Author's response to reviews

Title: The sustainability of new programs and innovations: A review of the empirical literature and recommendations for future research

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Author's response to reviews: see over
Dear Dr. Kent,

We appreciate the careful and thoughtful review of our submission, “The sustainability of new programs and interventions: A review of methods and findings”. We have reflected on the reviewer feedback and it has shaped our revision substantially. Before we address specific reviewer feedback, we would like to note that based on Reviewer 1 & 2’s comments, we conducted a more extensive search of the conceptual literature and were able to find an additional review article (Gruen, et al., 2008). This paper included a number of studies of programs in developing countries that we have now included in our review. We also decided that since we were updating the review, we would search for papers that had been published at the end of 2010 but that may not have yet been indexed in databases when we concluded our search, as well as papers that had come out in 2011. We were able to find 25 papers that had been published or were in press thus far in 2011. By including these papers as well as those cited in the Gruen review, and through a search of the reference sections of each for any additional articles, we have doubled the number of papers included our review and updated our findings and discussion. We believe that the addition of these studies will allow for an even more accurate reflection of the current state of the literature.

Please note that we have also consolidated and shifted much of the discussion from the introduction of the previous submission to the discussion under a new heading, “Recommendations for advancing the empirical literature”. We have changed our title to “The sustainability of new programs and innovations: A review of the empirical literature and recommendations for future research” to reflect this change as well.

Below, we address each of the specific reviewer comments. We have included the reviewer comments above our bullet-pointed responses. Because our revision was quite substantial, the “track changes” function made the manuscript very difficult to read, so we have instead included page numbers in each of our responses.

Reviewer 1

*Major compulsory revisions*

How many “individuals who study implementation or sustainability” were asked to share additional articles that had not been found through the search strategy?

How many extra articles did this locate?

- Four individuals who study implementation or sustainability were asked to share additional articles that they were aware of and this yielded about nine additional studies of interest. This has been added to the partial paragraph at the top of page 8.

- Over what publication period was the ‘hand searches’ of key journals in which studies on sustainability had been published conducted?
  - We now note on page 7 that we searched journals from 1980-2011 (we chose 1980 because it was the year that the earliest study we found on sustainability was published).

- Why were the search terms used whole words? Would truncating and adding wildcards (e.g. ‘sustai*’, ‘routini*’, ‘institutionali*’ etc.) not have been more appropriate, so that studies pertaining to
‘sustainment’, ‘routinizing’, ‘how to institutionalize’ etc. would also have been picked up? (Relatedly, this is an international field, and so searching for e.g. ‘routinization’ will have missed studies in British English relating to ‘routinisation’.)

- The suggested terms and similar terms were applied to our original literature search (although we did fail to mention this) and we have now made this clear in our methods section on page 7.

Minor essential revisions
I think it would be very helpful if the authors were clearer from the start about the range of issues relating to sustainability that they are considering in reviewing the literature. This can be very easily addressed, for example through a clear list of questions to be addressed in one of the early sections of the paper.

- We appreciate this suggestion and have now included a list of our questions on page 6 and 7.

Discretionary revisions
In figure 2, would it not make more sense to present levels of sustainability in the order ‘partial, low, full’ rather than ‘low, partial, full’?

- We have made this suggested change in Figure 2.

Although once disaggregated in this way, the numbers are quite small and so inferences should be cautious, there are some interesting contrasts between the factors identified as being associated with sustainment in the three fields covered. These are touched on in the ‘Discussion’ section but might also be covered more explicitly in the ‘Results’ section.

- We now discuss some of the variation in findings on pages 13-14.

They also mention (though perhaps slightly belatedly) in the ‘Discussion’ section that sustainability may not equate to fidelity to the innovation as originally envisaged, as there may be need for ongoing adaptation. I would be minded to make these points more explicitly earlier on in the paper, acknowledging that attempts to positivistically define sustainment are contentious, and sustainability is not something that can be viewed as a binary state.

- We agree with Reviewers 1 and 2 on this point and have acknowledged the differing viewpoints regarding modification and fidelity in the first full paragraph on page 5. We do agree that it is important to recognize that sustainability is not a static state that can be measured at a single timepoint, although most of the studies we reviewed did just that. As our primary goals for this particular paper were to review the research literature on sustainability and to make recommendations for future research, we have presented these approaches and findings, but we reflect on the importance of conducting research that can shed light on sustainability as a dynamic process.

