Author’s response to reviews

Title: Doctor retention and distribution in post-apartheid South Africa: Tracking medical graduates (2007–2011) from one university

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Author’s response to reviews:

We want to thank the reviewers for acknowledging the importance of this study and for their insightful comments in developing this paper. We have addressed all their concerns and trust that the changes we have made have improved the paper. The manuscript has been sent for professional editing.

Reviewer #1: Interesting and important study which could be strengthened by the following

Comment 1: - a brief para on the medical System in SA - % patients looked after in public vs private/ workforce needs - Dr / patient ratios - how they compare globally etc

Response: We have added the required information about the South African medical system (see page 4, from line 17)

Comment 2: brief para on the number of medical schools / graduating number for SA etc - This gives the reader a view of the SA 'system'.

Response: We have added the required information about medical education in South Africa (see page 5, lines 20-23)

Comment 3: Is there any data on the number of trainees who once finished their specialist training move from rural to urban - may be too early yet. Stress importance of longitudinal data sets - for the whole country.
Response: In responding to the reviewers’ comments, we have become aware of questions that can be included in a future follow-up study, including the number of doctors who move from rural to urban areas and vice-versa once their specialist training is complete.

We agree with the reviewer about the importance of longitudinal datasets for the whole country and have emphasized the need for such datasets in the Conclusion (see page 18, lines 21-26). This dataset may be the initiation of such data collection.

Comment 4: Any data on follow up of migration to other countries - for example Aus has changed its weighting for admission (migrating) medical practitioners so there should be a decrease over recent years

Response: We have explained in the paper that SA does not monitor doctor migration, which makes it difficult to identify trends. However, we have added information about declining migration rates (see page 5, lines 10-12).

Comment 5: Seems as in Aus rural back ground is an important predictor of where Docs end up. Is there a break down of where spouse is from / works which is a determinant of final workplace?

Response: This question was not asked in the survey, but would be useful in a future follow-up study.

Comment 5: Is there any data on what the mix- specialist / generalist SA thinks it needs?

Response: We have provided the estimated number of specialists and generalists required to meet the country’s needs as reported in the most recent Human Resources for Health Strategy for the Health Sector 2-012/13 – 2016/17 report (see page 4, lines 22-26).

Reviewer #2: This is an important article because there is a scarcity of tracking data related to medical graduates in South Africa and deserves publication. However, there are number of issues that need to be addressed before is ready for publication.

Abstract

Comment 1: Correct "countries" (to "country's") in line 13.

Response: Corrected (page 2, line 6)
Comment 2: "Black graduates represented 60.6% of those who worked in rural areas." Is this a percentage of the sample or what?

Response: The statement has been clarified (page 2, lines 21-22).

Comment 3: "Black graduates, who were preferentially selected in this graduate cohort, were disproportionately represented amongst the doctors practicing in rural areas." This wording makes sound negative instead of being positive.

Response: The sentence has been reworded (see page 3, lines 4-5).

Background

Comment 4: At line 41ff, it is stated that doctor migration is estimated by some studies to be about 30%, but no reference is given to this, unless the references at the end of the sentence apply, but that is not clear. One of the studies referred to is from 2003, which is hardly current data.

Response: The paragraph on doctor migration from South Africa has been reworded for clarity, and more recent data has been included (see page 5, paragraph 2).

Comment 5: The next sentence refers to the perception of more South African doctors emigrating over the last couple of decades, but references an article (17) that is already a decade old.

Response: In rewording the paragraph on doctor migration from South Africa (see previous comment), the reference to the perception of more South African doctors emigrating over the last couple of decades has been removed, and more recent references have been included.

Comment 6: At the top of page 5, there is discussion about interventions that have supposedly been introduced to retain medical graduates - on what basis are these considered to have been retention initiatives? Why the comparison to the UK? It is also not clear what references 19-21 at the end of the sentence about UK training are intended to relate to; if it is to 2-year internship and 1-year community service this is surely common knowledge and does not need three references.

Response:

(a) The discussion about retention initiatives has been clarified in the last paragraph on page 5, with the comparison to the UK having been removed. The number of references for the 2-year internship and 1-year community service has been reduced.
Comment 7: It is stated that the top of page 6 that there is no data that addresses the impact of racially-based selection criteria, but what impact is being referred to? i.e. on what.

Response: The impact referred to has been clarified (see page 6, lines 19-20).

