Author's response to reviews

**Title:** Using targeted vouchers and health equity funds to improve access to skilled birth attendants for poor women: a case study in three rural health districts in Cambodia

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**Version:** 3 **Date:** 19 September 2009

**Author's response to reviews:** see over
Dear Editors,

Enclosed please find our revised manuscript with Ref. MS: 7089701028272958 and title “Using targeted subsidies to improve access to skilled birth attendance for poor women: a case study of vouchers plus health equity funds in three rural health districts in Cambodia”. We thank you for giving us the chance to revise our manuscript and the reviewers for putting their time into reviewing our manuscript and providing insightful and useful comments to improve our paper. We think that the paper has been strengthened considerably in the process. We have addressed the reviewers’ comments and made changes in our manuscript accordingly. All the changes are in red font as you recommended. Our point-by-point responses to the comments are enclosed in the following pages; the authors’ comments are in blue font and our responses are in black.

With best regards,

Por Ir, Narin Souk, Dirk Horemans, Wim Van Damme
Reviewer 1: John Grundy

1. Overall I found this paper to be informative, well written and of high public health significance, and therefore in my view warrants publication. The methods are sound; the paper has logical flow and is clearly written and well referenced. The use of tabulated data and figures to complement findings in the text is excellent. Limitations of results and the operations of the operation of the funds are also clearly described. I thought the authors were convincing in assisting the reader to understand the impact of an intervention (vouchers schemes and HEF) when implemented simultaneously with other interventions that also have impact (in this case performance based contracting and delivery incentive schemes).

2. Discretionary Revisions (which are recommendations for improvement but which the author can choose to ignore) 2.1 Refer to the last sentence in the methods section. The use of % terms is a bit confusing for the reader. Would suggest clarifying these last two sentences.

We changed the sentence from “…the percentage of deliveries in public health facilities…” to “…deliveries in public health facilities as percentage of the expected number of births…”.

2.2 It is noted that the major operational weakness of the scheme was that only 39% of poor women were enrolled in the voucher scheme. Surely this must have been the major contributing operational factor to limitation of impact. This being the case, the potential of the scheme for impact is probably understated in the discussion.

We agreed that if only 39% of poor women were enrolled in the voucher scheme, it must have been a major contributing factor to the relative limitation of impact. But we referred to the operational analysis of the scheme in 2007. This changed in 2008 so that about half of the expected number of births among the poor in the study area were voucher and HEF beneficiaries. To avoid confusion, we made changes to the paragraph “voucher distribution” in the operational analysis. Furthermore, we revised the discussion taking into account the comments from the other reviewers.

2.3 As noted in this paper, there are now a range of studies in Cambodia on the impact of various pro poor schemes for maternal health. This study is an important addition. But what is the next step? Are the authors, based on this further evidence suggesting policy developments that recommend combining the approaches of performance based contracting, delivery incentives, HEF/vouchers systems and quality improvement? In this regard I think the final part of the discussion and the conclusion should provide more clarity on next research or policy recommendations.

We revised our “Conclusions” section taking into account also comments made by reviewers 2 and 3. We confirmed the strong potential of vouchers and HEFs to improve access to skilled birth attendants for the poor. But some necessary conditions should be met to make them reach their full potential, and these conditions must be considered for further scaling up of vouchers and HEFs. We also discussed and made some recommendations for addressing the current shortcomings of the voucher scheme.
Reviewer 2: Peter Leslie Annear

Firstly, my apologies for writing such a long and detailed review. The main points in my review are included in the following few paragraphs, and the remainder of the review looks in detail at the sort of amendments I think would make the article stronger. I regard the comments here as essential revisions that need to be made before the article is published, and that the authors can be trusted to make these revisions before re-submitting.

We welcome your positive and insightful comments even they are very detailed.

The article discusses the impact of a range of supply-side and demand-side health financing interventions on access to maternal care for poor women in rural Cambodia. It is based on work carried out for an important international study of poverty and illness (the POVILL study) and makes a valuable contribution to our knowledge of pro-poor health funding schemes and access to maternal care in Cambodia, with lessons for other countries. However, the article does not, as the title suggests, assess the particular impact of voucher schemes and health equity funds, and the data are not available to isolate the specific effect of these from the other interventions. For this reason, referring in the title of the article simply to “targeted subsidies” is sufficient and – given the complex arrangement of health financing interventions – the reference to “vouchers plus health equity funds” could be removed.

