Author's response to reviews

Title: A scoping review of training and deployment policies for human resources for health for maternal, newborn, and child health in rural Africa

Authors:

- Gail Tomblin Murphy (Gail.Tomblin.Murphy@dal.ca)
- Fastone Goma (gomafm@unza.zm)
- Adrian MacKenzie (adrian.mackenzie@dal.ca)
- Stephanie Bradish (steph.bradish@gmail.com)
- Sheri Price (pricesl@dal.ca)
- Selestine Nzala (shnzala@unza.zm)
- Annette Elliott Rose (aelliott@dal.ca)
- Janet Rigby (jrigby@dal.ca)
- Chiliweza Muzongwe (chichiivason5@yahoo.com)
- Nellisiwe Chizuni (luyandochizuni@yahoo.com)
- Amanda Carey (am380444@dal.ca)
- Derrick Hamavhwa (hamdeck@gmail.com)

Version: 3
Date: 17 October 2014

Author's response to reviews: see over
Dear HRH Editorial Team,

Thank you for responding to the submission of our manuscript, “A scoping review of training and deployment policies for human resources for health for maternal, newborn, and child health in rural Africa” (MS 8651816251369816). The reviewers have provided insightful and constructive comments, which we have found very useful in strengthening this piece of work.

In response to the thorough feedback provided, we have performed extensive revisions. As such, for the sake of readability, we have provided a clean copy of the revised manuscript in lieu of one with the changes tracked. Following is a detailed description of how we have addressed each reviewer’s comments through our amendments.

**Referee 1 – Emmanuel Banchani:**

**MAJOR COMPULSORY REVISIONS**

Background: The authors provided a good background to the study. However the study needs to be put in its proper context. The authors should provide background information on maternal and child health services in Africa. For example, what are the current maternal and child mortality rates for Africa? How has the crisis HRH in Africa contributed to worsening the situation of MNCH in rural Africa? This should serve as a strong basis as to why the study is important. The authors provided a good background to the study.

- We have added information on the specific maternal and infant mortality rates (as well as how those rates compare to other regions) has been added. Information on the challenges that might be faced by Sub-Saharan Africa due to the features of its population was also added to better frame the importance of the study (line 144 – 155, pg. 5).
- We have not made reference to how the HRH crisis has negatively impacted the status of MNCH, but rather how increased coverage/density positively impacts MNCH outcomes (line 160 – 164, pg. 5).

Methods: The authors adopted a scoping review strategy to identify peer-reviewed, non-peer-reviewed articles as well as policy documents for this study. While the selection criteria were vigorous and well executed, the authors did not indicate how those documents were analyzed. This should be stated clearly. I assume a content analysis was used to identify the various themes for analysis.

- We have expanded and clarified the scoping review methodology (line 200 – 214, pg. 7 – 8), as well as the stated methods used for document analysis clearly stated: content and thematic analysis (line 255 – 256, pg. 9).

Results: Since the study only focused on MNCH, the results section on deployment, recruitment, and retention did not address issues of the specific clinical focus stated
by the authors in Table 1. Although the authors discussed general HRH, it is not clear whether some of the categories of personnel such as dental surgeons are particularly recruited, deployed and retain for MNCH services in rural Africa.

- We have made numerous text revisions to include more content to link the policies with the clinical aspects of MNCH, where this information was available (line 393 – 452, pg. 15 – 17).
- The review only covered policies, which applied to doctors, nurses, and midwives. If additional providers were mentioned explicitly in these policies, they were mentioned (e.g. Niger’s financial incentive scheme for doctors, pharmacists and dental surgeons), however no further presentation in the results or analysis was undertaken.

**Referee 2 – Yotamu Chirwa**

Abstract:

In the section on results the statement, There was an overall paucity of evidence based training and deployment policies for HRH and for MNCH in rural Africa. What is meant is not clear, is it that there are few evidence based policies, below a certain optimal level or that the policies that were evidence based that were found were very few…..(page 3) Minor essential revision

- We have reworded this sentence to read “There was an overall paucity of information on training and deployment policies …” to clarify the meaning (line 116 – 117, pg. 3).

