Author’s response to reviews

Title: Barriers and facilitators to the successful development, implementation and evaluation of care bundles in acute care in hospital: a scoping review

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Reviewer’s response to reviews:

Reviewer reports:

Reviewer #1: This was a thoroughly well written paper, describing a well conducted study in an area of interest to people considering implementing care bundles, and beyond that to people implementing change in health services. I have only one very minor comment.

1. I think that the introduction needs a definition of a care bundle which distinguishes it from (or links it to) other types of intervention to change services. This is important for two reasons: a) to make the article accessible to the readership who might not know of this type of intervention and b) because the important points about intervention description and taxonomies is important whether the intervention is a care bundle or other. It would be good if that point can be made clear in the introduction, so that readers not involved in 'care bundles' per se would still be drawn to read the paper.

Thank you, this has been added to the "Background" section: lines 113-119

A bundle was defined as “A small set of evidence-based interventions for a defined patient segment/population and care setting that, when implemented together, will result in significantly better outcomes than when implemented individually”. The ventilator and central line bundles were the first two to be introduced. The guidelines for design of each bundle were comprehensive, stating that bundles should only contain three to five interventions with strong clinical agreement so that implementation would not lead to time lost debating over their validity.
2. A very minor editorial point is that the figures don't appear to have axis labels or titles (which might be a function of the pdf builder).

Labels are added to the figure legends after references, I hope that is correct.

Reviewer #2: It has been interesting to read the article, the focus seems justified and important to understand how care bundles can be designed and implemented in acute care settings generally. It is useful to note that a gap is the limited patient involvement in care bundle design and implementation. My expertise is not in quantitative research nor care bundles as a topic so I do not provide comment on the quantitative aspects of the paper nor the topic. Another reviewer will need to provide comment on those elements of the paper.

My main suggestions on the article to be addressed prior to acceptance are:

1. The title would suggest to me that qualitative studies would have been included and discussed in the review as they often capture in greater richness what helps and hinders the process of the design and implementation of evidence-based interventions. They are not included so could emphasise that this takes a quantitative perspective (compliance and complexity of the implementation strategy) and provide a stronger rationale as to why chosen this approach to understanding the research activity in this area and potential gaps to be addressed. You might also want to revisit whether you address all the review questions posed in this paper as noted on p6.

   Thank you, I have added "qualitative" in line 62 in the "Results" section of the abstract and again clarified this in the "Methods" section lines 153-155:

   Both quantitative and qualitative papers were included in the search strategy but this paper will only report on quantitative studies. The qualitative studies will be reported elsewhere

   I have removed question three at the end of the "Background" section.

   "What methods are used to evaluate the implementation and outcomes of care bundles?"

2. The description and rationale for the method of review chosen. In particular the type of review undertaken and revisiting what type of review this is and strengthen the rationale for choosing a scoping review, particularly as the protocol suggests a systematic review. Further guidance on scoping reviews has been published since Arksey and O'Malley notably the Joanna Briggs Institute scoping review guidance in 2017 and Tricco et al published a PRISMA extension for scoping reviews in 2018 (references noted below for information). I would refer to these and the following article by Grant and Booth A typology of reviews: an analysis of 14 review types and associated methodologies.Health Info Libr J. 2009 Jun;26(2):91-108. doi: 10.1111/j.1471-1842.2009.00848.x.
Thank you, I have added in the "Background" in lines 133-139:

This review is the first to specifically look at all care bundles implemented in the acute care setting and to attempt to delineate what factors affect their successful adoption. Given the heterogeneity of published studies as regards both methods and clinical area, a scoping review (rather than systematic review) was the preferred choice. The aim was to summarise a large body of existing literature, through assessment of studies that describe the design, implementation and evaluation of care bundles in a variety of settings to address the following research questions.

Joanne Briggs Guidance:


PRISMA ScR Checklist:


3. Was screening done by two reviewers or just one? Greater rigour if two so worth commenting on this in the limitations section.

Thank you, unfortunately one one person screened the results and this has been noted in the limitations in lines 490-492:

For practical reasons screening was only undertaken by one reviewer, given number of papers identified. Citation and reference searches were also carried out on all papers included.

4. p9. Lines 217-8 could be clearer about how you treated strategies if there was more than one in a study as not sure what you did from this description.
Thank you, I have added an example for explanation in lines 220-222:

Where a study used more than one strategy in a particular category, the category was listed once, i.e. if a paper listed different forms of clinician reminders such as posters, internet alerts and case notes reminders, this was only listed once for that paper.

5. In the results it would be useful to report the countries the studies were undertaken.

Thank you, I have added this to the study characteristics in lines 267-271:

All but two studies were conducted in a single country, one was part of a worldwide study and another focused on five Asian countries (China, India, S. Korea, Singapore and Taiwan). 18 countries were reported studies and included Australia, Brazil, Canada, China, Denmark, Germany, India, Ireland, Italy, Japan, Netherlands, S. Korea, Singapore, Thailand, UK and USA. The USA was the most commonly represented country (48 studies).

6. P17-18 There is the StraRI checklist for reporting which aims to help improve the reporting of implementation strategies in studies which could refer to in the discussion.

Thank you and have added and referenced this paper in the Implementation reporting section of the discussion in lines 445-448:

The Standards for Reporting Implementation Studies (StaRI) Statement further highlights this need and has developed a 27 item checklist to improve the dissemination, implementation and scaling up of interventions. (38)

7. A scoping review is about understanding further research activity in an area, identifying gaps in knowledge and potential systematic reviews which you could attend to more in the paper and conclusions - the references above may help thinking further on this in relation to care bundles.

Thank you, I have added to the "Conclusion" section lines 524-526:

If reporting of implementation improves and compliance correctly reported, future research may help to further elucidate which implementation strategies are most effective for successful care bundle adoption.

Thank you again for your comments and I hope it answers your queries correctly.