Author’s response to reviews

Title: Microeconomic Institutions and Personnel Economics for Health Care Delivery. A Formal Exploration of what Matters to Health Workers in Rwanda

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Revision report: point by point response to reviewer comments

Reviewers’ comments are in italics with authors’ response immediately following.

Reviewer 1

1. Important topic and, due to the lack of a body of evidence, the exploratory qualitative methodology seems appropriate, even though the footnote #4 does not seem a clear rationale for this.

Thank you for this comment. We have now revised the text to provide a more explicit motivation of the use of these qualitative methods. We also revised the footnote to draw to the reader’s attention that economics research, which investigates many of the issues discussed here, still makes little use of qualitative techniques.

2. There are several concerns though; The date of the basic data collection is November 2005. The authors state that the Rwandan health system is dynamic and they describe several ongoing innovations, such as an Ordre des Medecins, a similar structure for Nurses, the collective incentives to performance. The article needs to say if and how the timing of data collection (2005) and the timing of these (and possibly other) fundamental changes are correlated. This is especially important due to the fact that an article using data from 11 years is not considered a priori acceptable

Thank you for this excellent comment. Due to a number of circumstances the final write up of the paper took much longer than anticipated. All the environmental changes we noted in the
paper had been initiated at the time of the research, and we have made this more clear in the paper by adding a section that discusses these changes and how they may affect the findings.

3. Perhaps an introductory note on the specific meaning of the "institution" term in this article is needed, as it is a polysemic term and footnote#2 does not make a clear definition. In the article it is used in one (and not the most general) of these possible meanings.

Thank you. We have now added a clear definition of the term institutions and also revised footnote 2. We define institutions as ‘rules of the game’, following North (1991). This definition includes aspects like rules, incentive structures and organizations, and is therefore well suited for the analysis of factors like incentives, monitoring, norms and motivations, that are the subject of this paper. This approach is similar to emerging work on personnel economics of the state (see for instance Finan et al 2015).

4. There are several missing words, inconsistencies, lack of genre/number correspondence.. It, seems that a second revision may be useful. Check for instance the first paragraph of the abstract and line 22 in page 2; lines 48-50 in page 23; use of masculine instead of generic plural forms in lines 33-35 and 57 of page 22 and line 53 in page 23. In line 39-40 of page 23 the authors talk about a "fascinating study" without the reference.

Apologies for these errors, and thank you for pointing out these inconsistencies. We have now addressed these points and revised the paper to remove further errors and inconsistencies.

Reviewer #2:

This is a well-written article, with a clear research question, methodology and discussion of results, that is of importance to the management and development of human resources for health. I do have a few suggestions that would improve the impact of the paper.

5. The authors refer to ‘microeconomic institutions’. It would be worthwhile to situate these within the health system so that a non-economics reader can make clear links.

Thank you for this comment. We have now included a clear definition of institutions, namely the ‘rules of the game’, following North (1991). As noted also in the response to comment 3 of reviewer 1, this classic definition is similar to recent emerging work on personnel economics of
the state (see for instance Finan et al 2015), and permits exploratory analysis of the role of factors like incentives, monitoring, norms and motivations, discussed in this paper.

Institutions refer to the factors that play role for the organization and performance of, in this case, the health sector, but concentrate less on the interdependence of these factors, which is the focus of the systems approach. In systems language, institutions can be seen as building blocks of systems. The systems approach focuses on the linkages between these building blocks (see Hanson (2015) for an excellent overview of the systems approach in health and and its relevance for other sectors). We have now included a short discussion to clarify this link between institutions and health systems.

6. The authors highlight the scarcity of literature in this area, but there is no strong motivation for why this research question is important to explore, and why the role of institutions of central to the performance and motivation of health workers.

Thank you for this comment. We have now strengthened the arguments why we think the research question is important, and why a focus on institutions can enrich our understanding.

Two key factors underline the importance of this research. First, increasing evidence shows the at times dramatic underperformance of some health workers while other health workers perform strongly. This holds across dimensions of performance, as indicated by early evidence and reiterated by recent studies like the Service Delivery Indicators from the World Bank. So far, there has been no satisfactory explanation for these variations in performance.

Similarly to other fields, institutional factors and architecture, and how health workers respond to them, must play a role and their study will help uncover some of the causes of poor performance. This is also consistent with emerging work in personnel economics, including personnel of the state.

As an illustration: while some factors, like incentives and motivation, have received some attention in the past, studies that focus on these factors, remain somewhat limited. Issues like monitoring and work place culture have only recently become the subject of study.