Reviewer 2

Abstract: “more conceptually-driven research” – not clear what this means… I would argue that this paper is weak on the conceptual stuff

- We have clarified in the abstract that future research should be informed by conceptualizations and models of sustainability. We note on page 6 that our goal for this project was to examine how sustainability has been studied thus far and to summarize the conclusions that have been drawn to date to the best of our ability given the state of the current literature. Thus, a full
consideration of existing models and conceptualizations of sustainability is beyond the scope of the current paper. However, we do appreciate both Reviewer 2 and 3’s suggestions that we present more of a discussion of sustainability and its study and that the discussion include our own views and conclusions. We have done so in the discussion section of the paper, and our ongoing review of the conceptual literature has informed this discussion.

“Sustainability must be treated as a distinct outcome” – I would say this kind of language is part of the problem, not part of the solution. I’d suggest that sustainability sits in tension with adaptation and embedding, and therein lies the key research agenda!...The whole of this introduction suggests that the optimal achievement is for an intervention to be maintained without adaptation. This is not what the background literature suggests is necessarily the case. I challenge these authors to defend themselves against the charge of ‘logic model bias’.

• As mentioned in our response to Reviewer 1, we now discuss the differing views on sustainability on page 5. While in our original submission, we acknowledged the importance of adaptation (and the need to understand how it impacts sustainability and the program or intervention’s desired outcomes c.f., page 20-22), we agree that the introduction was perhaps shaped primarily by the way we think about health care interventions that require implementation with fidelity. In addition to the changes noted in our second response to Reviewer 1’s discretionary revisions, we have revised our introduction and discussion sections to reflect a broader perspective that takes the implementation of other types of programs and interventions into account.

Top of page 8 – referring to ‘factors’ and suggesting that each of these factors needs looking at. My reading of the wider sustainability literature is that it’s moving from a rather static focus on ‘factors’ (which was certainly where the interest was a few years back) towards a much more dynamic study of how different influences interact with one another and change over time, and also towards studying the things which are difficult to report (such as local micropolitics)..... The findings seem to skirt round all the things we know in our bones are important in sustainability, such as relationships, energy, commitment, goodwill, values etc. I wonder why that was – must be an artefact of the research approach in both the primary studies in their dataset and then in their method of analysis.

• Our goal for this review was to survey the empirical literature to determine how sustainability has been studied thus far. Our findings indicate that to date in the empirical literature, relatively little explicit consideration has been given to interactions between factors associated with sustainability. Many of the studies that we reviewed were conducted several years ago when the focus on factors was more prevalent. Thus, a number of them did present their findings in terms of factors and characteristics—although others did highlight “processes” that can be viewed as interactions between different influences and/or some of the things mentioned in this review (e.g., collaborative relationships/partnerships). We agree that authors of some more recent articles acknowledge the importance of studying the ways in which influences interact and we look forward to seeing more research that sheds light on these phenomenon. (It is worth noting, however, that in a new paper Scheirer and Dearing also discuss some disadvantages of a “process” definition of sustainability). We have shifted our discussion from a consideration of “factors” (which were identified in a number of the quantitative studies we reviewed) to a discussion of influences, which we believe is a more appropriate term. We have augmented the discussion from our previous submission on the need to understand the way
that these influences interact and shape interventions and programs over time (c.f., p. 23-24). We also acknowledge some of the limitations of the research methods employed to date in terms of its ability to capture the processes and influences that the reviewer describes above on page 23-24.

Page 10 – literature review search strategy seems to have been good for identifying empirical studies on sustainability and related concepts, but they didn’t describe how they identified the theoretical literature in the background section.

- The focus was primarily on the empirical studies because for this paper we wanted to examine how sustainability has been studied in the empirical literature. However, for this and other work that we have in process, we have been using similar methods to identify theoretical literature. We appreciated the reviewer’s comments as they prompted us to complete another search for conceptual papers and reviews, which we have discussed above.

