.

Comment 6

One useful point would be to know whether the interventions in their included articles were implemented with reasonable fidelity. Did any of the papers evaluate fidelity? If so, please include this information in the summaries of study outcomes.

Response 6

Thank you for this suggestion. However, none of the included studies explored intervention fidelity, and thus these outcomes could not be included in our review.

Reviewer 2

Background

Comment 1

Paragraph #2 - considerable research has evaluated practice according to guideline recommendations (i.e. many national-level/population-based studies in Australia and elsewhere) and identified the determinants of guideline implementation and use (i.e. Flottorp et al.) - this paragraph does not thoroughly recognize the depth and breadth of prior research

Response 1

Thank you for this suggestion and article recommendation. This paragraph has been revised to highlight the breadth and depth of prior research regarding the determinants of guideline implementation and use, referencing several additional studies in this area. (See page 4, lines 69-78)
Comment 2

Suggest that, before specifying an aim related to implementation, that implementation be defined and described somewhere in the Background.

Response 2

Thank you for highlighting this. We have added a definition for implementation to the background (page 4, lines 68-69).

Comment 3

The purpose statement (last sentence) is somewhat unclear and the wording could be more specific; for example: were the authors interested in identifying guideline implementation strategies for improving dental practitioners' adherence to them (meaning dentist adherence to guidelines on any topic, not just dental guidelines), or in identifying implementation strategies effective for changing/improving adherence to dental guidelines? And were the authors interested in only adherence (meaning behaviour change) or in any impact, for example, attitudes, knowledge, self-efficacy, patient satisfaction or experience or other patient-important outcomes, or clinical outcomes?

Response 3

Our review aimed to identify guideline implementation strategies that were effective in improving dental practitioners’ adherence to any clinical guidelines. We have reworded the purpose statement to add detail on the specific aims of the project – please see page 5, lines 94-98.

Methods

Comment 4

Suggest adding a preliminary section labelled Research Design or Approach. To it, add the first sentence under Searches along with other general details justifying and pertaining to the design chosen; for example, why a systematic review rather than any other type of review, and according to what methods (since PRISMA pertains to reporting criteria and not methods). In that section, also describe the expertise on the research team who took part in the systematic review.

Response 4

Thank you for this recommendation. We have inserted a “Research Design” section including the requested information. See page 5, lines 100-106.
Comment 5

Were the searches executed from October 2018 to April 2019, or were the databases searched for this time period; probably the former, so specify the timeframe for the searches (i.e. from inception, from 2000 onwards, and justify the timeframe chosen). Under Study inclusion/exclusion, the authors state that articles were included up to Apr 7, 2019, but it is not clear if they mean the databases were searched from inception to that date.

Response 5

We have clarified the timeframe of the searches by modifying the first sentence of inclusion and exclusion criteria to “All articles that were relevant to the study aims and published in the searched databases from inception up to the 7th of April 2019 were eligible for inclusion in this review” (see page 6, lines 119-120).

Comment 6

Were searches conducted according to the PRESS checklist for reporting of searches for systematic reviews?

Response 6

Thank you for this suggestion. Although we did not conduct the search according to the PRESS checklist, we have retrospectively applied this checklist to our search strategy. This has been added as an additional file and referenced on page 5, lines 115-117.

Comment 7

Suggest the authors use the PICO framework to articulate the eligibility criteria in greater detail; many of the details under the "Terminology" section pertain to P (population/participants) and I (intervention). Also specify what types of primary study designs were included/excluded.

Response 7

Thank you for this suggestion. We have added the requested detail and presented the inclusion and exclusion criteria in a table according to the PICO framework – see page 6, lines 120-126 and Table 1 for all changes.

Comment 8

A section on screening is lacking to identify who screened and how screening was performed, if a pilot test was performed, etc. There is one sentence about who assessed study eligibility under
"Data extraction strategy", which could perhaps pertain to full-text screening? Suggest title/abstract screening and full-text screening be addressed in a section before data extraction.

Response 8

We have added an additional section prior to the data extraction strategy section, titled “Screening” where the title, abstract and full text screening process is described in further detail. See page 7, lines 150-156.

Comment 9

Many systematic reviews, even Cochrane systematic reviews, include 15 or fewer studies so it is unclear why the authors say that due to the small number of studies, they opted for qualitative synthesis. It is also unclear what they mean by qualitative synthesis, since the Results are reported as is typical for a systematic review. A qualitative synthesis generally means that data are extracted from qualitative studies (these authors included RCTs) or that a qualitative content analysis was performed (that does not seem to have been done here).