The language of institutions provide a way forward and help fill a gap in conceptual framework. Where the systems approach allows a focus on the complexity of health sector functioning and performance, the language of institutions allows a more narrow focus on some of the causal relationships. Indeed, one reason why we did not give up on this paper, despite its relatively old data, is that it raises interesting issues, which still remain under-addressed. More generally, we believe that the institutions framework provides an attractive framework to analyse factors that are on the next frontier of research on Human Resources for Health.
7. Several of the authors footnotes (#1-8) should actually be appearing in the main text, as they provide much of the context for and background to the key issues being discussed and the study setting.

Thank you, we have now moved the substance of these footnotes into the main text, while trying to keep the text as legible as possible and keeping lists of references in the footnotes.

8. There is a typo on page 4, line 2. There might be a missing citation in line 26, Page 4.

Thank you, we have corrected these and included the missing citation.

9. There is no justification for the use of FGDs for this study. When asking questions, especially those that might be perceived as 'risky' for respondents, in-depth interviews are often preferred.

We have now revised the text to better emphasise why we use focus group discussion. We agree that individual in-depth interviews, which we assume is what is being referred to, have their strength and are attractive especially when investigating more private matters. As discussed in the text, one key objective of the research was to generate new hypothesis, which is best done generating diverse views, for which FGD are very effective.

Other work emphasises that a key strength of group interviews lies in the interaction between group members. Group discussions – in contrast to individual interviews – allow researchers to elicit a multitude of views on a topic and explore and contrast the opinions of different participants. Group members may also function as an ‘information quality filter’: highly individual or extreme points of view will provoke disagreement from other participants. Group discussions also allow the researcher to collect data on a large range of behaviours in a relatively short time span. Discussions in group also have potential risks that some individuals dominate the discussion, that participants refrain from expressing their ideas because they are not in line with the prevailing view (which may both lead to a “false” consensus), or that sensitive issues may be more difficult to address, although these can to some extent be managed, and discussion techniques like projection (talking about other health workers) may overcome some of these risks.

We have now included additional text to highlight the choice for FDG.
10. There is a limited amount of detail presented about the methods for analysis of transcripts. Was this a thematic analysis? Was consensus coding applied? Were the transcripts analysed in French, or were they translated into English before analysis.

We thank the referee for pointing this out, and have now included more detail on analysis, by adding an additional paragraph at the end of section 2, containing the relevant information.

As described in the paragraph, the analysis is carried out in four steps. In a first step all quotes by participants are grouped in more or less homogeneous groups, called ‘free nodes’. Importantly, no pre-established node-structure is used. As such, a total of 27 free nodes have been identified, such as ‘performance evaluation’, ‘remuneration’, ‘performance pay’, ‘HIV/Aids’, etc. In a second step, logical relations between free nodes have been identified, creating a node tree-structure. This node-tree structure corresponds with the structure of the synthesis of participants’ quotes, which is presented later in this document. A third step further explores relationships between free nodes, for example verifying whether participants make reference to ‘performance pay’ when talking about ‘performance evaluation’ to examine relationships between data, which might not be explicitly apparent. Finally, we compare the number of quotes per topic. A large number of quotations is seen as suggestive of the relative importance of that topic to health workers. A low number of quotations corresponds to the situation where the interviewer has prompted health workers about a topic but gets very few replies because the topic is not an issue. The analysis then focused on those issues with the largest number of mentions. Three categories of themes emerged: problems and challenges, key explanatory factors, on-going and planned innovations. The nature of the explanatory factors that received most attention alerted the researchers to the overarching role of institutions, which is put forward as the appropriate conceptual framework to interpret the findings.

Transcripts were analysed in French, and only the selected quotations were translated into English. The quotes reported in this paper are selected because of their salience and because they reflect themes and issues recurrently brought up by participants.

11. In the discussion (page 21, line 24), the authors say that there us limited evidence on the relationship between payment and performance in the health sector. However, there is a large body of research in health economics, and health systems research (particularly the work of Paulin Basinga, Ellen van de Poel); and a fair number of studies on performance based financing of health systems, especially in Rwanda, that might help situate some of this study’s findings outside of development economics literature.

Thank you for this comment. We have now extended this section considerably, and include references to the mentioned studies (some of which were included) and others to better situate the insights from the study. This has also helped to strengthen the conclusion that there remains
limited rigorous evidence on the causal effect of payment on performance, which deserves more research, as we now mention more clearly in the text.

12. Minor suggestion for presentation: It would be good to integrate the quotes from transcripts with the texts of the results section as this makes for a stronger reinforcement of findings. However, I leave this to the author's discretion.

Thank you for this. We have now better coordinated citations and text, while still keeping them separate from the analysis to keep a distinction between ‘findings’ and ‘analysis’.

