Author's response to reviews

Title: Mapping the use of research to support strategies tackling maternal and child health inequities: evidence from six countries in Africa and Latin America

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Author's response to reviews: see over
Mapping the use of research to support strategies tackling maternal and child health inequities: evidence from six countries in Africa and Latin America

Answers to Reviewers’ comments

First of all, we want to thank both reviewers for their insights and propositions, which helped us to significantly improve our paper.

In order to make our answers as clear as possible we developed the following table copying the reviewers’ comments on the left column and introducing specific answers on the right column. Changes in the original text are shown in red in the table below.

In order to make reading easier, we accepted all the eliminations in the main text, the abstract and the Tables. The latter are introduced in their new version without any track changes since it would also make reading a bit heavy.

Due to the reorganization of the material, the numbers of Tables 2 and 3 have been inversed. These new numbers as well as the modifications introduced in the three tables of the paper are at the end of the main text.

We hope that our answers are sufficiently clear and satisfying.

<table>
<thead>
<tr>
<th>Reviewers Comments</th>
<th>Authors’ answers</th>
</tr>
</thead>
<tbody>
<tr>
<td>REVIEWER: Elia Diez</td>
<td>This precision was indeed very important. The Abstract has been modified. The new text in the abstract is the following: Background. Striving to foster collaboration among countries suffering from maternal and child health (MCH) inequities, the MASCOT project mapped and analyzed the use of research in strategies tackling them in 11 low and middle income countries. This article aims to present the way in which research influenced MCH policies and programs in six of these countries: three in Africa and three in Latin America.</td>
</tr>
<tr>
<td>The research question, and objectives, could be more precisely defined in the abstract and the main text.</td>
<td>Please see above, the answer to the first comment.</td>
</tr>
<tr>
<td></td>
<td>In the abstract, it should be clarified that the paper studies 6 countries in the framework of a widest project.</td>
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<td>Please see above. This has also been considered in the new text of the abstract, which only mentions what is strictly related to the object of this paper.</td>
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<tr>
<td></td>
<td>This has been clarified in the Methods section, where we added the following text: The study was carried out from April to December 2012. This paper is focused in six low and middle income countries (three African and three Latin American countries) selected among the 11 countries of the MASCOT project considering the best quality and comparability of their information.</td>
</tr>
<tr>
<td>I think that the MASCOT objectives are not useful in the abstract and the references in the text could be reduced.</td>
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</tr>
<tr>
<td></td>
<td>The objectives of the study could be better defined in the 4th paragraph: to find out how did research influence MCH policies and programs. In the following introduction</td>
</tr>
<tr>
<td></td>
<td>As mentioned above this is a very pertinent commentary. We added the new description of the objectives of the study in the abstract and the introduction: The paper aims to present the way in which research influenced MCH policies and programs, while describing other topics such as: who is producing what kind of</td>
</tr>
</tbody>
</table>
paragraphs, it seems that the main objective is to assess whether the countries’ research was instrumental, conceptual or symbolic (a clear question). But in methods and results, other very interesting objectives arise:
- number and names of research centres
- the research produced
- topics of the research
- funding
- intentions of the researchers
- evidence base of the plans and strategies
- dissemination
- inequities approach
- capacities

It would be good to describe what will be analysed in the objectives.

In addition, in the Methods section we explained this a bit further: emphasized in the variables of analysis:
Qualitative research using a mix synthesis analysis process, to identify and describe who is producing what kind of research, how is research funded, how are inequities approached by research and policies, what are the countries’ research capacities and what kind of evidence base do MCH policies and programs use.

About the strategy of analysis, the terms ‘inductive’ and ‘deductive’ used in the main text (introduction, methods and results), the abstract and the tables, may confuse the reader. Clarifying it only once would be better.

A brief description of each method was added in the introduction paragraph.
The MASCOT consortium based its evaluation of strategies tackling MCH inequalities considering three basic ways in which research results had been used in their design, formulation or reshaping: instrumental, conceptual and symbolic (11).

