Reviewer's report

Title: Reviewing The Benefits of Health Workforce Stability

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Reviewer: Jim Campbell

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OVERALL: This is a technically sound paper, presenting new observation on the strengths and weaknesses of methodologies which enable insights into the mobility of the health workforce within their institutional settings/systems. The Stability Index responds to the need for broader perspectives to generate strategic intelligence and has potential benefit to HRH management in the global north and south. The paper particularly stimulates debate on the need for improved knowledge on the connections between retention (turnover/stability) and its impact on the multiple components of ‘performance’ in organisations and systems. ‘Organisational Performance’ is a complex science including dimensions of quality, innovation, satisfaction, productivity and financial management. More research on the impact of mobility against productivity and cost will be particularly useful: linking to Scheffler et al’s 2009 paper (Estimates Of Health Care Professional Shortages In Sub-Saharan Africa By 2015) which suggests small productivity increases per annum will reduce the needed number of health professionals in Sub-Saharan Africa by 19%. The potential benefit of the Stability Index and/or other time-to-event analysis (i.e. survival rates) could be a useful addition to the more familiar HRH approaches; especially if connected to health systems surveillance and health equity surveillance, as promoted by the WHO and its Commission on Social Determinants of Health. The suggested process to use SI to engage and inform decision-makers should be taken up.

Major Compulsory Revisions:

NONE

Minor Essential Revisions:

1. Introduction, paragraph 1: The author introduces the issue of ‘organisational performance and costs’. The theme of organisational performance (OP) continues throughout the paper. Given the complexity of OP, encompassing elements of quality, productivity, staff performance, financial management etc this may be better expressed as ‘the multiple dimensions of organisational performance, including costs’ or similar. A consistent approach throughout the paper in the subsequent use of ‘OP’ or ‘performance’ making clear which element(s) are being discussed is also encouraged, i.e. ‘organisational performance, [especially] quality of care’ or similar (Results, para 1).

2. Background, paragraph 1: ‘Turnover...can add to organisational costs, through
diverting funds to covering for staff who leave..’ The author could perhaps clarify what is meant by diverting and whether the argument is about potentially more expensive temporary hires and/or overtime payments at multiples of standard hourly rates? Diversion in itself does not necessarily incur added cost.

3. Results and Discussion, paragraph 3: see earlier comment on OP/performance.

4. Results and Discussion, paragraph 6: ‘It also found that resignation..whilst ...was retirement.’. The selection of evidence appears to reinforce (to this reader) the ‘voluntary’ and ‘involuntary’ classifications introduced earlier in the paragraph, with “resignation” implied to be a ‘voluntary’ act in contrast to “retirement” which was earlier classified as ‘involuntary’. However, resignation can also be an involuntary response to power and hierarchical influences. A slight change of wording may assist.

5. Results and Discussion, paragraph 8: ‘As data is collected over a longer period of time...' The author’s approach suggests a longitudinal series of data points to develop and construct a Stability Index (SI). Subject to the initial data set (i.e. if it includes start and end dates in post) it is feasible that the use of survival analysis and the Kaplan–Meier estimator could produce present and retrospective measures of survival and subsequently the SI in greater detail. Can the author expand on the rationale for a SI being applicable over Kaplan-Meier, i.e. when data sets may not be sufficiently robust; more simple formulation?

6. Results and Discussion, paragraph 9: ‘the Table presents the one and two year stability rates for all staff nationally’. It would be helpful to inform the reader of the number of FTE posts to give a sense of scale. Similar with the next sentence on nurses and doctors.

7. Results and Discussion, paragraph 9: ‘in each of the fourteen Boards’. Again for a sense of scale, what is the range and mean number of FTE posts across the 14 Boards?

8. Results and Discussion, TABLE 1: Could the author please consider including information on variation in range for all columns and add an additional column to show net difference between All Staff and All Staff 2007-8? As a result of the additional column is there a discussion point on the reductions between the 1 year and 2 year stability rates for All Staff that highlights the value of longitudinal data points and the construction of the Stability Index?

9. Results and Discussion, paragraph 10: ‘For example it is evident that there is marked variation...’ Without a sense of the FTE numbers involved these percentages may mask total numbers and underlying factors. For instance, is there a difference between smaller/ larger Boards (i.e. low stability in a small Board may be less FTE leaving than higher stability in a large Board) or those covering urban/rural areas? Can the author provide more insight without jeopardising the anonymity?

10. Results and Discussion, paragraph 10: ‘The two-year stability rate for doctors
and nurses are higher than the average for all staff and varies less between Boards.’. The author may wish to check the latter part of this sentence. Table 1 shows a dispersion of 20.4% between the Boards for doctors, higher than the 13.5% for all staff.

11. Results and Discussion, paragraph 11: ‘As such it can point to “problem” areas...’. In some systems/organisations low stability in certain cadres could reflect an intentional government policy on compulsory service agreements; especially for shorter-term deployment in rural areas. Conversely, high stability could indicate staff unwilling to be deployed in priority catchment areas. The author may wish to rephrase this sentence and use of the word “problem”.

12. Results and Discussion, paragraph 20: ‘Table 3 gives examples’ – change to ‘Table 3 gives an example using % of paybill’. Similarly, correct single/plural in the rest of this para and in para 21.

13. Results and Discussion, paragraph 21: ‘A ‘bottom-up’ approach...’. Could the author consider a slight change in this sentence to explain this line of argument?

14. Results and Discussion, paragraph 21: ‘Improving workforce stability...’ suggest change to ‘carries with it a benefit to the organisation in reduced cost’ or similar.

15. Results and Discussion, paragraph 22: ‘Another study..’. Could the author please provide information on the setting and number of staff to inform the reader?

Discretionary Revisions
"Minor issues not for publication"

16. Background, paragraph 1: ‘Retaining...a major HR objective for any organisation’. The author may wish to highlight that this has given rise to a rapid growth in the discourse of Talent Management, including definition by the Chartered Institute of Personnel and Development.

17. Results and Discussion, paragraph 2: ‘Other detailed research studies...’. May be useful to provide the reader with a sense of the settings/countries and which element of performance these studies are considering.

18. Results and Discussion, paragraph 3: ‘...and assess its cost and impact implications’. May be a better phrase ‘...and assess its impact, particularly on costs [and xx]’ or similar.

19. Results and Discussion, paragraph 6: insert ‘or system’ after the first use of ‘organisation’.

20. Results and Discussion, paragraph 7: typo – its, not is.

21. Results and Discussion, paragraph 12: ‘Where new HR information systems...’ may wish to rephrase to ‘consideration should be given to automating the calculation of the stability rate’ or similar.
22. Results and Discussion, paragraph 16: ‘Costs per staff....usually examined....four components...’. Are deployment/relocation costs an additional component that require consideration? Australia for instance pays considerable sums in ‘signing’ and relocation fees for rural doctors.

23. Results and Discussion, paragraph 18: Insert ‘and geographical’ after ‘clinical’

24. Results and Discussion, paragraph 20 + TABLE 3: Is it feasible to provide an example in Table 3 and the discussion which relates to the nurse figures from Scotland in Table 1? The 7% turnover assumption, reduced to 5%, appears out of sync with the stability rates in Scotland and left this reader wondering if the 7% assumption is a general rate of turnover to be anticipated?

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

**Quality of written English:** Acceptable

**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'