Reviewer #3:

General comment

13. Interesting findings but the main issue is that this paper is based upon data from Rwanda in November of 2005, since it has taken 11 years for this paper to be completed. The article makes no mention of the limitations of the data used. It would be interesting if the authors had assessed the current situation in relation to that of 2005. It is not sure the context described in the paper is still relevant for Rwanda today. In 2004, the Mutuelle de Santé began to spread across the country and many development partners have come into the country. No doubt their activities have impacted health care.

Thank you for this comment. We have now made the limitations of the data more explicit and added a specific section (Section 4) that discusses the changes in the Rwandan health sector since the field work took place, and the possible implications for our findings. Four key changes have taken place in the Rwandan health sector (including the mutual health insurance), and all were initiated before data collection and have been accelerated since then; they are also referred to frequently in the discussions, indicating that their impact and expected impact was on health workers’ minds. From a conceptual perspective, the consequences of these changes are ambiguous and remain largely unknown, even in the rare case of rigorous evaluation we only have partial understanding. The study findings and generated hypotheses therefore remain highly relevant today, as argued in more detail in the text.

14. The statement of the problem and the objective of the study are not well stated, even there is no research question (s) to better understand the intent.

Thank you for this comment. We have now revised the text to improve this. The aim of the study is to explore what micro economic institutions and personnel factors can help explain the documented large variation in health worker performance and job choice. As mentioned in the
(revised) introduction, most developing countries face considerable problems regarding the quality of health care, and there is an increasing consensus that many of these problems have to do with both the performance and career choices of health workers. While recent work in development thinking gives a central role to institutions, little work focuses on microeconomic institutional factors for health service delivery. A conceptual framework to explain these issues is currently missing. Institutional factors may help explain the (often disappointing) performance of health workers, and its variation as they react and respond to their work environment and incentives. We make use of group discussions with health workers and users of health services, to obtain a bottom-up perspective.

Specific comments.

15. The title of the paper reflects less the content of the article. The title should be reviewed in order to fit with the content

Thank you. We have now revised the title to better reflect the content of the paper.

Background.

16. The concept of microeconomic institutions for health care delivery needs to be defined, also it could be better to clarify which microeconomic framework the study is based.

We have now clarified this further, as also explained in response to comment 3 of referee 1.

17. The second sentence of the first paragraph needs to be referenced. Last sentence of the first paragraph is talking about recent work but all the references are old. So, the background needs to be reviewed with really recent work. Most of the statements are not relevant regarding the context now in Rwanda. For example the last three para should be reviewed with recent data and references.

Thank you for this comment. We have now extended the discussion and provided updated references throughout the paper.

18. In addition, the authors should set clear objective of the paper or/and with clear research question(s). just a focus cannot be an objective.

Thank you, we have now revised the paper to provide a clear objective and research question, emphasizing the exploratory nature of this research.
Method

19. The data of the survey are old of 11 years (this is an important limitation despite the findings are interesting).

Thank you. We have revised the text to acknowledge this shortcoming of the data, and also added a section discussing the changes in the Rwanda health sector since the field work, and how they may affect the findings, as described in response to comment 13 above.

20. Some discussions were recorded in Kinyarwanda and transcribed in French. This may introduce bias in the coding and then in the results. This should be part of the limitations of the results to be discussed.

Thank you for raising this. We now include additional text to discuss this. Discussions with health assistants and users of health services were conducted in Kinyarwanda, discussions with doctors and nurses were conducted in French. All interviews were transcribed literally in the language in which they were conducted, and the Kinyarwanda discussions were then translated into French. These translations were verified by an independent professional. On the few occasions where there was disagreement about the translations, consensus was reached on the correct translation. The French texts were then analysed. Only the selection of most salient quotes was then translated into English. Both authors verified these translations before inclusion in this paper.

21. Also the software used which is Nvivo 2.0 is an old version. The new version is at least at 10.0.

Thank you. It is correct that the original analysis was carried out in Nvivo 2.0, which was the most up to date at the time. This should not make any difference, as all features operational in 2.0 are also operational in 10.0, and this should not affect the results.

Results

22. The result of the survey in the section 3.2.3 is not clear in terms of professional norms and workplace culture. This section should be clarified with more evidence.

Thank you for this very good comment. We have now added references to work in this area, but evidence remains scarce. We see this as a good illustration of the strength of a bottom up, inductive approach: some issues that come up may have received little attention so far. Rigorous
evidence on this topic remains very scarce, even now, highlighting the need for further research, as mentioned more explicitly in the revised text.

Discussion

23. Limitations of the data should be discussed

Thank you for alerting us to this. We have now included a paragraph discussing the data limitations more explicitly.

Conclusion

24. The conclusion seems to be an extension of the discussion section. It is too long, it should be shortened and should highlight only the main conclusions in relation to the objectives of the paper including any policy implication of the results

Thank you. We have shortened the conclusion and highlight the main conclusions, linking back to the objective of the paper.