The instrumental use of research occurs when research is specially tailored or its results are directly used to answer to a particular health need. In this case, a clear influence of research results can be recognized in the formulation, planning, reshaping or implementation of a given intervention, policy or program. We can distinguish two subcategories of instrumental use of research results: a) researchers identify a particular need and the uptake of their work is decided by decision makers, and b) when decision makers or program managers demand the assistance of researchers to look for answers that will support or define the design of a strategy (11) (10).

Conceptual use of research results is made when certain concepts, theories or perspectives developed by research serve to strengthen the formulation of an already made decision (12) (10). Research exists with no immediate relation to the policy or program in scope, but its results help to sustain them. Finally, symbolic use of research results can be identified in the case of decisions, policies or programs which are made based on arguments that are not necessarily linked to research, but research results are brought up to justify them (11) (13). In this last case neither the particular results nor the concepts, theories and ideas of research serve as foundation of the policy or program, but only their “scientific aura” is used to justify them (13).

At the beginning of methods it could be described the type of study and design

Of course this is a necessary precision that the original manuscript was lacking. The first paragraph of the
Methods section now states:
**Methods.** Qualitative research using a thematic synthesis narrative process, to identify and describe who is producing what kind of research, how is research funded, how are inequities approached by research and policies, what are the countries’ research capacities and what kind of evidence base do MCH policies and programs use.

| The tools (online survey, guides for the content analysis of documents and guidelines for interviews) are not described. The description of the main issues of the guidelines, questions, variables (in the case of the online survey) and categories of all the variables studied would help to understand how the research was done (and eventually could be replicated). Otherwise the reader can’t understand how the information was captured and processed. |
| In order to improve the understanding of each one of the four tools, the fourth column of Table 1 has been changed to include their main variables. Besides, the following was added in the main text: Four tools using mixed methodologies were developed (Table 1) with two perspectives: inductive and deductive (Figure 1). The inductive perspective focused on each country’s scientific production and the manifested direct and indirect intentions of researchers to influence policies or in studying or reducing health inequities when formulating or disseminating their work. In this case we started from research production and tracked the way towards policies and programs (Tools A and D). The deductive perspective analyzed relevant MCH policies and programs that had contributed to the reduction of MCH inequities directly or indirectly and looked into them to track down any research that influenced its design and/or implementation: from policies and programs to research. The main documents related with the design and functioning of these strategies were analyzed and key actors were interviewed to acknowledge if there had been any kind of research uptake to support them. (Tools B and C). |

| How finally research is ascribed to one of the three categories (instrumental, conceptual or symbolic) is not clear. |
| We included the following explanations in the Methods section: Finally, the role of research in the process of policies’ formulation was identified through the explicit or implicit use of evidence in relation to quotations and references in the main documents of each policy or program. Once this use was identified, a distinction was drawn regarding the instrumental, conceptual of symbolic use of research by establishing a relationship with the context of decision making and policy or program formulation. Whenever a strategy made direct use of data or information derived from research we coded this kind of use as instrumental. A general use of theories derived from research to support the strategy but with no direct or factual relation was coded as conceptual. Finally, an even more general evocation of scientific production not clearly supporting the strategy was qualified as symbolic use of research. |

| The period of the study should be clarified. Sometimes it seems 2012, sometimes from 2009-2012. |
| As it can be read in the answer we gave to one of the above commentaries of the reviewer, the new text at the beginning of the Methods section now states: **Setting** The study was carried out from April to December 2012, this paper is focused in six low and middle income countries (three African and three Latin American countries).... |

| The first paragraph of results describes that the first ten research centers will be listed. |
| The reviewer’s point of view is correct. We removed that paragraph. |
This should be in methods.

