

Author's response to reviews

Title: Fostering implementation of health services research findings into practice:
A consolidated framework for advancing implementation science

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Author's response to reviews: see over

Greetings –

Thank you for the very fast turn-around in feedback for the resubmission of our paper, “Fostering implementation of health services research findings into practice: A consolidated framework for advancing implementation science.”

We note that there were no compulsory edits but we did address each of the discretionary edits and very much appreciate, once again, the thoughtful responses. The following table provides a point-by-point response to each comment.

We have submitted a “track changes” version of the manuscript AND a “clean” version so you have the option of more easily spotting the changes we have made in this draft.

Thank you for your consideration. We look forward to hearing your response to this new revision.

Sincerely,

Laura Damschroder
David Aron
Rosalind Keith
Susan Kirsh
Jeffrey Alexander
Julie Lowery

Point-by-Point Response to the Editor & Reviewer

<p>Your manuscript has now been peer reviewed and the comments are accessible in PDF format from the link below. Do let us know if you have any problems opening the file.</p> <p>There is only one re-review as Referee 1 had minimal changes that were addressed previously. Please attend carefully to the comments of Referee 2. While there is enthusiasm for the manuscript and no major compulsory changes were noted, there were a number of concerns that should be addressed.</p>	
<p>I also agree with the reviewer that the figure, while improved, does not really add much to the manuscript or help the reader understand details of the model. Please consider eliminating the figure, however, if you would like to retain the</p>	<p>We have retained Figure 1 in the manuscript. Of course, we will delete the figure if strong objections remain. The reviewer acknowledged that the figure had improved and, though</p>

<p>figure, please revise and provide a rationale for what it adds to the manuscript.</p>	<p>saying he “wished it would do more,” no specific suggestions or problems were identified. Therefore, we are not quite sure how to improve it; though we did upgrade the visual presentation a bit. While we acknowledge the figure does not illuminate the detailed list of constructs included in the CFIR, a visual overview can provide valuable understanding of the framework. We did make some changes to the diagram, calming it a bit and we added more explanation in the text about the features we have intentionally included in the figure. We would like to keep the figure, if possible, for the following reasons:</p> <ol style="list-style-type: none"> 1. Several of our colleagues and other researchers have responded quite positively to the figure and none have taken issue with it. 2. Figure 1 provides a visual representation of the main components of the CFIR that readers can and will use as a quick reference. 3. One issue with the figure may be the rather non-conventional shapes and shading – but that is what makes it unique. We are attempting to convey the dynamic nature of interactions and fuzziness of boundaries between the various components. This figure is unique in this attempt in the literature. Many articles acknowledge the complex dynamic, non-sequential nature of change and yet present figures that are cycling or sequential.
<p>This paper is greatly improved. The motivation of the paper is much more clear and compelling, and the reorganization of paper better showcases the synthesis and distinctive contribution of the paper.</p>	<p>We very much appreciate the positive comments and speed with which they were delivered!</p>
<p>Figure 1 is also much improved in graphically depicting the main dimensions of the framework (although I still wish it would do more), and, with a few exceptions, the examples from the MOVE! study that were used throughout the article work well. The expanded discussion of implementation process and particular concepts, such as design quality and packaging, are highly useful additions (and glad to see these insights pulled from the old monstrous appendix into the body of the paper).</p>	<p>Regarding Figure 1, without specific suggestions or problems identified, we were not sure how to make it “do more” and have left it largely intact. (See responses above).</p>