The following sentence in the results section: The majority of included primary research studies employed a variety of both qualitative and quantitative methods and representation of doctors, nurses, and midwives was equitable. is not clear the last part is not properly linked with the preceding idea. It is better that the issue of representation be made clear, is it that the research studies were selected to ensure that studies on doctors, nurses and midwives were equal…..(page 3) Minor essential revision

- This sentence has be edited for clarity (line 118 – 120, pg. 3 – 4).

In the conclusion section the sentence, “Future research requires the expansion of the search-terms, included providers, and research methods for a more comprehensive picture of the content and scope of existing policy information”. needs revision, the word included seems to be out of place or there could be a missing word so that it reads “ to include” .....(page 4) Minor essential revision

- The sentence has been edited for clarity (130 – 132, pg. 4).

The sentence “-have less than the World Health Organization (WHO)’s minimum recommended density of HRH to provide basic health care to their populations, averaging less than one of doctors, nurses and midwives per 1,000 population” is not clear to me I think it needs to be made more clearer. ...
• The sentence has been edited for clarity (line 166 - 168, pg. 6).

The following sentence, “Although information on different countries’ HRH policies and practices exists, gathering and reviewing relevant evidence is often beyond the time and resource constraints of many country-level policy maker” needs revision I feel the word constraints after resources makes that whole sentence lose meaning…..(page 6) Minor essential revision
  • The word “constraints” has been removed from the sentence (line 187 – 190, pg. 6 -7).

The sentence which reads, “The purpose of this paper is to present the findings from a scoping review designed to identify and classify publicly accessible evidence on policies for the training and deployment of doctors, nurses, and midwives in rural Africa for promoting MNCH” could read better if we remove the word designed and state that scoping review which identified and classified publicly accessible evidence on policies…..(page 6) Minor essential revision
  • The sentence has been edited for clarity, and the word “designed” removed as suggested (line 194 – 197, pg. 7).

Methods:

The methods section is alright but I think it could be tightened a bit especially where the authors state that, “The identified publications – peer reviewed and non-peer reviewed - were used to determine what literature is available on this subject to create a narrative of existing evidence and associated…” It would be useful to provide more explanation on how exactly the identified publications were used to determine what literature is available was it by following up on references in these sourced peer reviewed and non-peer reviewed publications.(page 6). Minor essential revision
  • We have more explicitly described the scoping review methodology in hopes that this will address the referees concerns for clarity and additional information (lines 200 – 218, pg. 7).

The following statement I think needs review “The scoping review results were used as a preliminary step to inform an in-depth policy analysis for a sub-set of eight African countries” which implies that there was something else done which “is the indepth analysis” How this was done has not been discussed in the methods section except in passing in the statement above.(page 7) Minor essential revision
  • We trust that the above-mentioned revision of the methods will also address this concern. With respect to the in-depth analysis, it is not discussed in this paper, whose scope is restricted, due to length constraints, to the scoping review. We have added more explicit reference to the full report, however, which contains the results of both the scoping and synthesis exercises (lines 215 – 218, pg 8).
This sentence needs revision “Searches of the following online databases from were conducted: PubMed, CINAHL, Econ Lit, Psych Articles, Psych Info, Informa Health Care e-books, the Cochrane Library, ABI inform, Web of Knowledge,4AIS, JSTOR, Business Source Complete, ERIC and EMBASE”. The word from is misplaced. (page 7). Minor essential revision

• The word “from” was removed from the sentence as suggested (line 221, pg. 8).

Results:

The following sentence needs review, “The scoping of electronic database returned a total of 548 peer-reviewed articles, including 122 duplicates “ I think it should be databases. (page 9) Minor essential revision

• The word “database” has been changed to “databases” as suggested (line 221, pg. 8).

The following sentence needs review “Policies that focused exclusively on training and deployment were limited, with the majority of the literature addressed both training and deployment either directly or as embedded components of broader policies” (page 11). This should be “addressing” am I right? Minor essential revision

• The sentence has been edited for clarity, and the word “addressed” has been changed as suggested (line 310, pg.12).