Comment 8: In relation to the issue of racially-based selection, terminology in the article needs to be explained. Given that the notion of "race" as a scientific concept has been discredited, the usage of these terms as a social construct in relation to the context and legislation in South Africa deserves clarity, at least in a footnote.

Response: A footnote has been added to clarify the use of racial terms.

Comment 9: The final paragraph of the background section does not flow logically ands to be reviewed. It is also not clear why there is a reference provided (ref 12) for the objectives of the study.

Response: The final paragraph of this section has been rewritten, and the reference provided for the objectives of the study has been removed (see the last sentence of the paragraph).

Methods

Comment 10: While I do not have any particular objection to the use of CHERRIES, it should be noted that this is a tool developed by single author unlike similar tools on which it was based such as CONSORT, which are typically consensus-based. In addition, the reference to this is the original 2004 article, which was corrected in a 2012 version.

Response: Thank you for drawing our attention to the 2012 correction. We have removed the references to CHERRIES, both in the first paragraph of the Methods section and in the Results (see Reviewer 1’s Comment 13) because we have only reported the response rate and not any of the other parameters required by CHERRIES.

Comment 11: It is unusual to present the ethical clearance before the details of the methodology. Is their particular reason should not come at the end of the methods?

Response: We acknowledge that it is unusual to present the ethical clearance before the details of the methodology, but, in this case, it seemed logical to discuss the ethical clearance, permissions granted, and the inclusion criteria before the next section describing the tracking process. The process of recruitment was a particularly detailed ethical consideration, and we put it at the beginning to ensure clarity that it had been adequately considered.
Comment 12: It is stated that this paper only reports on data from the first two sections of the questionnaire - does this mean the first 28 questions? Clarify.

Response: Clarified (see page 8, line 16).

Results

Comment 13: Why is there a reference for response rate? Be clear what is being referred to.

Response: The CHERRIES reference for response rate has been removed.

Comment 14: At the bottom of page 10, it is stated that "Level 1 or district hospitals offer the most basic care". This is an inaccurate description of district hospitals, implying the function at the level of clinics and health centres.

Response: The description of district hospitals has been corrected (see page 11, lines 4-5).

Comment 15: Under respondents not practising medicine, it is stated that two who left the profession moved into the public health sector. What does that mean?

Response: We have clarified in the manuscript that the doctors were specialising in Public Health (see page 11, line 20).

Comment 16: At the top of page 12, the term "medical officers" should be explained or defined.

Response: A footnote has been added to explain the term (see page 13, line 5).

Comment 17: On the same page, given the small numbers, is the statement that rural doctors are disproportionately male, black and of rural origin statistically true? Justify this.

Response: p-values have been added to Table 5 to justify the statement.

Comment 18: Here and on page 13, the definition of a rural area that was used should be provided.

Response: The basis for the use of the designation ‘rural’ has been provided in both places.

Comment 19: Table 6 is critically important but is not well explained or highlighted.
Response: A more detailed explanation has been provided (see page 14).

Discussion

Comment 20: In the first part of the discussion, a best-case scenario argument appears to be made but is not entirely clear. There is also some repetition in this paragraph of the background section.

Response: Changes in the background section mean that there is no longer any repetition in this section. The worst-case scenario has been reframed as a best-case scenario.

Comment 21: On page 15 it is stated," The 2015 Australian study by Greenhill, et al. [37] identified three components of resilience in medical students in longitudinal integrated clerkships: a student support network, sustained educator support and guidance, and promoting student development of strategies to cope with adversity." What is the relevance of this to the argument being made? The subsequent paragraph on page 16 regarding community service is very important in terms of unpacking this data.

Response: A sentence has been added to clarify the relevance of the sentence about the three components of resilience to the argument being made (see page 16, lines 19-21).

Comment 22: The issue of the high proportion of respondents in specialist training surely relates to the timing of the study, which is not discussed. It may be that people leave after specialisation.

Response: The issue of the high proportion of respondents in specialist training has been related to the timing of the study (see page 15, line 27).

Comment 23: In general there is limited theorisation about the findings in the discussion. Deeper theoretical analysis would significantly enhance the article.

Response: We have added more theorisation throughout the Discussion.

Conclusions

Comment 24: It is stated that these graduates were among the first to graduate from a transformative curriculum - what is it about the curriculum that made it transformative? The statement needs to be justified.
Response: ‘Transformative curriculum’ has been changed to ‘innovative curriculum’ throughout the paper (see page 6, line 8 and page 18, line 8).