Reviewer’s report

Title: Supply, distribution and characteristics of International Medical Graduates in Family Medicine in the United States: a cross-sectional study

Version: 0 Date: 10 Aug 2018

Reviewer: Christopher P Morley

Reviewer's report:

This manuscript presents a fairly straightforward, descriptive analysis of AMA Masterfile data on the percentages of IMGs in the Family Medicine (FM) workforce in the US. In terms of the overall observations made of percentages across US, US-IMG, AND NonUs-IMG physicians in the US, there is little basis to question what the authors have empirically presented. However, there are several further points to consider:

1. There is little consideration for the fact that IMGs end up in FM because they could not get into other specialties. This is not intended as a slight toward the FM specialty. Rather, the best FM physicians have often self-selected into the specialty, choosing to work as primary care generalists, often out of a sense of idealism or community service, and in underserved areas. In addition to the issue that FM residencies are relying upon IMGs (including possibly lower-quality US-IMGs), which may affect quality, the authors need to address, at least in discussion, the effects of IMGs who do not actually want to be in FM, but winding up there as an only-option, is truly beneficial. There seems to be an underlying assumption that FM needs IMGs to sustain itself and rising population needs for the physician workforce to be more reasonably distributed. However, an alternative solution would be to advocate for improving the attractiveness of FM to all graduates, through payment reform, practice and lifestyle improvement for primary care physicians, increasing dedicated GME slots for true primary care, and addressing medical school issues such as selection of matriculants, specialty bashing, hidden-curriculum issues, and exposure to primary care. Additionally IMGs may be partially exhibiting the behavior observed in other sectors of the US economy - that immigrants take jobs, out of necessity, that US citizens tend not to want. This leads to abhorrent conditions in other sectors (e.g. agriculture, service industries, etc.), and is probably not at all a desirable trend for the US primary care workforce. In short, the authors need to consider whether a new approach is needed to recruitment and retention of medical graduates, both US and IMG, into primary care, so that those most suited to primary care end up in primary care.

2. Although the authors maintain that inferential statistics where not calculated because all FM was included, it would have been possible - and interesting - to examine the comparative odds or likelihood of primary care or FM practice from the entire dataset. Other inferential analyses could have been conducted, but I won't list everything that comes to mind, as I'd leave it to those with the data in hand to consider other ways to enhance the current analysis, or to follow up. Regardless, I would recommend the authors consider my comments in Comment #1, and think about how inferences could be drawn regarding hypotheses of self vs. forced selection into FM.
3. I also think the authors walk up to the line of calling out for-profit vs. not-for-profit medical education. This is perhaps the more important driver of observed differences in quality-related outcomes. I leave it to the authors to take this point further, both in the discussion, and in the analysis (i.e. proportions of those trained at for-profit institutions, etc.).

4. I think it is important to also recognize that US-IMGs are not just pre-acculturated to the US healthcare system; the for-profit Caribbean schools often contract with US hospitals to take their students for clerkship rotations. These students essentially do only their pre-clinical work "offshore," and do much of their clinical training (MS3-4) in the US. The authors are correct in observing that US-IMGs generally have no intention of practicing outside of the US. I don't think this current manuscript goes far enough, however, in truly separating US-IMGs from "true" IMGs. I would posit that the US-IMG is substantively different in many ways from a nonUS- IMG from, say, India, in a variety of ways. The common point that both received (some of) their medical education outside of the US is superficial. I would urge the authors to think long and deeply about this point - more so than they have already done.

5. I finally noticed a few spelling errors (e.g. "enrolment" on page 14). A quick copy-edit is in order. However, I think there is a fair amount of additional writing and analysis I have proposed, so the copy-edit would naturally follow major revisions.

**Are the methods appropriate and well described?**
If not, please specify what is required in your comments to the authors.

No

**Does the work include the necessary controls?**
If not, please specify which controls are required in your comments to the authors.

No

**Are the conclusions drawn adequately supported by the data shown?**
If not, please explain in your comments to the authors.

No

**Are you able to assess any statistics in the manuscript or would you recommend an additional statistical review?**
If an additional statistical review is recommended, please specify what aspects require further assessment in your comments to the editors.

Not relevant to this manuscript
Quality of written English
Please indicate the quality of language in the manuscript:

Needs some language corrections before being published

Declaration of competing interests
Please complete a declaration of competing interests, considering the following questions:

1. Have you in the past five years received reimbursements, fees, funding, or salary from an organisation that may in any way gain or lose financially from the publication of this manuscript, either now or in the future?

2. Do you hold any stocks or shares in an organisation that may in any way gain or lose financially from the publication of this manuscript, either now or in the future?

3. Do you hold or are you currently applying for any patents relating to the content of the manuscript?

4. Have you received reimbursements, fees, funding, or salary from an organization that holds or has applied for patents relating to the content of the manuscript?

5. Do you have any other financial competing interests?

6. Do you have any non-financial competing interests in relation to this paper?

If you can answer no to all of the above, write 'I declare that I have no competing interests' below. If your reply is yes to any, please give details below.

I declare that I have no competing interests.

I agree to the open peer review policy of the journal. I understand that my name will be included on my report to the authors and, if the manuscript is accepted for publication, my named report including any attachments I upload will be posted on the website along with the authors' responses. I agree for my report to be made available under an Open Access Creative Commons CC-BY license (http://creativecommons.org/licenses/by/4.0/). I understand that any comments which I do not wish to be included in my named report can be included as confidential comments to the editors, which will not be published.

I agree to the open peer review policy of the journal