We tended to agree that the available data does not allow us to isolate the impact of individual vouchers and HEFs. But the results, especially Figure 3 and Figure 4, show quite clearly the contribution of both schemes to the increase in facility deliveries, especially among the poor. About half of the expected number of births among the poor in the study area were supported by vouchers and HEFs. Taking into account also comments from reviewers 1 and 3, we believe that it is appropriate to keep our focus on “assessing the impact of vouchers and HEFs” rather than on “comparison of impact of different groups of interventions”. For this reason “vouchers and HEFs” are key words that should appear in the title. However, we agree that the phrase “vouchers plus health equity funds” (in the previous title) can create some misunderstanding. We therefore moved it to the upper part of the title. The revised title is “Using targeted vouchers and health equity funds to improve access to skilled birth attendants for poor women: a case study in three rural health districts in Cambodia”.

Some weaknesses in the analysis could be overcome and the presentation of the article made stronger by a number of amendments. These amendments relate to two main areas:
1. The structure of the article and the development of the logical argument it presents.
2. The introduction of an analytical framework that addresses the need to compare and contrast the influence of the various health financing interventions.

Alternatively, the authors may choose to keep the structure as it is and simply attend to the corrections and contradictions identified below. As it is, the analysis does not lead to conclusive findings on the role of vouchers and health equity funds in providing access to maternal care but raises a number of valid questions that require further investigation, and the conclusions could be re-drafted to reflect this outcome. Issues related to the structure of the article: The information and content that is needed for a clear analysis is presented already in the article, but the presentation and structure could be rearranged in order to develop a clearer analysis.
We made some changes to the subheadings and rigorously revised the content of the paper to improve the logical flow of argumentation and address the main issues you and other reviewers have raised. The detail of changes will be explained in our following responses. However, we have tried to keep the main headings they way they were and limit the modification of the overall structure of the paper, as we wanted to comply with the format of the journal and be in line with comments from the reviewers 1 and 3 and our focus on assessing impact of vouchers and HEFs.

The “Background” section could be presented in two parts: first an introduction that includes the research question (this introduction should include reference to the POVILL study, rather than later in the article); and, second, a “situation analysis” that gathers all the information on Kampong Cham province, the three BTC ODs, and the interventions that have been made there.

We agree that a more focussed situation analysis was needed for the paper. But we think that it is more appropriate to leave it under the section of “Methods” (under the subheading “Study setting and interventions”) and keep the “Background” the way it is with minor changes.

The section titled “Methods” – including “Study Setting” and “Conceptual Framework” – are really a description of the context within which the research was conducted and do not at all adequately describe either research methods or a conceptual framework. In these sections – which should be combined within the “situation analysis” – a clear description is needed first of the Kampong Cham New Deal project and the supply-side interventions that it introduced. This could be followed by the description of the public health system in the nine rural districts.

We rigorously revised the “Study Setting” and “Conceptual Framework”. We changed the “Study Setting” section title to “Study Setting and Interventions”, to which we added a brief description of the context in Kampong Cham Province before providing the context in the three study ODs. The description of the different interventions in the three study ODs, which was part of the “Conceptual Framework” was moved to the section “Study Setting and Interventions”. To keep our focus on vouchers and HEFs, we repositioned the description of the PBC after the vouchers and HEFs. We ended the “Study Setting and Interventions” with a brief description of the context and interventions in other ODs in Kampong Cham, which are used for comparison.

p.7 – Box 1 is unnecessary and the definition of HEF could be included briefly in the text, which could also be abbreviated (using citations to published work, such as the ITM publication “Health and Social Protection Experiences from Cambodia, China and Lao PDR”).

p.8 – Figure 1 should not appear here but should be moved to “Analytical Framework” (see below).

p.9 – The long description of the voucher scheme (and of HEF too) could be largely abbreviated. Figure 2 is not necessary and adds little to the analysis. The purpose of the article is not to describe the voucher scheme but to investigate access to maternal care for the poor.