<table>
<thead>
<tr>
<th>The numbers and percentages should have similar formats in all countries.</th>
<th>We went through the text and used the same format for all numbers and percentages, and unified the table content.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Some conclusions don’t seem adequately supported by the results, especially in the abstract, and the same happens with the recommendations.</td>
<td>The conclusions in the abstract have been completely modified. The new text now reads:</td>
</tr>
<tr>
<td></td>
<td>In the Abstract</td>
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<td></td>
<td>While MCH research is increasing in low and middle income countries, the impact of its outcomes on policy formulation is low. We did not identify a direct relationship between the nature of the financial support organizations and the kind of evidence utilization within the policy process. There is still a visible gap between researchers and policymakers regarding their different intentions to link evidence and decision making processes.</td>
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<tr>
<td></td>
<td>In the main text:</td>
</tr>
<tr>
<td></td>
<td>Conclusions</td>
</tr>
<tr>
<td></td>
<td>The need to use research results to support decision making is recognized in all the countries of the study and research production is increasing in these low and middle income countries. Nevertheless the impact of their outcomes within policy formulation is low, exceptionally some countries in Africa has a conceptual use of evidence done for multilateral organizations which goals are not related with the policy issues; while in Latin America countries there are better experiences in instrumental and conceptual models uses into the policy formulation.</td>
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<tr>
<td></td>
<td>We did not identify a direct relation between the nature of the organizations financing research and the kind of evidence utilization by the policies and programs. Nevertheless, a more consistent use of research is assured when it is funded by the governments or multilateral organizations.</td>
</tr>
<tr>
<td></td>
<td>We reaffirm that different factors, first of all the lack of resources and of a research oriented culture among decision makers, hinder the real instrumental use of research results. Researchers lack incentives and an established culture that could strengthen their direct and indirect intentions to influence policies and to study MCH inequities. This explains why research’s impact on policy formulation is still small and not easy to track.</td>
</tr>
<tr>
<td>The typing and format of many of the references should be carefully reviewed.</td>
<td>The references were reviewed and modified.</td>
</tr>
<tr>
<td><strong>Table 1.</strong> the first column describes the objectives of the document, the 2nd the type of tool, and the 4th could be eliminated (it’s difficult to understand). The titles of the columns could be renamed.</td>
<td>The reviewer’s proposition was very helpful. We eliminated the fourth column in Table 1 and instead inserted information on the kind of variables that were used in each tool. Please see the new Table.</td>
</tr>
<tr>
<td><strong>Table 2.</strong> Review the format, different between cells and countries.</td>
<td>The format has been unified for all cells and countries. Please see the new Table (which now is number 3).</td>
</tr>
</tbody>
</table>
Table 3: the last column explores the type of research (instrumental, conceptual or symbolic), but the cell related to Brazil doesn’t answer this question.

The reviewer is right. We have changed the content of this cell. It now states:

- No explicit use of research results in the formulation of national programs and policies.
- The programs and policies use past research as a conceptual support.

Please note that this Table is now number 2.

Figure 1. I’m not sure if it clarifies or would be better to rely only in the text and eliminate the figure.

The reviewer’s comment made us reconsider the figure and, since we think it is helpful, we added a small text below the two main titles inside it as follows:

- Deductive
  From policies & programs to research
- Inductive
  From research to policies & programs

Reviewers Comments

<table>
<thead>
<tr>
<th>REVIEWER: Jitse P P. van Dijk</th>
</tr>
</thead>
<tbody>
<tr>
<td>Abstract</td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td><strong>Background</strong></td>
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<tr>
<td>Please place a dot after all 4 words (Background, Methods, Results, Conclusions) and continue with a capital. Before them, please end the sentence with a dot. (please add) ... American countries of the MASCOT study on possibilities for improving MCH.</td>
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<tr>
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<tr>
<td><strong>Methods</strong></td>
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<tr>
<td>long; not very clear.</td>
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<td></td>
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<tr>
<td><strong>Results</strong></td>
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<tr>
<td>in this part no interpretation of findings or comments.</td>
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<tr>
<td></td>
</tr>
<tr>
<td><strong>Conclusion</strong></td>
</tr>
<tr>
<td>unclear how the conclusions are related to the research question – as far as i can see, they are not.</td>
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</tbody>
</table>

Authors’ answers

- We thank the reviewer for this commentary. We introduced all the necessary punctuation. Besides, the text of the abstract has been significantly modified in attention to the first reviewers’ commentaries.