General comment on results:

I think a bit more could have been said on the results of the literature search with regards the area of focus which is training and deployment of HRH for maternal and newborn and child health in rural Africa. the assertion that, “Policies that focused exclusively on training and deployment were limited, with the majority of the literature addressed both training and deployment either directly or as embedded components of broader policies” needed to be developed further for example which policies across the countries had embedded in them deployment and training and were there countries which had specific standalone policies on training and deployment of HRH involved in MNCH. I see that later you zero in on some policies in specific countries which is commendable but it would be useful to give an overview in brief under your results and then get into greater detail as you did. Major compulsory revision

• Specific examples of the policies identified are explored and developed upon in the section that immediately follows (line 338 – 533, pg. 13 – 21). We have clarified the language in the lead-in paragraph to make this more apparent, and we have also added a summary table specifying which policies emerged from the review, and from which country (line 332 – 336, pg. 13).
Policy foci of peer reviewed Literature:

I find this sub heading problematic, what is the focus in this section, is it the literature or the policies that are being discussed? My reading is that the discussion is about policies on training that were identified in the literature that was searched for and reviewed in the scoping exercise in two countries Ghana and Nigeria. I also think there should be a description of each of these policies, why they were adopted and then the successes. There is need to strengthen the discussion on the policies. It is also important to state clearly when the training programme started and ended and the effect on retention. The following statement in the discussion needs review “Thirty seven of the 38 specialists who successfully completed this program from its initiation in 1989 to 2006 remained in Ghana to practice, the majority practicing in the public health sector “to show duration of training, who the benefitting HRH involved in MNCH and for how long they remained in employment post training.

Major compulsory revision

- The sub heading has been changed to “policy information from peer-reviewed literature” to clearly indicate what is being presented (line 338, pg.13).
- This section is intended to provide a description of the types of information available in the literature, pertaining to our research question. Due to length constraints it is not possible to describe all identified policies in depth, nor is a full policy analysis within the scope of this paper. As such we have attempted to provide a general overview of the identified policies with some illustrative examples – which we have now described in more detail (lines 339 – 532, pg. 13 - 21). As previously mentioned more fulsome policy analysis can be found in the full report.
- We have amended the sentence mentioned for clarity.

On deployment, recruitment and retention the comma after and on the sub tile should be removed. I also suggest that the two strategies adopted (The 2004 Rural Allowance policy and the Occupation-Specific Dispensation Incentive strategy,) in South Africa be described then followed by the discussion provided. It is stated that the two strategies were described to have significant weakness but it is not clear by whom I think we need to state forthrightly who described the strategies as weak.

Minor essential revision

- The comma has been removed.
- The text has been edited to make it more explicit that the included descriptions come from the identified papers and their authors (line 381 - 404, pg. 15 – 16).

Review the following sentence, (page 12) “Upon qualitative evaluation, this policy demonstrated a lack of evidence-based design alongside poor communication and definition of implementation parameters i.e. which providers were eligible for the allowance and why, what qualified as a rural zone, and an absent monitoring and evaluation mechanism” I think the last part could be put in a better way.
Minor essential revision

- We have edited the sentence for clarity (line 386 – 397, pg. 15 – 16).

Review the sentence (page 12) “…was pushed forward prior to many preconditions being met, such as a complete and accurate specialized nursing registration databases from the South African Council of Nurses” Were there several data bases for nurses? Minor essential revision

- The sentence has been edited for clarity (line 402, pg. 17).

Dual focused policies:

There is need to state what dual focused policies are because the first policy that is discussed has five facets. What is the duality that is being referred to the same applies to the Zambian example. There is need to make the reader understand this classification (page 13-14). Major compulsory revision

- The sub-title has been changed for clarity (line 442, pg. 18).

Embedded policies:

In this section reference is made to MNCH training which is not the case in the policies discussed earlier am I right that all the other policies were specific to Rural MNCH if so this must be stated if not then this also should be stated. Major compulsory revision.

- We have noted in the introductory sentence of this section that, “The remaining literature explored policies not explicitly designed to address rural MNCH through training and/or deployment of the selected providers, but via embedded or implied components of policies with broader mandates.” (line 472 – 474, pg. 19).

