Reviewer's report

Title: The development and implementation of a mini-Clinical Evaluation Exercise (mini-CEX) program to assess the clinical competencies of internal medicine residents: From faculty development to curriculum evaluation

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Reviewer: Bruce McManus

Reviewer's report:

1. Is the question posed by the authors well defined?

While the aims of the paper are clear in the full paper (final paragraph to “Background” section) it is not clear until that point. The abstract makes no mention of the aims of this study without this it is not clear from the abstract what question the authors are posing. (Minor essential revision)

2. Are the methods appropriate and well described?

The methods are clearly described in my view but the first aim is to evaluate the effectiveness of the mini CEX workshop. To do this the authors describe an MCQ questionnaire of cognitive knowledge about the Mini CEX. This is administered before and after. While this might be a valid assessment of respondents’ knowledge about the mini CEX, and therefore the effect that the workshop had on that aspect, it is more difficult to see this as a valid assessment of the effectiveness of the workshop itself. Presumably the objective of the faculty development workshop is not simply to increase knowledge for knowledge’s sake but to develop and enhance the good conduct of faculty in administering these assessments and / or to improve the reliability of the assessment. For example simply because an attendee on this workshop knows more about how to give good feedback does not mean that they will in fact improve their feedback skills. There maybe a number of other barriers to this other than simply knowledge, e.g confidence in delivering constructive feedback. A key aim therefore of a faculty development program such as this would be to increase attendee’s confidence to deliver feedback. The pre and post test MCQ therefore is not a valid assessment of the workshop as a method of faculty development. This said the authors do question the sustainability of these gains and the effect on trainers’ practice in the discussion. The authors’ third aim states they attempted to examine the behaviours of attendees of the mini CEX workshop upon using the tool in the workplace. This goes someway to assess the sustainability of changes and thus provide a more valid assessment of the impact of the workshop. They describe a qualitative analysis and categorisation of written feedback that is also undertaken and reported. However much of the feedback in the mini CEX will be verbal and this analysis includes only he written feedback so a limitation. This limitation is acknowledged as are the practical impediments to a more detailed analysis of the quality of feedback.
3. Are the data sound?

The data appears sound and clear.

4. Does the manuscript adhere to the relevant standards for reporting and data deposition?

So far as I am able to comment yes. The data in the tables and in the text appears clear and understandable.

5. Are the discussion and conclusions well balanced and adequately supported by the data?

Yes the discussion does appear to be well balanced and supported and clear acknowledgement of the limitations and barriers to more extensive research to overcome these limitations are noted. However No comment is made in the discussion regarding the statistically significant decrease in the frequency of engagement in residents’ reflection. It is not entirely clear what is meant by this. It is clear that that attendees of the workshops tended to provide more feedback to residents (and the authors conclude this is indirect evidence of the effectiveness of their faculty development) but less frequently to engage resident’s reflection. More detail is required to understand what this means and how engagement in reflection was assessed. Since reflection upon feedback and their performance is an important tool to aid residents' learning then a decrease in engagement does not sound like a positive outcome. It may in fact represent an important negative outcome. An observation that is commented upon in the results but not further developed in the discussion. The reader is left uncertain what this means, what to conclude, and indeed how this was assessed or the observation made. (Minor essential revision)

6. Are limitations of the work clearly stated?

Yes, acknowledgement is made about how the MCQ results might be reflected in the gains in terms of effect on trainers practice. Acknowledgement is also made that although no improvement was noted in residents’ professionalism scores this may reflect a limitation in the Mini CEX as a tool for measuring professionalism. Limitations regarding the generalisability to other centres are also acknowledged. (no revision needed)

7. Do the authors clearly acknowledge any work upon which they are building, both published and unpublished?

The work appears to be appropriately referenced

8. Do the title and abstract accurately convey what has been found?
No The abstract does not convey the 3 central aims of the study.

The Results section of the abstract uses abbreviations which are undefined (R1, R2 & R3) while this can be gleaned from the rest of the paper, it is not clear to an international audience reading the abstract first what this might mean, yet it is key to understanding why there may be statistically significant differences in the domains of the Mini CEX. (Minor essential revision)

There are also important typographical errors in the abstract making it more difficult to read. (Minor essential revision)

9. Is the writing acceptable?

There are important typographical / grammatical errors particularly regarding consistency about which tense is used:

E.g.

a) Abstract: “Among the 863 clinical encounters of the mini-CEX, which involving [suggest involved] 97 residents….. evaluations were completed.”

b) Abstract “there was a statistically significance (P<0.05) in the domains of …” – suggest “there was a statistically significant difference (P<0.05) in the domains of…”

c) Abstract “there was a statistically improvement…” – suggest “there was a statistical improvement”

d) Background – 1st paragraph- multiple use of the word “and” when listing – reads poorly suggest a numbered or bulleted list

e) Background 1st paragraph “several competencies are” [present tense] then later in same sentence “workplace has” [past tense)

f) Study design page 8 “ethic approval” should be “ethics approval” or “ethical approval”

g) Page 12 “Among the 863 mini-CEX encounters, 74.9% was regarded” – suggest “were regarded” (plural)

h) pg 14 “our study revealed a statistically significance in residents…..” - suggest “our study revealed a statistical significance in residents…..” or “our study revealed a statistically significant increase in residents …. ”

While these are the errors I have immediately noted I recommend that the authors proof read the manuscript or seek a third party to do so on their behalf

a) - h) (minor essential revision)

**Level of interest:** An article whose findings are important to those with closely
related research interests

**Quality of written English:** Needs some language corrections before being published

**Statistical review:** No, the manuscript does not need to be seen by a statistician.

**Declaration of competing interests:**

'I declare that I have no competing interest