Reviewer's report

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

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Reviewer: Jim Crossley

Reviewer's report:

Tim Wilkinson and his colleagues describe the fairly straightforward evaluation of a commonsense assessment innovation. In essence the innovation employs the use of performance sub-domains for each and every module assessment, the introduction of a category 'conditional pass' which highlights the nature, cause and remedial requirements of the problem, and regular 'panel' meetings to determine progress.

The evaluation counts the frequency with which problems were highlighted before and after the intervention, and categorises the nature of the problems identified - linking the nature of the problem with the likelihood of eventual failure. These results are compared with the (unchanged) end-of-year examination failure rate.

The intervention leads to the detection of many more problems and the failure of many more students. These decisions to fail have not been accompanied by a rise in student challenges and the authors argue that this may be because of the evidence trail (and perhaps students being well informed).

Overall the problem is important, the innovation seems sensible and highly relevant, but the report could be quite significantly improved without any new data.

Comments:

1) The problems that the intervention addresses are well described and will be recognised by most medical educators - ie they address an important and highly relevant problem.

2) The evaluation, whilst straightforward, is entirely appropriate - ie the study seems internally valid.

3) The introduction sets out a good theoretical rationale for the intervention - highlighting 8 'suggestions' about how to do things better - ie the study is reasonably well located in the literature.

4) It might be helpful to give these 8 'suggestions' names or titles for ease of reference (eg transparency, granularity etc...) DISCRETIONARY REVISION

5) Since the study describes an 'on the ground' intervention, it would be helpful to
hear about some of the implementation practicalities and problems - feasibility issues. This will give another school some guidance on how to make such an innovation work well. MINOR ESSENTIAL REVISION

6) It would be helpful to know the 'menu' or domains used for the 'standards based assessments'. Are we talking about: knowledge, professionalism etc or an entirely novel set of domains? It's hard to envisage how this works without more information. MAJOR COMPULSORY REVISION

7) Some of the data seem inconsistent internally. Results para 1 says: module outcomes over the 4 years post-implementation were 1.4%, 1.7%, 4.1% and 4.1% CP, but para 4 says that in the 3rd and 4th post-implementation years 6.5% of the results were classified as CP. MAJOR COMPULSORY REVISION

8) Similarly the 20 cf 4 students failing the year later in para 4 of results doesn't appear consistent with the numbers in table 1. MAJOR COMPULSORY REVISION

9) It would be interesting to know why the authors feel the CP rate increase so dramatically between years 1 & 2 post-implementation and years 3 & 4 post implementation. MAJOR COMPULSORY REVISION

10) The study design builds in a bias because the extra students prevented from progressing in the first 2 years after implementation will contribute to the higher numbers of CPs in the next 2 years after progressing. This is not a fatal flaw but it would be good to see figures showing how big a contribution they make. MAJOR COMPULSORY REVISION

11) The abstract is disappointing. It doesn't give a clear impression of what was done in the study. MINOR ESSENTIAL REVISION

I hope these comments are helpful.

Jim Crossley, Sheffield

Level of interest: An article of outstanding merit and interest in its field

Quality of written English: Acceptable

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.