Reviewer’s report

Title: Graduates of UK medical schools show substantial differences in performance on MRCP(UK) Part 1, Part 2 and PACES examinations

Version: 1 Date: 8 July 2007

Reviewer: Ed Peile

Reviewer’s report:

I like this paper very much. It is a well-crafted synthesis of much that is of interest in UK medical schools and it will certainly fuel the debate about a single end-point examination. It is extremely helpful to have all the supplementary data provided.

It is analysing data in a sensitive political arena, and we can anticipate rigorous scrutiny of the argument in this paper. For this reason it is worthwhile giving very careful attention to detail, and I offer a few comments.

Regarding the argument.

There are some assumptions in the use of compositional variables which may be worth exposing:

• How do we know that 90% of candidates qualified 1999-2003? Is this confirmed by MRCP database, if so probably worth stating.

• The assumption ‘would have entered medical school between 1994 and 1998 bears testing. What about intercalated degrees, temporary withdrawals, re-sits and longer (Oxbridge preclinical) courses? A significant proportion of students will spend 6 years at Medical School.

• It should be made clear that there is an imprecise relationship between UCAS data on offers and MRCP performance data on graduates. The paper referred to on Page 5 as Ref 4 (McManus 1998) is concerned with conditional and unconditional offers for places at medical school, and in the paper under review, the paragraph headed ‘Medical School Entrance Qualifications’ appears likewise to be concerned with offer data (not acceptance data, let alone entrance data on students who ultimately graduate.) Yet on Page 9 under ‘analysis of compositional variables’ the discussion slips seamlessly into “medical schools whose students have higher qualifications.” It is very important that there is clarity on this point as any selector will point out that there is not a constant relationship between offers/acceptances/graduates.

The data on teaching quality refer to students who graduated 2 years before those in this study, and there may well have been curricular changes in the interim. However, I acknowledge that the later date of publication of the referenced studies excludes any effect of these publications on quality improvement.
I remain unconvinced about the value of mentioning all the work that has been done in relation to ‘Guardian data’ which, as the authors acknowledge, is complex, and I think confusing in the context of this paper. Other options would be

1. To leave Guardian data out altogether and only to refer to it if questions are raised.
2. To refer only to the two aspects which I regard as focal:
   a. The corroboration of this paper’s analysis based on UCAS entry qualifications with the Guardian data based on UCAS tariffs, which were introduced in 2002
   b. The Guardian measures of teaching quality as used in this paper as evidence of ‘added value’.

In a similar vein, I considered carefully the use of the additional data, and I concluded that it is a worthwhile inclusion in the paper and is adequately explained.

Some presentational issues
In ‘analysis of compositional variables’ - the term higher qualifications is still not clear even at the level of analysis of school. Why not substitute “higher pre-admission grades” to avoid any possible confusion regarding schools like Oxbridge where a significant proportion of students have higher degrees at entry?

In the Abstract numbering of exam diets is confusing for first-time readers (eg 2005/3)

Under Method: I recommend splitting the second paragraph to describe the diets for additional material separately from the diets for main material

When reference to normalised data is first made at the bottom of page 4, it would be a good opportunity to introduce Z-scores.

What about a table on P8 under Results/Main analysis to clarify the data set?

Not included INCLUDED IN STUDY PERIOD Not included
(pre-study) (post-study)
2 columns 3 columns 2 columns
Part 1 Part 2 PACES n=
completed Completed
Part 1 PART2 n= PACES n=
completed
PART1 n= PART2 n= PACES n=
PART1 n= PART2 n= PACES
PART1 n= PART2 PACES
This could be followed by the summary numbers.

Very minor proof-reading comments
Typo page 6 general practitioners
Page 11 there appears no logical reason for sequencing additional data out of date sequence, indeed, the logical date sequence is used in table 4.
Typo p 15 our not out
Typo p 15 be explained
I find the wording on p 10 regarding the structural equation model to be somewhat clumsy when it states, “although it did have separate effects upon….”. The “it”, I presume, relates to ‘Higher Entry Qualifications’ but as these are described in the plural, the meaning would be made clearer by leaving out ‘although’ and separating into two separate sentences – viz “The variable ‘Higher Entry Qualifications’ also predicted separately for….”

I hope these comments are helpful, and I re-iterate my support for a thoughtful contribution to the debate on assessing the contribution of medical schools to career progression.

**Which journal?**: Appropriate or potentially appropriate for BMC Medicine: an article of importance in its field

**What next?**: Accept for publication in BMC Medicine after minor essential revisions

**Quality of written English**: Acceptable

**Statistical review**: No

**Declaration of competing interests**:

‘I declare that I have no competing interests’