Reviewer’s report

Title: Hospital-based interventions: a systematic review of staff-reported barriers and facilitators to implementation processes.

Version: 0 Date: 23 Aug 2017

Reviewer: Melanie Barwick

Reviewer's report:

This paper is a systematic review of studies that have explored barriers and facilitators to implementation of health care interventions in hospital. First, let me say that I do appreciate the effort that goes into a systematic review. That said, the review does not offer novel information for the field. The conclusions drawn are already quite readily found in the published literature, and indeed, comprise well established frameworks related to barriers and facilitators; what we would now more appropriately refer to as 'factors' associated with implementation success. The paper is useful insofar as identifying weaknesses in reporting for implementation research, which are now addressed with the launch of the STaRI standards (BMJ, Equator). I have made several specific comments below.

Introduction:

1. The authors assert that 'despite careful planning', interventions fail to be successfully implemented or sustained. I think there is an assumption here, namely that failed interventions began with careful planning; often this is one aspect of process that is sorely missing.

2. The ramifications of 'failed interventions' should likely read 'failed implementation efforts', and it is critical to distinguish where failures are due to implementation outcome or intervention outcomes.

3. The statement - staff who bear the burden of implementing new interventions may be reluctant to try alternatives if their first experience was unsuccessful" requires a citation.

4. Given the evolution of evidence in implementation science (IS), it seems a limited view to characterize implementation failures on the basis of barriers and facilitators alone, which the field now mostly refers to as factors associated with implementation success. What about process?
5. The CFIR addresses more than implementation process and characteristics of the intervention; these are only two of five domains. Moreover, it is more comprehensive in its capture of these factors.

6. The introduction jumps around without good coherence. There is no recognition of the different TYPES of implementation frameworks (see Nilsen, this journal), and no segway to the role of IS strategies. Relatedly, more up to date, recent work on IS strategies that is not referenced (see ERIC paper, this journal).

METHODS

7. It is curious that the authors chose to start from scratch in the analytic frame (inductive analysis) rather than utilize the well established determinant frameworks that have already characterized the factors associated with implementation success, such as CFIR. Page 17 of results is the first time the authors refer to their findings as 'domains' and yet they don't align them with the domain language of existing frameworks, like CFIR.

8. Assessment of quality might (better) have been done using the STaRI standards (see BMJ, 2017), however I realize that not all the studies were implementation related as they looked at barriers/facilitators rather than process.

RESULTS

1. Presume the authors are referring to implementation intervention, but this is unclear - "There was great variation in the interventions and the health states targeted, as shown in Tables…"

2. "Ensuring completion of the intervention" is referred to as fidelity in the IS literature.

3. Regarding relationship of domains to one another it is not clear whether/how the individual studies could/did account for causality rather than association. Rather, I think what individual studies are reporting are the strategies they used to mitigate barriers.

In the end, I don't see how this paper moves us ahead in our understanding of how best to implement in hospital settings, or other contexts. I don't disagree with their conclusions at all; these are good - but they are already in the literature.

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