Author's response to reviews

Title: Picking up the bill - improving healthcare utilisation in the Democratic Republic of Congo through user fee subsidisation. A before and after study.

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Version: 3 Date: 6 February 2014

Author's response to reviews: see over
Dear Mr Meessen,

**MS: 1383962147102710 – Picking up the bill – improving healthcare utilisation in the Democratic Republic of Congo through user fee subsidisation. A before and after study.**

Thank you very much for your email dated 17th December 2013 and for the comments and suggestions of the reviewers. We have been through the peer reviewers’ comments and suggestions carefully and have revised our paper accordingly.

Please find for your kind consideration the following:

1) A “point by point” response to the comments and suggestions of the reviewers (below pages 2-5).

2) A new revised version of the manuscript marked R1 with changes highlighted in yellow.

We hope that these changes meet with your favourable consideration, and in the meantime please do not hesitate to get in touch if you require any further information.

Yours Sincerely,

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RESPONSE TO THE REVIEWER COMMENTS

We thank the reviewers for their useful and helpful comments and suggestions. We have tried to revise the manuscript in line with the same. All new changes have been highlighted in order to facilitate review.

The specific changes and response to the different points raised include:

REVIEWER #1

1. Is the question posed by the authors well defined?
2. Are the methods appropriate and well described?
3. Are the data sound?
4. Does the manuscript adhere to the relevant standards for reporting and data deposition?
5. Are the discussion and conclusions well balanced and adequately supported by the data?
6. Are limitations of the work clearly stated?
7. Do the authors clearly acknowledge any work upon which they are building, both published and unpublished?
8. Do the title and abstract accurately convey what has been found?
9. Is the writing acceptable?

In the point 3, we see that this paper talk about the catastrophic health indicators, with child and maternal mortality rates. It will be good to see the effects of user fee subsidisation, in one of these indicators…

- Unfortunately, assessing the effect of user fee subsidisation on specific health indicators was beyond the scope of the current study. We highlight this as a study limitation in the Discussion (lines 462-464) and would be happy to consider this as an area for further research.

No problems with the point 4 only no more details about the context of the country especially the dynamics about the national health policy

- We have now provided a more comprehensive description of the healthcare context in DRC, including a description of the national health strategy in the Background (lines 70-74).
In the point 5, the authors don’t give more details about the reform of DRC health financing system and organization. Actually, DRC wrote and adopted a new strategy for the strengthening of the health system (“stratégie de renforcement du système de santé”) since 2006. This strategy proposed many options for a better health financing system but don’t give more place to user fee subsidisation...And we have components and opponents between congolese experts in this subject.

- We have now included more detail on the DRC Health Systems Strengthening Strategy (“Stratégie de Renforcement du Système de Santé”) in the Background (lines 70-74). We have indicated that the strategy proposes different options for improving health financing systems in DRC, including user fee subsidisation. Although no more weight is placed on the latter, the DRC Ministry of Health does nonetheless include a policy to subsidise fees in some circumstances for certain “vulnerable groups” such as survivors of sexual violence, indigents and the elderly. User fees are also abolished during emergency periods in conflict zones. We recognise that user fee subsidisation remains a controversial subject and as such, we now acknowledge that there may be intended and unintended consequences associated with a user fee subsidisation policy (see Background, lines 82-93).

In the point 6, like I argue in the point 5, the authors have to talk more about the reform of Congolese health system, with a global vision of the universal health coverage (many strategies combined) and not only about one strategy. And I can see a very little emphasis given to aspects of sustainability

- We have included a point in the Discussion to indicate that while our study shows that the current levels of user fees in the DRC present a barrier to accessing healthcare, user fee subsidisation is only one of many strategies that needs to be considered in the global vision of achieving universal health coverage (lines 469-470). We have also included some discussion on the issue of sustainability in the discussion (lines 472-478).

In the point 7, my remark is: in Province Orientale, Kasai Occidental, and South Kivu, we have others health zones with others approaches of financing system like performance based financing. Soeters and al. estimated that the IRC health zones mentioned in this article had a very low performance despite the funds spent; $9–$12 per capita per year. (Cfr. Soeters Robert, Peerenboom Peter Bob, Mushagalusa Pacifique, and Kimanuka Célestin. Performance-Based Financing Experiment Improved Health Care In The Democratic Republic. Health Affairs 30, N° 8 (2011): 1518–1527)

- While it is possible that other non-governmental organisations (NGOs) or donors were operating in the same “districts” of DRC as DFID, we did not identify any other health financing programmes operating within the same health “zones” that we were working in. The health programme PROSANI (funded by USAID) was originally going to be set up in two of the DFID-supported zones but this did not go ahead. The European Union, Belgian Cooperation and Cordaid “appui global” programmes were not in any of the same zones as DFID. Finally, the African Development Bank constructed some health facilities in three of the DFID health zones but did not fund any health financing interventions.
Unlike the Soeters et al. study, this paper did not aim to compare the performance of different health financing approaches. In addition, although the questions of cost are important, again the purpose of this analysis was not to explore this; the aim of the analysis was rather to demonstrate that fee subsidies/exemption will increase utilisation in a country where out of pocket costs for healthcare are likely to be a barrier to seeking care.

