Reviewer’s report

Title: Impact of student choice on academic performance: cross-sectional and longitudinal observations of a student cohort

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Reviewer: Jennifer Cleland

Reviewer’s report:

Abstract – seems very long and could be made more concise by tightening up all section. The results lack detail of the sample and highlight that the data is very old. The statistics are inadequate for the research question (see later).

Introduction
Well-written and provides suitable context for readers who may not all be familiar with the UK context. The rationale of the study seems sensible = particularly looking at performance on exams rather than outcome of SSC given variable SSC marking standards. However, I would like to see a theory- or literature-based explanation of the rationale behind why students who got their first choice should be expected to do better.

Methods
Students - what is the size of the population? What is the rationale for excluding graduates – I can understand excluding those who intercalated but I cannot see any justification for excluding graduates (certainly there is not one provided). Although the authors say “for a similar reason” no reason is actually given ….!

The statistical analysis is not appropriate. Previous performance should have been adjusted for using multi-variate statistical methods.

Results
There is no description of the sample. Number of students/males and females/school leavers vs older entrants/ethnic group – all these variables have been found to impact on performance in medical students so should be a) presented descriptively and b) controlled for in the analysis.

The results presented in the tables should have also been presented in text form in the results section, which is wholly inadequate as it stands. Was there a difference between performance on written exams and OSCEs? Some of the results are actually presented in the discussion (paragraph 4) but should have been presented here in the results section.

Given the number of chi-square tests, a significance value of 0.01 should have been set not one of 0.05. Furthermore, as mentioned earlier, multi-variate statistical tests should have been used. (I could not download the tables successfully when reviewing this paper so do not know if shifting the level of significance would have left any significant findings or not).
Discussion

The first two paragraphs are mostly flannel, repeating the introduction. Getting to the point – what this study adds – happens only at the end of the second paragraph. “Overall, our findings …”. Paragraph 3 and the first part of paragraph 4 would be more suited to the results section. The sentence starting “crucially…” in paragraph 4 reinforces that the statistics used for this study are inadequate as this would have been controlled for in a multi-variate analysis. The authors are correct however, in their conclusion that the data are consistent with the hypothesis that brighter students are more likely to self-propose.

The last paragraph is good. Really, that and a short paragraph describing the findings is all that is needed other than a section on strengths and weaknesses of the study (which is notable by its absence currently).

Conclusion

I disagree that this is an innovative approach. Looking at how students fare in exams is commonplace and well-published, all the authors did was compare this – badly – with SSC choice.

However, in saying all this, the finding that whether students get their first choice of SSC or not, or whether they design it themselves, makes no odds, is useful in a UK context as this is important information which could inform the GMC’s next iteration of Tomorrow’s Doctors. However, there was a lot less emphasis on SSCs in Tomorrow’s Doctors 2009 (to everyone’s relief). As a consequence, I think sitting on this data for 6 years means it is probably past its sell-by date.

Major compulsory revisions - rewrite in line with comments above, cut out the flannel, and redo the analysis, seeking support from a medical statistician.

Level of interest: An article of limited interest

Quality of written English: Acceptable

Statistical review: Yes, and I have assessed the statistics in my report.

Declaration of competing interests:

'I declare that I have no competing interests