<p>1. (pp.7-8 & Fig 1) in terms of the core/periphery discussion, I'd drop the "hard" and "soft" modifiers, since it seems to add more room for confusion than clarification (are core components of interventions 'harder' in a tangible sense, or more difficult to change--could be they are just as easy to change as peripheral components, although one might not want to do that). I'd also focus more closely on Fixsen's definition based on info economics of core components as the 'most essential and indispensable' elements (as opposed to 'irreducible').</p> <p>Fyi, for complex interventions, I'm also intrigued with the idea of focusing on replicating functions versus forms (see Hawe et al, BMJ 2004), not that I'm suggesting you incorporate this latter notion.</p> <p>Hawe P, Shiell A, Riley T. 2004. Complex interventions: how 'out of control' can a randomised control trial be? BMJ, 328: 1561-3.</p>	<p>We have re-labeled these terms as “core components” (ala Fixsen, et al) and “adaptable periphery” which is a more descriptive label. Thank you for pointing out the Hawe, et al article – we have included this as a citation and though the ideal of defining interventions in terms of function versus form is appealing, we opted to keep the definitions more open; highlighting the challenge of managing the tension between strict standardization and adaptation (see “adaptability” under “Intervention Characteristics”)</p>
<p>2. (p.8, 2nd par) not sure how you're using the term 'institution' (as a synonym for organization, per the vernacular use of the term in health care, or in a more sociological sense of wider cultural or governance systems).</p>	<p>We have clarified this sentence.</p>
<p>3. (p.8, bottom) you might want to highlight less the 'unpredictable' role of individuals, but more their capacity for 'agency' (remember, the collective interaction of elements of systems can introduce as much or more unpredictability as an individual does). Again from a sociological perspective, I'd also suggest this would be a good place to highlight the importance of individuals for what they bring to the equation in terms of their 'carriers' of cultural, professional, and institutional mindsets, norms, interests, and affiliations (not just their idiosyncratic personalities).</p>	<p>We have softened this statement and added your suggestion to include agency and individuals' roles as “carriers.”</p>
<p>4. (p.9, top) explaining 31% of variance actually seems pretty respectable for social science research--don't have to term this as 'low' to make your point in that sentence.</p>	<p>Done.</p>
<p>5. (p.11, top) 'avoid being bogged down'--slightly awkward phrase; I think I get the gist, but could you be a little more specific with the rationale for selecting a limited number of constructs a priori?</p>	<p>We have edited this sentence.</p>

6. (p.12) besides differentiating the intervention source between internally-vs-externally developed, I'd also suggest this is a good place to also note that certain specific sources will have more or less legitimacy for different stakeholders in various contexts (Mendel et al make a similar point with respect to change agents).	We have added this note.
7. (p.14, end 1st par) this and other examples also illustrate that assessing attributes of interventions are almost also dependent and in relation to attributes of the context.	Absolutely! In the case of the example study (since attributes of the intervention remained the same), it is dependent on the people's <i>perceptions</i> of the intervention, in relation to their own context.
8. (p.14, beginning of 2nd par) 'Excellence in' seems awkward phrasing. "Perceived excellence..', or better something like 'the degree to which the bundling and presentation of the intervention is framed in ways that resonate with the values and perspectives of adopting stakeholders' (reference to 'framing' from social movement lit would be helpful if you go this route).	We added "perceived" to excellence to be more clear in our intention with this definition. "Perceived" is implied in many of the constructs. We do like the idea of "framing" but its use here closely coincides with "compatibility" which refers to the degree of "fit" with norms, values, etc.
9. (p.15, 2nd par, first sentence) change 'integral' to 'prioritized by'?	Done.
10. (p.18, middle of page) delete 'dispersion of' from the definition of Centralization?	Done.
11. (p.18, bottom) 'invisible' just seems like an awkward descriptor to use for connections.	We've changed to "tangible or intangible"
12. (p.19, 2nd par) 'deprivatization and review' is cryptic, not sure what this means here.	We've clarified wording.
13. (p.19, 3rd par) first sentence might be a little bit of an overstatement--we have lots of measurement of networks and communication patterns, although your more general point holds that it's much less clear which measures most significantly affect intervention dynamics and success. I think you might also want to expand a little before the last half of the paragraph to say that although we don't know the exact structural characteristics of communication or exchange networks that matter, we do know that the quality and sense of 'community' or 'teamness' among individuals or organizations involved in implementation can have a strong effect on the ability to implement an intervention. (references to the 'community of practice' or similar literatures could be used here).	We've deleted this sentence and added a sentence about "teamness" and "community" though we want to be careful not to overlap with "learning climate.'
14. (p.22, end 3rd par) this example from the MOVE! project actually seems somewhat weak as an illustration of organizational learning climate.	We clarify that the example highlights only one dimension of learning climate (psychological safety) and emphasize that we did not elicit measures of learning climate.
15. (p.24, bottom par) I would include prioritization about an intervention, along	Rather than "importance" or "priority," we included "value