On page 15 the sentence “Niger's Rural Health Improvement Program also aimed to increase PHC coverage by upgrading rural health facilities and dispatching newly-trained village health teams; access to the former led to a significant increase in MNCH service uptake and a 32% decrease in the likelihood of under-five mortality in the area of evaluation”. needs review so that what is being stated is clear with respect to what led to the increase in uptake. Minor essential revision

- The sentence has been edited for clarity, and additional text has been added to further explain what led to the gains in MNCH (line 484 – 490, pg. 19 – 20).

Discussion:

The statement (page 18)”First, there was an overall paucity of evidence and information on training and deployment policies for HRH for MNCH in rural Africa” needs to be developed further, no evidence to this effect has been presented in the scoping review it only appears in the abstract and the discussion there is need to develop this further in the results. Major compulsory revision
• We have edited this sentence for clarity (i.e. specifying the HRH in which we are referring to), and expanded upon this statement by adding additional text to frame the relative paucity (line 568 – 583, pg. 23 – 24).

The assertion on page 18 “This bias is illustrated by the abundance of articles specific to developed regions versus low and middle-income countries” has not been supported by evidence in scoping results but is stated in the abstract and in the discussion Major compulsory revision.

• We have edited the content of this paragraph to better illustrate how we arrived at the conclusion of research bias, citing review documents that were uncovered through the research itself, as well as additional literature referenced for discussion purposes (line 587 – 600, pg. 24).

On page 19 the aspect of non-monetary incentives is discussed but nothing on it is presented in the scoping review results. Major revision.

• The discussion on non-monetary incentives has been removed and replaced with content that more accurately reflects the results given in the review (line 607 – 624, pg. 25).

In the discussion on the policy on cervical screening in South Africa the authors discuss issues that had not been raised in the scoping review results and I think it is important to include these in the results as well. On page 16 the paper states, “Additionally, South Africa’s Cervical Screening policy mandated nurse training in Pap smear provision, again recognizing the potential of upgrading skills of previously deployed HRH” and in the discussion they go on to assert that, (page 19) “An evaluation of South Africa’s Cervical Screening policy indicated that technological and task-shifting interventions were not sufficient on their own, and required the concurrent addressing of other HRH issues such as training, attrition, skills-mix, and workload management for success”. There is need to develop this discussion further so that we can be able to understand the issues at stake especially the question was the policy poorly conceived if so why. Major compulsory revision.

• We have removed South Africa’s Cervical Screening policy as an example in the discussion. Originally it was being used to highlight the importance of context in the success of policy. Again, the scope of this review did not include detailed analysis of each policy identified in the search. We hope that the clarifications made to the scoping review methodology will assist the readers in understanding what information is included and why.

“The scaling-up of integrated management of childhood illness (IMCI) in Uganda was limited. IMCI training alone was found not to be adequate in itself to improve child health and that a supportive infrastructure, work environment, and political context were also required” this policy or programme is only raised in the discussion but not in the scoping review results it should be excised or raised in the results section as well. Major compulsory revision.

• The results section has been updated to include information on IMCI in
Uganda to ensure continuity between the findings and the discussion (line 363 – 378, pg. 14 – 15).

The paragraph beginning with “The majority of the included primary research.” (Page 20) is a methods issue which I think should have been discussed and resolved in the methods section. It does not add anything to the discussion in my view. Major compulsory revision.

- This paragraph refers to the methods used in the publications identified through our review, not the methods of our review itself; we therefore feel this content is appropriately placed.
- We have edited the paragraph to make this clearer (line 641 – 645, pg. 27).

The paragraph beginning “it is evident that attempts are being made...” page 20 ...contradicts an earlier assertion that there is paucity on information on HRH which I have raised earlier. There is need to review this and also include the discussion on the various perspectives from which literature was drawn in the scoping review findings, Here you mention ethical, anthropological and sociological and biomedical but this has not been mentioned anywhere else. Major compulsory revision.

