Reviewer's report

Title: Joining the dots: programmatic assessment enhances recognition of factors hampering student progress

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Reviewer: Jon S Dowell

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1. Is the question posed by the authors well defined?
I thought this is a timely and worthwhile contribution to the challenge of assessing senior students in the face of a reluctance to ‘fail’ weak students and complexities of judging professional attributes. The latter being more obvious when lacking than measurable when demonstrated. However the introduction was overly wordy and hard work to fathom. In particular I found the suggested 8 feature model to be strangely placed. This links to comments below regarding the methods but it was not clear to me that the assessment process described was based around this structure. If not, which seems the case given the separate ‘four foundations’ described, this may fit better in the conclusions. If so, this could be more clearly stated and the discussion directly comment on how well each one was met.

2. Are the methods appropriate and well described?
Appropriate but not well described, particularly in the abstract. Sentence 4 in the methods being an example. The difference between ‘in-course’, end of year and ‘formal’ assessments was not quite clear to me so interpreting the increased fail rate was difficult. On what did they fail and could this have been simply because compensation was no longer allowed within the assessments? For instance, why could borderline grades in a number of attachments not have done the job without the other changes? So spotting poor performers is mixed up with improving assessment of professionalism. I could not disentangle this in the results and wonder if the presentation could be improved to allow this more?

I think a section drawing direct contrast between the two systems would help, as this is a complex intervention. Perhaps a table would help? In addition the qualitative analysis if the CP criteria should be described here and cannot be presented as a Grounded Theory analysis – which it clearly is not. My ability to interpret the study as well as transfer their findings should we wish to to, would be aided by provision of before and after block report forms.

3. Are the data sound?
Not sure. Though I would like to know how the total number of assessments compared in the before and after periods (not just the number failing). Though, it might also help those considering a similar system to see an assessment ‘map’ over the three years. 3539/701 = 5 each, which seems remarkably few over 3
years (and only 3 each for the more detailed cohort). What was the total that should have been available and how did this vary (as a %) from the old system? Why was the data on the whole cohort not available?

4. Does the manuscript adhere to the relevant standards for reporting and data deposition?
Not applicable.

5. Are the discussion and conclusions well balanced and adequately supported by the data?
Yes, given caveats above about some additional data that would provide a more convincing overall impression.

6. Are limitations of the work clearly stated?
Not exactly a limitation but I believe the paper would be more helpful if the discussion consider the ways in which this complex intervention achieved its outcome. Doing so might clarify some of the issues around limitations. For instance – if the change of paperwork introduced a space for specified remediation which was not present before this might have accounted for some, or even most of the information currently ascribed to the introduction of the CP system.

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

8. Do the title and abstract accurately convey what has been found?
OK, if a little cryptic in the title (I wonder if the authors would want ‘conditional pass’ in the title if they think the concept will take off. The methods are inadequately described in the abstract.

9. Is the writing acceptable?
Partially but I felt it was longer and harder work to read than necessary for such a study. I think it would be worth redrafting, where possible with additional information to clarify the numbers before and after and explain the figures as suggested. I thought there was a very strong and worthwhile message that was not presented to optimal advantage.

Over all I think my comments would have to be seen as Major Compulsory Revisions. Certainly point 3.

**Level of interest:** An article of importance in its field

**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 interests'