We agreed to remove “Box 1” and put it in the additional file together with “Annex 1”. We have shortened a lot the description of the voucher scheme and removed Figure 2. For the analytical framework, see the response right below.

What is currently headed “Conceptual Framework” (which is not the correct name, and no conceptual framework is actually presented) confuses the supply-side and demand-side interventions implemented under the New Deal. These two areas need to be clearly separated and
described. It should be clearly stated that HEF covers the poor for all services and only at district referral hospitals while the voucher scheme was introduced only at health centers specifically to address ANC, safe deliveries and PNC. It would be interesting to know why BTC introduced vouchers at health centers instead of extending the HEF scheme.

The first sentence on page 8 is a conclusion and should be removed, and instead replaced by a “problem statement”, that is: 1. supply-side interventions were implemented but failed to increase access to maternal services sufficiently; 2. a demand-side scheme was introduced at the district hospitals to provide free access for the poor, but still the problem of access for maternal care remained; 3. specifically to improve access to safe deliveries and maternal care at health centers a voucher scheme was introduced. On page 8, the reference to the Government’s midwife incentive payment poses an analytical problem: that is, how to separate the impact of the incentive payment from the impact of the HEF and voucher schemes. Clearly, incentives are a supply-side intervention and need to be analyzed as such along with the supply-side interventions of the New Deal.

Analytical Framework:
In general, the methodology and the analysis fail to separate clearly the impact of the subsidies for the poor from the supply-side interventions made through the New Deal project implemented in the targeted districts by Belgium Technical Cooperation, the midwife incentives and other programs. This could be amended by developing a clear “Analytical Framework” to account for the complex range of issues evident in these districts. The analytical framework needs first to assess the supply-side interventions independently, to clearly distinguish between the poor (eligible for vouchers and HEF) and the non-poor (using fee-for-service payments), and to isolate the impact of subsidies for the poor from all other interventions.

The framework could be included under a single “Methods” section using the following subheads: “1. Analytical Approach”, “2. Comparative Analysis” and “3.

We rewrote the “Conceptual Framework”, taking seriously your comments into account. We started the framework with an analysis of barriers to accessing health care, in particular maternal care and delivery. We then described how interventions in the three study ODs address these barriers one by one. Since the third reviewer, Anna C. Gorter, insisted that the delivery incentive scheme is not a supply-side intervention, but rather a demand-side one, we tried to avoid using the concept of supply and demand-side interventions in our analysis. We have also modified the Figure 1 accordingly and put it here. However, we stick to the title “Conceptual Framework” for this section, as it seems more appropriate. Some concepts for analysis are described in the “Data analysis”.

“Data Collection”
The three parts of the “Analytical Approach” of analysis could be:
(i) Identify the barriers to access for the poor
(ii) Contrast the supply-side and demand-side interventions (Figure 1)
(iii) Identify the interventions designed to reduce barriers.
Figure 1 illustrating SUPPLY-SIDE and DEMAND-SIDE issues should be included here under point 2 and should also include other elements on the supply-side that have increased the quality of care (supported by either the MOH or by BTC).
The “Comparative Analysis” could be used to compare and contrast the 9 rural districts in three groups: 1. The 3 BTC districts; 2. The 2 districts with HSSP support; and 3. The remaining 4
districts. [Incidentally, one of the remaining four districts includes support from UNFPA and this should be accounted for in the analysis.] The nature of support in each group should be clearly explained. A table that lists the 9 different rural districts and the supply-side and demand-side interventions in each would be useful.

The section on data collection should deal clearly with “sample selection” [no sample of ODs is drawn, of course, but a clear description of why the 9 ODs were put into three groups would help to clarify the argument]. The section could then deal with the three methods of data collection, what the precise role of each was, and how respondents were chosen for the qualitative methods.

Methods of data collection:

It should be made clear that the three districts chosen for the study were supported by the BTC New Deal project, which is implemented in these districts and Kampong Cham town but not in the remaining six districts.