- As we note in our results, a number of programs and strategies pertaining to training and deployment of HRH for MNCH are described in the identified documents; the paucity we refer to elsewhere is one of detailed information about those policies and programs, not of programs themselves. We have edited this paragraph to make this distinction more explicit (line 651 – 660, pg. 27).
- The references to the various perspectives (i.e. ethical, anthropological, sociological etc.) have been removed.

I do not see the value of dwelling on the excluded policies as you have discussed the inclusion criteria in the methods section. I do not think this is important. I think the two paragraphs on this exclusion aspect do not fit in the discussion at all Major compulsory revision.

- We believe this information to be valuable as it helps frame the research and inform future direction. This is explored further in the discussion (line 314 – 330, pg. 12 – 13; line 646 – 652, pg. 43). However, the text referring to the excluded policies has been shortened and moved into the results section.

The conclusion needs to address the objective of the scoping review which was to identify and classify publicly accessible evidence on policies for the training and deployment of doctors, nurses and midwives in rural Africa for promoting MNCH. What are the major HRH policy issues that are emerging from the scoping review and what has been their effect. Major compulsory revision.

- The conclusion has been edited and expanded upon significantly to link it more explicitly to the paper’s objective and better reflect the methods and
findings of the scoping review, as well as the gaps in current knowledge that needs to be addressed. Our objective in this paper is to describe the type, extent, and quality of evidence on HRH policies for rural MNCH in Africa; synthesizing the major HRH policy issues is outside this scope and not possible given length restrictions, although we have referred to the availability of such analyses in our full report (line 682 – 695, pg. 29).

Referee 3 – Gustavo Nigenda:

MAJOR COMPULSORY REVISIONS

There is a lack of cohesion across the article’s sections. There is no clear connection between the objective which refers to presenting “findings from a review designed to identify and classify publicly accessible evidence on policies for the training and deployment of HRH in Africa for promoting MNCH” and the results that initially present the metrics (indicators) of the literature search and then describes the contents (policy developments) of the articles that were identified. Following this, the results include information obtained from the search in governmental and professional associations’ web pages but these results are not analyzed or commented in the discussion section.

- We have made numerous changes throughout the paper in order to link the sections more explicitly. Among them are the clarification of the specific methodology used in this research (line 200 – 214 pg. 7 – 8; line 234 -244, pg. 9), expansion of the text in the results section to connect it more directly with the research question (line 281 – 561, pg. 9 – 23) and more pointed discussion (line 564 - 661, pg. 23 – 27) conclusions sections (line 680 – 695, pg. 28 – 29) that better reflect the findings from the study. We have also re-organized some of the content in hopes of achieving an overall better flow of information.

MINOR ESSENTIAL REVISIONS:

1. P7. The paragraph mentions a subset of 8 African countries but only 7 countries are listed.
   - Niger has been added to the list of subset countries to bring the total up to 8 (line 217, pg. 8).

2. The description of policy occupies a great deal of space in the results section but no table summarizing these results
   - A summary table has been added including information on policy type, name, country, and provider of focus ((line 332 – 336, pg. 13).

3. In the description of policies, it is not clear if countries described are selected from an universe or if these are the total of cases obtained. If it is a selection, what criteria were used to choose them?
• The policies described originate from the final body of literature that was achieved after applying the inclusion criteria. As such, these policies come from the 13 countries that were represented in the included literature, out of a possible 46 that were included in the scoping. We have attempted to clarify this in line 290 on page 11, and an amendment to Figure 2 (line 292, pg. 11).

4. Authors refer to the paucity of publications in this field and to some of the problems found in the studies design and implementation (not enough reports compared to the policies implemented in the countries, lack of capacity to report from policy implementation to evaluation, etc). Considering that the role of foreign researchers is highly important in Africa, What is the role of non-African researchers in the production of reports? How many of the reports are published by non-African researchers, by a blend of African and non-African? Are these relevant factors?
  • We agree with the reviewer that these are important questions but feel that addressing them is beyond the scope of this paper.

5. How does results presented compare with other developing regions? Is Africa a special case in not properly documenting HRH issues and problems?
  • Although fulsome answers to these important questions would require entire manuscripts, we have added a brief description of how problems of poor documentation and HRH research prioritization in Africa compare to other developing regions (line 591 – 594, pg. 24).