Response 9

Although there were 15 included studies, the included interventions were very heterogeneous (e.g. audit and feedback vs education), and thus if results were to be pooled, they would have to be pooled according to type of intervention. However, there were only a small number of studies within each intervention category, and as such, meta-analysis was deemed inappropriate. This section has been re-worded for clarification (see page 8, lines 164-166).

Comment 10

More detail is needed about who categorized studies according to EPOC, how they did so, and why EPOC was chosen over any other taxonomy of interventions such as ERIC.

Response 10

Further detail has been added regarding the categorization of studies according to EPOC. In addition, further justification regarding the choice to use the EPOC taxonomy has been included in the data synthesis section. See page 8, lines 168-179.

Comment 11

Suggest that to truly describe and compare the characteristics of strategies, the authors describe the implementation approaches using a scheme specific to behavioural interventions such as Albrecht's WIDER criteria, and then describe those characteristics in the Results.
Response 11

Thank you for this suggestion, however the included papers lack sufficient detail to apply a scheme such as the WIDER criteria, namely in the criteria of Clarification of Assumed Change Process and Design Principles, and Access to Intervention Manuals/Protocols.

Results

Comment 12

Suggest breaking up the results into sections typical of systematic reviews: first section Search Results, specify the reasons for full-text exclusions, and refer to the PRISMA diagram; next section Study Characteristics (i.e. publication dates, research design, country of first author) for included studies

Response 12

These additional sections have been added and the recommended detail has been included. See page 9, lines 190-214.

Comment 13

Suggest that number of studies by type of implementation strategy (currently included in first paragraph of Results) be included in subsequent corresponding sections

Response 13

The suggested statements have already been included at the beginning of each subsequent section (see page 10 lines 231-234, page 11, lines 236-237, 247-248 and 259-260, page 12 lines 270-271, 279-280 and 285-286)

Comment 14

Suggest reporting any qualitative assessment that was conducted and reported along with RCT results, as well as determinants (enablers, barriers) of guideline implementation and use, as well as any harms or unintended outcomes

Response 14

Thank you for this suggestion. As most studies did not include qualitative assessment/determinants as part of their results, we believe a specific review in this area would be required to gain any meaningful data. As this is beyond the scope of this review, the authors have decided not to report this information.
Comment 15

Apart from Table 1, in which all data were extracted, include another table to further summarize the data; for example, it could relate type of implementation intervention to type of outcome and whether outcomes were positive or not as a way to help the reader digest the findings.

Response 15

We have included another table which summarises the outcomes of each study according to category of implementation strategy. See Table 3.

Comment 16

The Results section concludes very abruptly; suggest the authors perhaps summarize the findings in a model or figure, and include a higher-level interpretation that could compare interventions and outcomes by guideline topic, which interventions achieved better outcomes/effect size, compare single versus multi-faceted, etc.

Response 16

Thank you for this suggestion. An additional figure has been added to summarise the review findings, and a higher-level interpretation has been included to accompany this figure. See page 14, lines 317-325, and Figure 2.

Comment 17

First paragraph reports that of 15 studies, 13 examined single interventions and 6 examined multifaceted interventions - shouldn't these be mutually exclusive?

Response 17

These classifications were not necessarily mutually exclusive, as some studies used a three-arm design with a control group, single intervention group and multifaceted intervention group. As such they were categorised into multiple categories. A statement clarifying this has already been included on page 10 lines 211-213, but for clarity has been reworded to state, “Three studies were classified into multiple categories, as they included both multifaceted and single intervention arms”.

Comment 18

Additional limitations: may not have identified all relevant studies; studies were largely published in the UK and US so unclear if the findings are transferrable to other settings, studies were relatively few (the authors specify "16 included studies" here rather than 15)
Response 18

Thank you for these suggestions. We have added the additional limitations to the discussion, and amended the erroneous number. See page 18, lines 422-426.

Comment 19

Much of the Discussion is a re-iteration of the Results rather than comparing the findings to reviews of guideline implementation on non-dentistry topics, and commenting on how the findings of this review can be applied, plus avenues for ongoing research.

Response 19

Thank you for this comment. We have reframed the discussion to include more comparison to other reviews, and commentary on the application of this research. See pages 14-18, lines 338-414.

Kind regards,

Amy Villarosa

Centre for Oral Health Outcomes & Research Translation (COHORT)
School of Nursing & Midwifery, Western Sydney University
South Western Sydney Local Health District, Ingham Institute Applied Medical Research