Author’s response to reviews

Title: Understanding contexts: how explanatory theories can help

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Author’s response to reviews:

January 23, 2019

Anne Sales, PhD, RN, Editor
Implementation Science

Re: Further revision of IMPS-D-18-00507R1

Dear Dr. Sales:

This cover letter accompanies the above-referenced manuscript, which I have slightly revised further. You can consider this re-submission, which I refer to as IMPS-D-18-00507R2, as the final revision.

In my previous (January 4, 2019) cover letter (Letter 1) I described in detail my Responses to the reviewers’ and editor’s Comments. I have since cleaned up and tightened the text of the paper, but that rewriting has shifted the locations of those earlier Responses. The present letter therefore indicates the page and line(s) in the present resubmission where you can find the changes I made to the manuscript’s text in response to the initial reviewer and editor comments; this letter contains no information on Comments that I responded to in Letter 1 but that did not lead to changes the text. For the most part, I did not use Track Changes in making the most recent changes to the current re-submission, IMPS-D-18-00507R2.

I apologize for the delay in getting these materials to you, and hope the delay will not interfere with the process of deciding whether the paper is acceptable for publication.

The items below marked “Comment” are restatements of the reviewer and editors’ Comments that I responded to by both revising the manuscript and describing the Response in Letter 1.

Editor
Comment: Need to clarify the relationship between improvement science and implementation science.

Response: In this revision, I address the point directly and in some detail (p. 4, lines 10-16), in the Introduction.

Reviewer #1

Comment: Need a clear sense of what is meant by the term context, as used in this paper.

Response: That definition can be found in the Introduction (p. 4, lines 1-2).

Comment: Need to explore the diverse ways in which ideas about context have actually been employed, e.g., by Damschroder, Greenhalgh.

Response: As noted in Letter 1, I cite the work of both these authors (Damschroder on p. 12, reference 34; and Greenhalgh on p. 14, reference 12), as well as the work of others (on pp. 12-16 of the present revision). I specifically describe the failure of static theories’ to recognize the dynamic nature of context (Cf. pp. 12, lines 19-21, and p. 13, lines 1-3).

Comment: The paper might be considered more appropriately as a “think piece” than as a review.

Response: I agree, and have shifted the tone of the entire text and the labeling of sections, to reflect the change in framing.

Comment: It’s not clear that exploring what the theories of context are and how they work helps advance the argument – it might actually do the opposite by providing counterfactuals, as in the problem of Newtonian mechanics.

Response: The failure of Newtonian mechanics has never been clearly identified as the prime determinant of the moon rocket disaster. Indeed, as I mention on p. 7, lines 5-9 of the present letter, many different factors have been considered over time as possible contributors to that failure. The reviewer did not identify other such counterfactuals.

Comment: Need to spell out concordance between the ways theories are categorized and the ways theories are actually used to explain behavior, predict outcomes.

Response: I touch on concordance issues on pp. 13-14, as well as p. 16, line 14, reference 9, especially the detailed quantitative and qualitative information that Bates et al obtained by direct
observation in high-performance healthcare systems, which they used in creating the general universal-plus-variable explanatory theory, then used to explain the behavior of such systems, extensively and in quantitative detail (p. 16, lines 12-19, reference 37).

Comment: The claim that explanatory theories are an effective way to represent healthcare systems is not laid out in a manner that is easy to follow.

Response: I’ve tried in the resubmitted version to describe the fundamental role and properties of explanatory theories more clearly (p. 5, lines 10-20), and to describe the principles of explanation more carefully (p. 7, lines 15-21, and pp. 8-12). I list criterial examples of explanatory theories (p. 5, lines 15-20); I also note the inadequacy of single explanatory theories, as well as the value of multiple complementary explanatory theories in understanding human environments, especially healthcare systems (Introduction, p. 4, lines 14-16, and Abstract, p. 3, lines 1-3).

Comment: Need description of what constitutes ‘deep understanding’? The only thing mentioned is the necessity to use more than one theory. Given that all theories have limits, it is not clear what this adds.

Response: I explore the differences between explanation and sense-making, which are relevant to the development of deep understanding (p. 7, lines 15-21). I then describe the elements of sense-making in detail (pp. 8-10), while pointing out that we still do not understand the mental transformations that lead to deep understanding (i.e., that allow us make sense of complex phenomena (p. 9, lines 17-22).

Despite our failure to understand the mechanisms of those transformations, combining multiple different explanations arguably contributes to deep understanding. The use of multiple explanations (individually or in combination) therefore continues to deserve serious thought and attention in efforts to understand context (p. 4, lines 10-16).

Comment: It is not clear what the message (of this paper) is.

Response: As requested by the editor, I’ve now added both a Discussion and a Conclusion to the manuscript; the

Conclusion in particular summarizes the paper’s main messages in detail, while also offering a set of detailed operating principles worthy of consideration during the implementation of substantial improvement programs

As I wrote in Letter 1, I offer in this letter the following concise summary of the paper’s messages, they are referred to at multiple points throughout the text: 1) the crucial but underappreciated nature and role of explanatory theories in science and all scholarly work; 2) the importance of recognizing the essentials of, and differences between, explanation and sense-
making; 3) complexity and dynamic change as important, inherent properties of human environments, especially healthcare systems; and 4) the availability of mature explanatory theories as frameworks that can help understand such systems.

I’ll look forward to learning your editorial decision, and am willing to respond further editorial comments and suggestions as necessary.

Sincerely,

Frank Davidoff, MD