All references to the methods of data collection and analysis should be collected in a single section and described more logically and precisely:

- How and why the target districts were selected
- How the control districts were selected and what they represent
- What is the nature of the control districts (including supply-side and demand-side interventions)
- How HIS and VHW routine data were collected and used
- What the purpose was of the FGDs
- How participants were selected for the FGDs and how the groups were organized
- What the purpose was of the KII and how informants were selected
- What triangulation of the data, if any, was used.

Please see our response in the “Conceptual Framework” above. We added some sentences to the “Data Analysis” to explain how the nine ODs were selected and grouped for comparison. The support from UNFPA only started in late 2008, not only in one of the four ODs, but later in other ODs as well, including the three study ODs. But it has no major influence on the results of the study. Therefore, we did not mention it.

One question that remains unclear is the role of pre-identification of HEF beneficiaries. The data for the analysis were collected from records for 2006-2008, but pre-identification was introduced only at the end of this period in 2008. Therefore, pre-identification could not have had any impact on the results and should not be mentioned in the article. Perhaps there is evidence that once it was introduced, pre-identification improved access for the poor through HEF and vouchers. If this is true it should be clearly presented and argued, but this is not done. These issues should be dealt with in the “Discussion”.

We agreed that it is better not to mention the pre-identification, as it was introduced only in late 2008. We therefore removed the description of the pre-identification in the method.

In the second paragraph on page 12 it is argued that data collected through VMA reports were unreliable, but that data from the “health information system” were not used for the study. This appears to be contradictory and illogical and needs to be clarified.

There was confusion. The second paragraph of the “Methods” section described how data on deliveries in public health facilities were collected, but not the VMA reports. Anyway, the
methods section has been revised, as mentioned above, and the description of the data on
deliveries outside the facilities was removed to avoid confusion, as we did not use these data for
our study.

The section headed “Operational Analysis of vouchers” adds nothing to the argument presented
in the article, and it could be removed. The comments made in this section could be used in the
“Data Collection” section and under the “Discussion”.

The “Operational Analysis of Vouchers” outlined the limitations of the voucher scheme at
different stages, which have implications on the impact of this scheme and recommendations for
its further improvement. However, we agreed that it does not add much to our argument. We
therefore shortened it and deleted Figure 5.

Issues related to data analysis and interpretation:
The section headed “Results” beginning on page 15 should be confined to presenting the findings
of the different methods of data collection without any reference to reasons for the observed
outcomes, discussion or conclusions. The discussion and conclusions should be moved to the
following sections.

As it is, the results section is not clearly linked to the methods of data collection and analysis,
and it introduces new approaches – like the operational analysis – not well explained in the
methodology. It is therefore confusing.

In general, there is too much emphasis and too much information on the voucher scheme, which
causes an imbalance in the presentation. This needs to be summarized in one place without
losing what is essential to the analysis.

The findings could be organized in clear sections that reflect the methods used:
- The findings from key informants on the operation of the various schemes
- The findings from the comparison of utilization rates
- The findings from the FGD on the reasons for non-attendance.

And then the issue of triangulation could be addressed.

This section should not include speculation about the impact of the various schemes or the
possible reasons for certain observed outcomes, which should be presented in the subsequent
section on “Discussion”. For example, the conclusion in the first paragraph on page 17, that
“this suggests that the total effect of the incentive scheme is limited ……”, seems unwarranted
and reflects the failure to account separately for the impact of each of the demand-side and
supply-side interventions, and should not appear in any case in a section headed “Results”.

We revised our “results” section and made the link with the logical order of the methods (data
collection and analysis). We also removed all the phrases that are speculative and placed them
into the sections of Discussion and Conclusions.

The numbers presented in Table 1 (a breakdown of voucher distribution by
Quarter and by services provided) are not relevant to the argument, and the disaggregated
numbers are not interpreted in the text. Presenting the aggregates is sufficient and the table could
be removed.

We removed the table and replaced it by a chart of vouchers distributed and used in 2007 and
2008.
Most importantly (this is perhaps the main weakness in the current analytical approach), in the
presentation of the data on facility utilization, the article should first analyze Figure 4, the
comparison between the three different groups of ODs. This should come before Figure 3, which
looks in detail at the 3 districts supported by BTC. The analytical method should be to work from
the general to the specific. More careful interpretation and explanation of the results presented in
Figures 4 and 3 are needed. In the presentation of the results, care should be taken, especially on
page 17, to remove all elements of discussion of the results and their possible meaning and place
these in the “Discussion” section.

