Reviewer’s report

Title: Workforce requirements for comprehensive ischaemic stroke care in a developing country: the case of Saudi Arabia

Version: 0 Date: 01 May 2019

Reviewer: Adrian MacKenzie

Reviewer's report:

This is an interesting paper describing a creative approach to estimating and comparing HRH requirements for stroke care in Saudi Arabia. I think the use of epidemiological modeling to estimate the volume and distribution of strokes as a driver of workforce requirements, the explicit considerations of alternative models of service delivery, and the attempt to integrate planning for facilities with HRH planning, are particularly noteworthy. I think the paper requires some changes prior to publication in this journal.

1. The study objective as stated in the abstract is different from the one provided in the body of the paper - this must be clarified. Once this is done additional changes may be required to align the rest of the paper with the objective.

2. There is a large literature on different approaches to estimating the supply of and requirements for HRH in different contexts - within and beyond this journal - that does not appear to have been considered in the design of the study or the interpretation of its results. The rationale for the specific methods chosen to estimate HRH supply and requirements given the many alternative existing approaches is missing. Related to this point, the implications of relying on staffing ratios from other countries where professional scopes of practice (among other contextual factors of direct relevance to HRH planning) may be different from the setting of the present study should be elaborated upon in more depth.

3. The explanation for how infrastructure requirements were estimated should be clarified. At present there is a single sentence at line 128 that says this was done through data collection.

4. The process used to identify and obtain information from interviewees needs to be explained in more detail. For example, how were interviewees selected? What questions were they asked? How were the interview data collected and analyzed?

5. The specific calculations used to convert anticipated numbers of strokes to beds to FTEs would be clearer to the reader if the text of the paper was supplemented with equations and/or a diagram. It was not clear to me, for example, how the consideration of alternative models of service delivery was factored into the chosen staffing ratios.

6. As a non-clinician I was surprised at the exclusive focus of the study on in-patient services; is there
no stroke care provided outside these settings in Saudi Arabia? This should be clarified.

I would welcome the opportunity to review the next version of this paper.

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