- This section of the abstract has been reformulated and reduced. It now reads: Methods: Qualitative research using a thematic synthesis narrative process, to identify and describe who is producing what kind of research, how is research funded, how are inequities approached by research and policies, what are the countries’ research capacities and what kind of evidence base do MCH policies and programs use.

- The text has been significantly modified to avoid interpretation or comments. The new text is as follows: Results. Three modalities of research utilization were observed in the strategies tackling MCH inequities in the six countries of the study: instrumental, conceptual and symbolic. Instrumental utilization directly relates the formulation and contents of the strategies with research results, and is the least used within the analyzed policies and programs. Even though research is considered as an important input to support decision making and most of the analyzed countries count five or six relevant MCH research initiatives, in most cases, the actual impact of research is not clearly identifiable.

- The conclusions have been reconsidered and the text has been modified as follows: While MCH research is increasing in low and middle income countries, the impact of its outcomes on policy formulation is low. We did not identify a direct
relationship between the nature of the financial support organizations and the kind of evidence utilization within the policy process. There is still a visible gap between researchers and policymakers regarding their different intentions to link evidence and decision making processes.

Introduction

para 2:
* While Neonatal Mortality Rates (NMR) were halved … please add time frame in this sentence.
* please add to the last sentence: ‘Prosperity of a society, [access to]’

The time frame has been added as follows: While Neonatal Mortality Rates (NMR) were halved in the European and Western Pacific regions between 1990 and 2010, the reduction observed in the African region was only of 19%. We changed the last sentence as follows: In relation to the prosperity of a society, access to health care and the quality of the care people have access to, are but two (…).

para 3:
* please change last sentence: Furthermore, political will to reach redistribution of sources in a country is also necessary and to assure ..

We have followed the reviewer’s proposal. The paragraph has been changed as follows: Furthermore, political will is also necessary to reach redistribution of sources in a country and to assure that interventions become operational (5).

para 4:
* please condense; what remains should be relevant for the rest of the manuscript.

The paragraph has been condensed eliminating details on the consortium sponsoring this study.

para 5:
* please rework text in such a way that the main message of the below cited paper is also incorporated:
para 6:
* consider also here reworking the phrases about the use of research.

A very interesting issue. We have changed the paragraph as follows:
Different frameworks have been conceived in order to assess the impact of research in policy making (7) - (8). Research uptake not only depends on the soundness and pertinence of its results. The particular position of public health researchers among other stakeholders who favor or are against change, particularly the Ministry of Health, is an important factor (9). Rather than trying to measure the impact of research, this study focused on finding out how research influenced MCH policies and programs.

para 6:
* consider also here reworking the phrases about the use of research.

We have simplified the description of the instrumental use of research eliminating certain phrases and the paragraph now reads:
The instrumental use of research occurs when research is specially tailored or its results are directly used to answer to a particular health need. In this case, a clear influence of research results can be recognized in the formulation, planning, reshaping or implementation of a given intervention, policy or program. We can distinguish two subcategories of instrumental use of research results: a) researchers identify a particular need and the uptake of their work is decided by decision makers, and b) when decision makers or program managers demand the assistance of researchers to look for answers that will support or define the design of a strategy (10)-(11).

para 8:
* rephrase research question into a real research question, like:

The paragraph has been substantially modified, relation to the reviewer’s commentary the new text reads:
The paper analyzes and compares research
This article analyzes and compares research utilization modalities in three African and three Latin American countries of the MASCOT study on possibilities for improving MCH. It also describes other related topics such as: who is producing what kind of research, how is research funded, how are inequities approached by research and policies, what are the countries’ research capacities and what kind of evidence base do MCH policies and programs use.