Referee 4 – Jaratdao Reynolds:

MINOR ESSENTIAL REVISIONS

1.1 Methods:

Clarify the word “HRH” as it can includes all group of health care personnel, what are the health professional included in the study?
  • The use of the term “HRH” in the description of the Advisory Group’s areas of expertise is simply to indicate that its members have extensive familiarity with the field of human resources for health. As we note in the abstract, background (line 193, pg. 7) and methods (line 201, pg. 7) the professions included in the study were doctors, nurses, and midwives.

If it is possible, can the author provide the study framework of what the researcher looking for in this scoping review of 37 articles.
  • We have clarified the scoping review method and additional details have been added with regards to the data extraction tool used, which data specifically was extracted, and how that data was analyzed from the 37 articles (line 200 – 214, pg. 7 – 8; line 234 – 237 and line 255 - 256, pg. 9).
Is it possible to create the result table providing a list on which paper provide which information? Then, when results are presented, add a table with a list of all references and tick criterion that each paper addresses.

- A results summary table has been added that includes the policy type, name, country, and the providers it covers. We are reluctant to add all of the information requested by the reviewer to this table as it would considerably lengthen the paper, and the information requested is already provided in the existing text.

Clarify the reason to use the paper published more than 10 years

- The review included papers published more than 10 years ago as per the recommendations of the Advisory Group. It was suggested that given the often long lifespan of policies, that we include all documents from 1990 on, in order to capture the largest body of data possible. However, as we have noted, the majority of documents meeting inclusion criteria were published since 2003.

DISCRETIONARY REVISIONS:

1.1 Discussion part (Part I : Literature review)
It would be very useful if the author can use the mapping method to analyse the policy existing in the finding with the WHO 16 recommendations for health workforce rural retention.

- We agree that this would be a useful exercise. However we feel that this would require a separate manuscript.

Can author discuss the gap of existing policy and challenges or success of these policies.

- Discussing the gap in existing policies, along with the challenges and successes of those policies is a level of analysis that is beyond the scope and methods of this review. However, this topic is covered in the full report, in which this scoping review was initially conducted for.

1.2 Limitation of the study section: Helpful to clarify limitations of the methods employed in the study and limitation of the results of the study, as these are different types of limitations.

- A more explicit distinction has been made between limitations of the methods and the limitations of the results (line 671, pg. 28).

1.3 Conclusion: It should be more relate to the results finding in this paper and perhaps provide the insights on the gap of knowledge that need to be further investigated in-depth analysis as the author mention herewith.
• The conclusion has been edited and expanded upon to better reflect the findings of the scoping review as well as the gaps in current knowledge that need to be addressed (line 680 – 695, pg. 28 – 29).

1.4. Background: page 6 first paragraph, line 6 change “weak physical infrastructure” to “poor physical infrastructure”
  • The suggested change has been made (line 178 – 179, pg. 6).

Discussion part page 6, first bullet, change from modeling to modelling
  • The suggest change has been made (line 316, pg. 12).

Referee 5 – Eliana Goldfarb Cyrino:

MINOR ESSENTIAL REVISIONS:

On the page 7: it is written that are 8 countries, but there are seven countries described: "...The scoping review results were used as a preliminary step to inform an in-depth policy analysis for a sub-set of eight African countries: Ethiopia, Ghana, Mali, Mozambique, Tanzania, Uganda, and Zambia".
  • Niger has been added to the list of subset countries to bring the total up to 8 (line 217, pg. 8).

On the page 19: The Authors should include more authors and references in the paragraph: "Several peer-reviewed articles noted that policy execution, sustainability and impact are defined by the context of implementation"... Or change the word "several".
  • We have added additional references and examples have been added for the “several peer-reviewed articles noted...” (line 628 – 639, pg. 26).

We trust that you and the reviewers will find that these revisions have satisfactorily addressed their comments. Please feel free to contact us if we can provide any further clarification.

Sincerely,

Gail Tomblin Murphy
On behalf of all the authors