No problems for the points 8 and 9.

* Major compulsory revisions *

(Relative to the question 5), We recommend that authors provide more contextual information. They should give much more details about the reform of DRC’s health financing system and organization and how user fee removal could fit in this policy. Actually, the Ministry of Health adopted a new strategy for the strengthening of the health system (“stratégie de renforcement du système de santé”) in 2006. This strategy proposed many options for a better health financing system but didn’t give much place to user fee subsidisation the overall context of health reform in the country.

- In the Background section, lines 70-78, the authors have given a more comprehensive description of the health care context in DRC and also discuss the national health strategy.

- In the Background section, lines 70-74, the authors have now included more detail on the DRC Health Systems Strengthening Strategy or “Stratégie de Renforcement du Système de Santé”. The reviewer rightly states that the strategy proposes different options for improving the health financing systems. However, one of these options includes health subsidies. The DRC Ministry of Health even have a policy to subsidise fees for some “vulnerable groups” such as sexual violence survivors, and in many provinces indigents and the elderly are also covered on an ad hoc basis. User fees are abolished during emergency periods in conflict zones as well.

(Relative to the question 7), In Province Orientale, Kasai Occidental, and South Kivu, there are health zones implementing other health care financing approaches; I think more particularly of performance based financing schemes. Soeters and al. estimated that the IRC health zones mentioned in this article had a very low performance despite the funds spent: $9-$12 per capita per year. (Cfr. Soeters Robert, Peerenboom Peter Bob, Mushagalusa Pacifique, and Kimanuka Célestin. Performance-Based Financing Experiment Improved Health Care In The Democratic Republic. Health Affairs 30, N° 8 (2011): 1518-1527). This study ignores other mechanisms of health financing implemented in the same health districts. This should be referred to.

- It is possible that some other non-governmental organisations (NGOs) or donors were operating in the same “districts” of DRC which refers to a much larger geographical area. However, the NGO partners of the Access to Healthcare programme did not identify any other health financing programmes within the same health “zone”, which refers to a much smaller, defined geographical area within a district. The health programme PROSANI (funded by USAID) was originally going to be in two of the DFID-supported zones but did not fund the delivery of basic services in these zones so as to ensure
coordination. The European Union, Belgian Cooperation and Cordaid “appui global” programmes were not in any of the same zones as DFID but were in some of the same provinces. Finally, the African Development Bank constructed some facilities in three DFID health zones but did not fund any health financing interventions.

- Unlike the Soeters et al. study, this paper did not aim to compare the performance of different health financing approaches. In addition, although the questions of cost are important, again the purpose of this analysis was not to explore this; the aim of the analysis was rather to demonstrate that fee subsidies/exemption will increase utilisation in a country where out of pocket costs for healthcare are likely to be a barrier to seeking care.

* Minor compulsory revisions *

(Relative to the question 6), like I argue in the point 5, the authors have to talk more about the reform of Congolese health system, with a global vision of universal health coverage (many strategies combined) and not only about one strategy. I would recommend more consideration for constraints in DRC; I can see very little emphasis given to aspects of sustainability. We have many functions of health financing and this study should make clear the recommendations to the Ministry of Health for the collection of funds after the end of the program. We have to know the costing of the programme (how much dollar per capita? How much dollar for transaction costs?), and the real design if we want scale-up the approach in the whole DRC.

- In the Background section, lines 70-74 the authors have now included more detail on the DRC Health Systems Strengthening Strategy or “Stratégie de Renforcement du Système de Santé”. The reviewer rightly states that the strategy proposes different options for improving the health financing systems and achieving universal health coverage. However, one of these options includes health subsidies. This study only aims to evaluate one health financing policy and its impact in utilisation as opposed to comparing different strategies. As such, the authors have now noted in the Discussion section, lines 469-470 and lines 484-487, that there is a need for more evaluations of other health financing interventions in the DRC. The authors also propose that different strategies could be evaluated in a new follow-on Access to healthcare programme, which will pilot a system of community health insurance.

