Reviewer’s report

Title: Testing a theory of strategic implementation leadership, implementation climate, and clinicians’ use of evidence-based practice: a five-year panel analysis

Version: 0 Date: 20 Oct 2019

Reviewer: Bernadette Brown

Reviewer's report:

I have reviewed your manuscript with interest.

This study builds upon implementation theory positing the importance of organisational leaders by testing the theoretical model of implementation leadership proposed by Aarons et al which proposes a causal mechanism between the implementation leadership behaviours of middle managers/first level leaders, organisational implementation climate, and clinicians' EBP implementation behaviour. I find that the concepts of implementation leadership and implementation climate are well defined, as is the first level leaders' role in shaping EBP implementation climate. In this context, it seems, first level leaders perform a similar function to clinical champions, whose effect has been shown to variable, but with the additional capacity of authority to reward the use of EBP.

Whilst outside of my field of expertise, the quasi-experimental longitudinal differences-in-differences study design and statistical methods appear rigorous and well-justified in the absence of a randomised controlled design and make good use of data collected through the real-world launch of EPIC to improve EBP implementation in a Medicaid-funded behavioural health provider network. Sampling, data collection methods and measures are adequately detailed.

Clinicians average years of experience was noted to be the only time-varying workforce characteristic associated with change in clinicians EBP use. What was the direction of this association i.e. did clinician experience increase or decrease change in EBP use?

A measure of clinician attitudes towards EBP implementation, alongside their perceptions of their organisations EBP climate, may have been a useful addition. Top down support for implementation from the executive or first level leaders may not always be matched with bottom up support for implementation on the ground. Positive clinician attitudes towards EBP implementation may be an underlying factor independent of implementation leadership.

As the authors have noted, I find the major limitation of this study to be the use of self-reported use of EBP. Other studies have shown that self-reported practice may not reflect actual practice. I agree with the conclusion that observational metrics of fidelity would increase rigour and potentially an independent audit of a random sub-sample may be a useful addition.

A useful next step would be to conduct a similar study in a different healthcare system to test generalizability of the findings and of the theoretical model.
Thank you for the opportunity to review this manuscript.

**Level of interest**
Please indicate how interesting you found the manuscript:

An article of importance in its field

**Quality of written English**
Please indicate the quality of language in the manuscript:

Acceptable

**Declaration of competing interests**
Please complete a declaration of competing interests, considering the following questions:

1. Have you in the past five years received reimbursements, fees, funding, or salary from an organisation that may in any way gain or lose financially from the publication of this manuscript, either now or in the future?

2. Do you hold any stocks or shares in an organisation that may in any way gain or lose financially from the publication of this manuscript, either now or in the future?

3. Do you hold or are you currently applying for any patents relating to the content of the manuscript?

4. Have you received reimbursements, fees, funding, or salary from an organization that holds or has applied for patents relating to the content of the manuscript?

5. Do you have any other financial competing interests?

6. Do you have any non-financial competing interests in relation to this paper?

If you can answer no to all of the above, write 'I declare that I have no competing interests' below. If your reply is yes to any, please give details below.

I declare that I have no competing interests.

I agree to the open peer review policy of the journal. I understand that my name will be included on my report to the authors and, if the manuscript is accepted for publication, my named report including any attachments I upload will be posted on the website along with the authors' responses. I agree for my report to be made available under an Open Access Creative Commons CC-BY license (http://creativecommons.org/licenses/by/4.0/). I understand that any comments which I do not wish to be included in my named report can be included as confidential comments to the editors, which will not be published.
I agree to the open peer review policy of the journal