Reviewer's report

Title: Feminisation of the medical workforce in low-income settings; findings from surveys in three African capital cities

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Reviewer: William B Weeks

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This is an interesting paper that examines gender-based disparities in physician income and hours worked in three small, middle-income countries in Africa.

Overall the paper is pretty well written and has a nice flow and organization.

The study uses survey data. Originally, I was a bit disappointed in the relatively small N’s, but it turns out that there are very few physicians in the country, so that the proportion of the overall physicians surveyed is between about 10% (in Mozambique) and 50% (in Guinea Bissau). As they limit their analysis to capital city dwellers, the % goes up a bit.

Nonetheless, I remain a bit concerned that the missing data might not be representative – one could imagine, for instance, a higher proportion of men who refused to answer so their results might be a bit off.

The graphics look original.

The biggest statistical concern I have is that physicians’ incomes and work hours tend to follow an inverted U shaped pattern over their working lifetime. So if one uses a continuous variable in a regression (as they do with ‘years as a medical doctor’) that will not be accurate. Better is to use dummy variables with years practiced in 5 year increments (using the categories they show in Figure 1) – I’d imagine that would improve the R square (which they should show in Table 3) and have the years as a medical doctor variable more easy to interpret. I’m assuming that the number of hours worked in the public and private sector is in the last week, as the intercept is 54.5 – that should be clarified in the table’s title and in the accompanying text.

Regarding their conclusions, I’m not clear on how they come to the conclusion that female doctors will become a majority within 5-10 years? How does their research (a single year cross sectional study) support that? Solely on the age distribution of physicians? The methods for making that conclusion (which assumes a trend, which may not be the case) should be made clear. It is the basis for most of the work.

It seems like a key policy conclusion would be that, if you have more women, and they work fewer hours, then the workforce either needs to be expanded or needs to become more efficient (assuming the need to maintain the same overall
productivity). This should be mentioned.

Major compulsory revisions:
1. Change the regression to include dummy variables for years worked and include R square in the table.
2. Articulate the methods used to make the assertion that women will be the predominant gender of physicians in 5-10 years.
3. Include some more policy relevant conclusions.
4. Include in the limitations section that there is a possibility of bias in survey results that could change results.

Minor essential revisions that need to be corrected:

After citation 13, there is an extra period.

I don’t understand the sentence ending “on the evolution of the phenomenon overtime (20).” That needs to be elaborated upon.

The description of the study locations (Table 1) should be in the methods or results section.
In the second to last line of the first PPG, do they mean Females are a greater proportion? If not, the last line in the first PPG needs to be modified.

What does “physicians’ dual practice in the three cities” mean? They work in all three cities? Or in two of the three? I see later that this means working in public and private sector. That should be clarified in this paragraph or sentence.

The paragraph staring “Median age was 37 years” needs to have ‘for women’ after that phrase...

In the sentence beginning “physician median net public…” the first USD has an extra 1 after it, unless that is to be 1,405. Don’t use the decimals – the number is not that precise.

I don’t think you want tables 3 and 4 in the text. The model should be explained in the methods section.

Level of interest: An article whose findings are important to those with closely related research interests

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