- In terms of costing and sustainability of the programme, this was beyond the scope of this study but the authors agree that it should be considered in future studies.

* Discretionary revisions *

No problem with question 4, only no more details about the context of the country, especially the dynamics about the national health policy.

- In the Background section, lines 70-78, the authors have now given a more comprehensive description of the health care context in DRC and also discuss the national health strategy.
REVIEWER #2

* Major compulsory revisions *

Program.

1. A section on how the “Access to Health Care” program works in these zones is clearly missing (should be included between the introduction and the methodology sections). How has it been implemented? On what data is based the user-fee subsidisation, does the health zone have to claim for the reimbursements? Is the drug provision based on the data reported by the health zone, or is it based on expectations made by the NGO? One reason (but not only) why the program design should be clarified is that according to the mechanisms in place, there might be incentives to (over)report service utilisation.

   • A fuller description of the interventions provided by the programme is now given in the Methods section, lines 143-163.

   • Fixed amounts of money were paid by the NGOs to health facilities each month for their operating budget. For health centres, this amount was determined by estimating the costs of fuel and disinfecting and cleaning products. For hospitals, a fixed amount of $1500 was given. In both cases, the fixed amount of money was agreed upon at the start of the project and was based on actual costs of supplies and fuel. The quantity of medicines distributed to facilities was also based on the average monthly consumption of medicines in each health zone. Essentially, the amount of money supplied to health facilities was fixed and was not changed according to the level of activity provided.

Data.

2. As for the population denominator, the authors use extrapolates from the population census of 1984, that is from more than 24 years old data (the program being studied over 2008-2012)! This is a limitation the authors recognize in the discussion; however they don’t really discuss their choice: what other data have been looked for, which were unavailable or unreliable for one or another reason?

   • The reviewer raises a very valid point in relation to the population denominator used in our study. Unfortunately, there are no more up-to-date and reliable data available. In some health zones, population census data was collected during more recent vaccination campaigns, but these data have never been validated. We followed the official stance of the DRC Ministry of Health which is to use the 1984 census data as the population data for its calculations. More detail has been given on this in lines 196-200 in the Methods section of the manuscript.
Method.

3. The three different econometric models for the three different types of health zones should be written down, together with a definition of the variables used. The hypotheses (what is expected from the coefficients) should also be explained.

- This has now been elaborated on in the Methods section, lines 208-249.

4. Same for the aggregate model. Moreover, the strategy being used to aggregate the data should be explained (since the user-fee intervention does not start at the same time according to the health zone, it is not straightforward).

- The model for the aggregate model is essentially the same as the first model but for the mean utilisation rate over time. A more detailed description of how the data were aggregated is now given in the Methods, lines 273-278.

Results.

5. Figure 2 and the related paragraph both report the results from the 16 different econometric regressions as if the coefficients were all significantly different from zero. However, when looking at the regression tables, only 7 out of 16 health zones show significant positive coefficients for the “change in level subsidies”, and only one shows a significant positive coefficient for the “change in slope subsidies”. The figure is false and the interpretations as well.

- A more detailed description of the method used to calculate the results obtained in figure two is now given in the Methods section, lines 254-264. This method was adapted from Lagarde and is a way of demonstrating the relative percentage change. However, it is agreed that the findings are not significant according to the results from the regression and this has now been highlighted in the Results section, lines 339-340.

6. The results of the aggregate model are also interpreted in a too positively way: while the coefficient related to the change in trend is positive, it is not significantly different from zero (even not at the 20% level).

- This has now been re-worded in the Results section, lines 367-368 to: “Although the relative increase in utilisation rose by 28% at 24 months, it was not significant even at the p<0.2 level.”

* Minor essential revisions *

Program.

7. In addition to the section how the “Access to Health Care” program has been implemented, an overview of the other health financing interventions operating in the zones would be appreciated, as the results might be influenced by these other programs.
A more complete description of the interventions provided by the programme is now given in the Methods section, lines 143-163. More detail is also given on the salary supplements to health workers through the programme. However, we did not identify any other forms of external support to health financing in any of the zones over the lifetime of the programme, as the programme had been well-coordinated with other donors and NGOs. For instance, there were GAVI and Global Fund health system strengthening programmes but these were targeted at the central level of the Ministry of Health. The other “appui global” programmes were not identified in the same health zones: PROSANI (funded by USAID) was originally going to be in two of the DFID-supported zones but did not fund the delivery of basic services in these zones so as to ensure coordination. The European Union, Belgian Cooperation and Cordaid “appui global” programmes were not in any of the same zones as DFID but were in some of the same provinces. Finally, the African Development Bank constructed some facilities in three DFID health zones but did not fund any health financing interventions.