<p>with knowledge and beliefs about the intervention, in this paragraph/heading. The theory of planned change and similar motivation expectancy theories often include the perceived importance of a goal, belief in that an action will result in achieving a goal, and self-efficacy in being able to implement an action as all contributing to motivation to engage in the action (e.g., an intervention). Right now, this paragraph includes all these components, except the prioritization/importance placed on the goal of the intervention.</p>	<p>placed” on the intervention which is a component of the Theory of Planned Behavior. We want to be careful not to overlap with the “relative priority” under “implementation climate.”</p>
<p>16. (p.25, top par) 'requires' seems a bit strong; perhaps change to 'is aided by'</p>	<p>We have clarified wording here.</p>
<p>17. (p.25, 2nd par) I think it's important to note here that self-efficacy is situated and often compartmentalized--e.g., it may be high for a particular professional within their traditional scope of work or training, but less so for unfamiliar tasks (such as in an intervention that trains substance abuse workers to provide depression counseling). You wouldn't also want to give the impression that a general measure of person's self-efficacy would necessarily be the same for their efficacy to implement a particular intervention, nor that the self-efficacy to implement an intervention is the same as belief in whether the intervention itself (if implemented) would be efficacious.</p>	<p>We agree and have clarified this point.</p>
<p>18. (p.26, bottom) this example from MOVE! appears more related to implementation climate or organizational culture than personal identification with the organization.</p>	<p>We have clarified the example to show more clearly how this relates to “individual Identification with Organization,” as we have defined it.</p>
<p>19. (p.29, bottom) although you distinguish analytically between an opinion leader and champion, you might want to note that in practice an individual can serve both roles.</p>	<p>Agreed. We have added this point.</p>
<p>20. (p.30, bottom) "Time should be taken.." seems too normative a statement for this section.</p>	<p>We have reworded this sentence.</p>
<p>21. (pp.15-31) you note throughout this section the various elements of the CFIR framework that the MOVE! study did not evaluate. It would be helpful in the Discussion section to comment a bit more on the reasons of why some elements were evaluated and others not--both as conscious study design decisions/tradeoffs and reflections on the limitations and contingencies of doing evaluation research--as well as the consequences of these reasons, and implications for how one chooses which constructs to focus on.</p>	<p>We have added a paragraph highlight these points.</p>
<p>22. (Appendix 2) I'd suggest "checking" the following additional constructs for the Mendel et al framework (just because I'm so familiar with it--note all page numbers below refer to the Mendel et al paper): Relative advantage - term specifically mentioned on p.29 Complexity - several references to complexity of interventions (eg, pp. 2, 23, 28)</p>	<p>Done.</p>

<p>Cost - costs/benefits included in discussion of incentives on p.26</p> <p>Outer setting - see pp.23-24 & Fig 1, discussion of macro-system environments</p> <p>Peer pressure - see p.27 reference to effects of homophily</p> <p>Structural characteristics - see p.26 section on Org'l structure & process</p> <p>Implementation climate - see pp.25-26 on org'l and implementation climate</p> <p>Relative priority - see p.25 discussion of priorities, also implied p.29 wrt to needs assessment</p> <p>Self-efficacy - specifically mentioned on p.25</p> <p>Individual stage of change - see p.28 discussion of Rogers stages of adoption</p> <p>Planning - see esp p.29 (which you even cite in your paper)</p> <p>Opinion leaders - specifically mentioned on p.27</p> <p>Executing - mentioned p.28 as 'implementation of an innovation in practice', and included as one of the stages of diffusion in the model (Figure 2)</p>	