Page 13 – an old bugbear of mine: high inter-rater agreement doesn’t mean the codings are correct, merely that both ‘independent’ assessors approached the literature with the same assumptions. But again, I recognise that this ‘objective’ approach is absolutely de rigeur for Imp Science so is ‘in paradigm’.

- We have updated and retained our report of inter-rater agreement, given that it is ‘in paradigm’ for systematic reviews.

Page 13 – please don’t express proportions in percentages when the denominator is less than 100. It conveys a spurious level of accuracy and is bad Latin. So 5% of 61 is how many studies? Easier to say three, surely?

- Because we expanded our search to include 2011 papers, and also included the papers that were found in the review mentioned above, we now have over 100 papers. We report on percentages of the full sample when appropriate but report numbers of studies when our denominator is below 100.

Page 15 “Only ten studies reported on the quality or level of fidelity of implementation, and only eight of these used a form of independent observation and assessment to evaluate sustainability outcomes.” This seems to me to be the nugget in this paper. … I would reflect on this finding, dig out more detail on it, and expand discussion on it.

- We appreciate this suggestion, as we do believe that this is an important finding to highlight. We have discussed fidelity in greater detail on pages 20-22 in the context of a discussion on when fidelity vs. adaptation is appropriate or necessary.

Page 17 “Several of our findings were surprising. First, given the emphasis on implementation in the fields of health care and mental health, relatively few studies in these areas examined sustainability.” It reads as odd that they found it surprising since they begin by citing my own team from 2004 observing that hardly anyone studies sustainability!

- In part because your seminal review indicated a dearth of research in this area, we would have expected to see a greater consideration of sustainability in the literature by now. However, given the large number of papers published in the first half of 2011 alone, it appears that the study of sustainability is in fact increasing. We have thus removed our expression of surprise.
An arguable omission in the whole paper – the link between sustainability of a programme and sustainability as in the ‘green agenda’. See Dave Pencheon’s work on this. He links the two.

- We appreciate this suggestion and have reviewed Dr. Pencheon’s work. However, we believe it is important to retain the focus of the current paper primarily on the empirical literature and recommendations for further study. We will consider his work as we review existing conceptualizations of sustainability.

Reviewer 3

I would encourage you to broaden your search criteria into other management domains to explore studies that have addressed the sustainability of other change initiatives (such as the total quality movement). These analogous change initiatives may enrich your understanding of the sustainability of interventions in the health-care context.... Drawing from data from other areas of management could have generated a stronger set of future research recommendations.

- We appreciate the suggestion, and will take it into account as we review conceptualizations of sustainability in our related work. We did search literatures besides health-related literature (e.g., education and management) but much of it was conceptual and the studies that we found did not meet our criteria for review (e.g., case studies, in books that were not peer reviewed, etc). Furthermore, given the focus of this journal, we believe that a focus on healthcare settings was an appropriate focus for this particular review.

While the study is a high quality systematic review, I felt you missed an opportunity to make an important contribution. I never did learn what you meant by sustainability, or what after reviewing the work of others, you think an appropriate definition should be. I think you missed a big opportunity to make a contribution by lending some much needed construct clarity.... In my mind, the contribution of systematic reviews is not only to report on the combined findings of the studies, but to structure the findings in a way that adds value beyond what the individual studies lend on their own... I suggest you take a look at a chapter by Briner and Denyer (2010), which draws attention to the need to involve managers in the development of the question that bounds a systematic review and also discusses the need to contribute beyond a re-telling or summarizing of the work that has been reviewed.

- We appreciate the encouragement to discuss our own perspective on sustainability. We were initially reluctant to offer yet another definition or conceptualization of sustainability, but several comments in the reviews indicated that it is important to articulate both the way in which the existing literature has shaped our own view of sustainability, as well as some considerations that we believe are important for future research. We agree that some of the limitations in the existing body of research have resulted from a lack of construct clarity and have tried to make suggestions to improve the quality of future research. While a full consideration of conceptualizations of sustainability are beyond the scope of the current article, we included suggestions for choosing appropriate definitions (page 18-19), defining outcomes (p.19-20), conceptualizing modifications to programs and interventions that occur over time (p.21), and we have included our own definition of sustainability on page 19.

- We appreciate the suggestion to look at Briner and Denyer’s chapter. It has influenced our revision.