### Methods

I feel this part as unstructured; here some redoing could help a lot. At least some headings should be included here, like Sample / Measures / Analyses and reporting. As it is now mixing up justifications, information about what will be measured, how it will be measured and how the authors intend to report on the material they found, it is rather difficult to understand what authors want to say.

**Para1:**
* please split this 1 sentence / 1 para paragraph; as it is now it is unreadable.

**Para3:**
Please split the very long first sentence

**Para4:**
I would like to know how this was done, not that it was done, but how.

**Para5:**
It is unclear how this was measured.

**Para6:**
It is unclear to me why the 4 different groups are treated differently; I think some justification should be added.

**Para7,8,9:**
Definition of the 3 different groups is lacking. Furthermore: are these 3 groups related to the earlier mentioned 4 groups? What happens with the online survey?

### Results

*In general whole the Results section is too long and should be condensed. Per country no more than 1 page should be used; this means some restructuring of the existing text. Furthermore, descriptions across countries should have the same structure.*

**Para1:**
The first para is a methodological remark, and not a result. Please move into the restructured Methods section.

**Ghana - induction**
Please skip the uninformative sentence ‘which includes four different research centers’ Funding was not a part of your aim. Please restructure this part (eg para1 s 1-5; para3; para2 (from where, how many, how many extra?)

We have significantly modified the whole Methods section in attention to both reviewers’ pertinent commentaries. Subheadings have been added as proposed and answers to the requested information are now present in the main text. Please refer to the whole section in it.

We thank the reviewer for this important commentary. In fact the text was too long, so we reduced it to one page per country and gave the same structure to the results of all countries. Please see the main text.
Please keep in mind the following structure for writing a Discussion:

- Para 1: Start with repeating the research question + answer this without any comments.
- Para 2, 3, 4: Start a new para, 1 topic per para, and start this para with one of your findings – which then defines the content of the para. Relate your finding to earlier published references. In these para’s do not simply repeat your findings.

Strength and limitations

Recommendations (split into: for practice, for future research)

We thank the reviewer for these clear suggestions. References have been added where necessary and the section now starts with the following paragraph:

This paper tried to determine how much and in what manner are policies and programs tackling MCH inequities using research in three African and three Latin American low and middle income countries. We found an increasing interest in supporting these strategies with the use of research results. The ways in which these results are used vary from a common merely symbolic reference to their scientific aura, to the actual use of data specifically produced to inform and orient their design and implementation and passing through the use of their general concepts to give a theoretical support for the strategies.

We invite the reviewer to look at the changes made in the rest of this section in the main text.

Conclusion

Strengths and limitations

Does this study have strengths?? Please mention these. Furthermore, limitations are those issues which might bias your findings (are there sources of selection?). They are explicitly not issues not done already – they should move to the next paragraph, Recommendations.

Recommendations

Please add a paragraph on what your findings mean for practice / policy, and what they mean for...
future research. Also add a heading.

**Recommendations**
A closer contact of researchers with decision makers can enhance the latter’s awareness of how can research results better inform and support the design and implementation of policies and programs. This can be fostered by renewed efforts of research to deepen the understanding of how its uptake is happening.

Finally, considering the importance of funding, the participation of international agencies and a more locally oriented agenda of research financing are needed to foster production, demand and an effective utilization of research in the design and implementation of strategies tackling MCH inequities as it is in the case of all other kinds of health programs.

<table>
<thead>
<tr>
<th>References</th>
</tr>
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</table>

Is the question posed by the authors new and well defined?
New, yes, but should be described in Abstract and Introduction in an identical way.

Are the discussion and conclusions well balanced and adequately supported by the data?
I think the discussion can be improved.