8. It would also be interesting to add a subsection on the theory of what the authors expect as outputs and outcomes from the user-subsidisation intervention. At least how it should generate an increase in public health facilities utilisation, and how it may not: a short literature review may help.

9. The regressions’ tables 1 to 4 should include the number of observations (since it varies according to the other interventions), the $R^2$, the Durbin-Watson statistic.

10. The authors write they cross-checked the data of some health zones against health facility register, and that it confirms that the report was accurate: for how many health zones and over which period was it done?

11. It is mentioned in the discussion that data reporting has improved over the life of the programme, thus the documentation of utilisation episodes may have progressively increased: this is a limitation that should be mentioned and assessed in the data section.
Data completion rates were consistent over the lifetime of the programme, and regular cross-checks of data throughout the period were performed. However, there was no formal measurement of any improvement in data reporting during the programme so this was not assessed. The authors do however speculate that reporting may have progressively improved as health workers were trained over the course of the programme in monitoring and evaluation. Lines 427-430 in the Discussion section has been reworded as follows: “It is possible that data reporting improved over the life of the programme as health workers were trained over the course of the programme in monitoring and evaluation. Yet, the steady data completion rates over time suggest that this was not a major factor.”

Method.

12. The very last paragraph of the method section (just before the ethics approval one) is not clear and should be rewritten.

This paragraph has been re-worded accordingly in the Methods section. See lines 273-278.

Results.

13. Before running the regressions, some descriptive statistics on the volume of consultations (as well as on other health variables if available) would have been helpful. I would propose to do that on the aggregated data for each year from 2008 to 2012; some insights on the disaggregated data would be nice also (on the 16 health zones separately, or on province-level aggregated data maybe).

A descriptive analysis of individual health zones by province has now been included in the Results section, lines 307-325 and lines 358-359. The limitations of using descriptive statistics such as Chi squared test for trend or mean utilisation rates before and after interventions have been discussed by Lagarde et al. and so these statistics were not used to describe the data.

14. The meaning of the percent changes is not well-explained: what changes, related/compared to what?

A better description of what is meant by percent changes has now been provided in the Methods section, lines 254-264. Equations have also been supplied by the authors to aid clarification.

15. While the authors don’t mention the non-significance of the findings for the user-fee subsidisation (the intervention you focus on), they clearly indicate when possible that the findings on the two other interventions (they control for) are not significant at the 5% level. This indicates some lack of objectivity in interpretation (that can be found elsewhere in the paper) which makes the reader cautious about the findings.

In the Discussion section, lines 334-336, the authors acknowledge that the increase in utilisation was not statistically significant in the majority of health zones. The authors also describe the non-significance in the change in trend for the aggregate model (lines 367-368).
16. These two other interventions might not be the only ones in health that have been implemented during the 2008-2012 period. Some concomitant events may also have happened (such as episodes of conflict or displacement, as mentioned by the authors). Yet these other interventions and events might have driven the results. Then this is crucial to provide information about these external interventions/events and their possible influence on the results.

- More detail has now been added in the Discussion section, lines 454-460. In the South Kivu health zones, episodes of conflict and displacement occurred periodically between 2008 and 2012, which would have been expected to lead to a concomitant decrease in utilisation rates. However, this was not observed in these health zones. On the other hand, registration for the elections in November 2011 which occurred in health facilities may have driven an increase in utilisation rates in general across health zones.

Discussion.

17. In the introduction, it’s said there are qualitative studies. It’s disappointing that the authors don’t use them in the discussion to further interpret the results. This would be great if the ones which complement the econometric findings could be incorporated.

- In the Discussion section, lines 407-409, we now state that the findings of this study are consistent with a qualitative study by Ponsar et al. which found that 76% of a sample of DRC households cited lack of money as a reason for not accessing health care.

* Discretionary revisions *

Discussion.

18. The direct link the authors make between “salary supplement and free drug provision” and “improving the quality of health services” is not straightforward.

- In the Discussion section, lines 398-402, this sentence has now been reworded to: “Salary supplements and free drug provision did not appear to modify the effect of user fee subsidisation. This may be explained by the fact that these health system strengthening measures alone may not enough to sufficiently improve healthcare utilisation; the addition of user fee subsidisation may further increase rates of healthcare utilisation.”

We hope these changes will meet with your favourable consideration.

Yours Sincerely,

Rishma Maini