Reviewer’s report

Title: Optimising strategies to address mental ill-health in doctors and medical students: ‘Care Under Pressure’ realist review and implementation guidance

Version: 0 Date: 03 Jan 2020

Reviewer: Reidar Tyssen

Reviewer's report:

General comments

Congratulations with a very thorough and comprehensive review that certainly deserves publication!

The broad focus on contextually sensitive findings is both original and timely in this field.

I was not familiar with the procedure of realist synthesis before reviewing this paper, and I had to read a couple of referred papers as to get a proper understanding of this method (Wong et al 2013 and Carrieri et al 2018).

I believe that the manuscript would improve by an essential revision - in particular does this apply to the method section, which is very brief and difficult to grasp without additional reading. (See below)

Specific comments

1. The method section of the present paper needs elaboration in order to make clearer what a realist review is. There could be included more details of the review process described in Carrieri et al 2018.

2. The Stakeholder group is mentioned early in the method section, but it is described first on page 8 under a different heading ("Patient and public involvement"). It would be helpful with a table early in the method section describing the Stakeholder group and the iterative discussions as part of the review process (Is this a modified Delphi procedure?).

3. On page 8, line 11, it says "regular intervals", how often did they meet - and how long time did this whole process actually take?

4. The RAMESES instruction point 5 emphasizes that any changes made to the review process initially planned should be described and justified. It is referred to pages 5-7 in the manuscript, but it is not clearly described here what changes that were made, if any?!
5. The description of the literature search misses some crucial details. First, was there a time limit put on the search period, was it from when (?) until December 2017? Second, the PRISMA flowchart in figure 1 needs some clarification or footnotes. Why were the 2212 records excluded, and why were the 5 full-text articles excluded?!

6. Who were the "review team" mentioned on page 6 line 11, the co-authors, or others from the Stakeholder group?!

7. The Result section is generally very good, and table 1 is crucial. In order to get a full understanding of the CMOcs, reading of supplementary material 3 citations is very helpful! Would there be space for some of the "qualitative" citations, e.g. at least one under each of the four main themes on pages 10 to 12?

8. From the literature, work-home stress is a risk factor with respect to burnout, both in cross-sectional and prospective studies. I was surprised that this is not mentioned in any of the CMOcs under Theme 3, reducing mental ill-health: Balance and timeliness?! This contextual stress factor requires broad and contextual interventions, e.g. available kindergarten for the junior doctors' family etc.

9. Discussion: The sentence in limitations page 14, line 13, should be followed by something like "Most studies about individual and work-related factors related to doctors' mental ill-health are of a cross-sectional design and therefore they cannot infer about causality"

10. Supplementary material 2: The table of references needs legends: What are the P, S and T in the headline, and what are career stages CT, TC and U?!

11. The reference list needs thorough revision. I have not looked in details of the whole list, but references 129 and 138 are by the same first author, Rø or Ro. For simplification, I think there is no need for issue numbers (in parentheses).

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**Are the methods appropriate and well described?**
If not, please specify what is required in your comments to the authors.

No

**Does the work include the necessary controls?**
If not, please specify which controls are required in your comments to the authors.

Not applicable
Are the conclusions drawn adequately supported by the data shown?
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Yes

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