We agree that if we had taken “comparison of impact of different interventions” as our focus, we
should have first analysed Figure 4 and then Figure 3. But as explained in our response above,
our focus remains on vouchers and HEFs. Hence, we believe that starting with the Figure 3
makes more sense.

A critical question to address is why self-paid deliveries increased so dramatically. It appears
from the data that the single main reason for increased facility births is the midwife incentive.
Another key issue could be the intervention of BTC itself. There are many different issues
affecting these 3 ODs (as well as the comparison districts) and the article does not sort them out
well enough. Why the four ODs with delivery incentives only perform so poorly is a question for
further research.

We agree with you that the sharp increase of self-paid deliveries in 2008 must have some relation
with the introduction of the delivery incentive scheme. We clearly acknowledge this point in our
discussion and conclusion. But this increase may not be necessarily among the poor, as voucher
and HEF beneficiaries. We do not think that this increase occurred thanks to other BTC
interventions which have not changed since the start of BTC in 2005, but could be partly the
indirect effect of vouchers and HEFs, as the introduction of these schemes stimulated change at
the provider side and strengthened the monitoring system, especially in 2008 after an evaluation
was done at the end of 2007 (although it is obvious that vouchers and HEFs have nothing to do
with self-paid deliveries in terms of financial assistance).

And why the voucher and HEF schemes contribute relatively little to the increased utilization in
the three BTC ODs need further explanation (of course, they cater only for the poor, but still
seem to have too little impact on utilization). Extreme care must be taken here to separate the
impact of the PBC and midwife incentives from the HEF and voucher schemes and avoid any
contradictions in describing the impact of each.

The contribution of vouchers and HEF schemes to the increase in facility deliveries in the 3
study ODs seemed limited because they target the poor who represent only 26% of the total
population. But their impact on the poor was quite obvious; about half of the expected number
of births among the poor in the area were beneficiaries of these schemes. Even if these two schemes
reached 100% of their target group (maximum performance), still their contribution to the overall
facility deliveries would remain relatively low, unless the less-poor and non-poor do not go to
the health centres.

The data in Figure 5 (which really should be called “Table 2”) are not well interpreted. The first
part on Health Centre Selection could be moved to “sample selection”. The importance of the
table relates to the results on health centre utilization by voucher holders, and the main findings could be more clearly identified. For example, less than half of poor women holding vouchers actually used them for deliveries, it is important to know why this was so.

As explained above, we shortened this “Operational Analysis” section and removed Figure 5.

The information on the costing of the vouchers is not relevant to the argument on access for the poor to MCH services and seems to have no useful role in the analysis. Costs would become important if a cost-benefit analysis of the various schemes was attempted.

We deleted the “Cost of vouchers” section.

Discussion:
The Discussion section needs to be reconsidered in light of the approach and the comments made above. In the Discussion section, a logical argument about the impact of the various schemes needs to be built up based on the findings of the data analysis. Because there are many competing factors in determining impact—both numerous demand-side and numerous supply-side issues—the argument must work logically through all of these to assess the impact of the voucher and HEF schemes separately.

The discussion section could be structured in the same way as the Analytical Framework. First, it could look at the various supply-side issues (including the New Deal and the midwife incentives); then it could look at the various demand-side issues. This could be done in a way that accounts for the impact of each intervention, and as a consequence the impact of the voucher and HEF schemes could then be clearly revealed.

The “Discussion” section has been thoroughly revised, in sync with the “Conceptual Framework”. We included more discussion about the impact of vouchers and HEFs on improved access to skilled birth attendants and about many competing factors in determining the impact on increased facility deliveries. Discussion on the limitations of the voucher scheme was shortened.

Conclusions:
The section is too short and does not make a convincing case that vouchers and HEF alone have a significant effect on improving access to MCH services. The conclusion based on the analysis as presented could in fact be the opposite: that removing the financial barriers for the poor (even if the vouchers and HEF can be shown to achieve this) is not sufficient and the issues related to staff incentives and quality of care are more important. These two conclusions actually appear in the same concluding paragraph without any attempt to sort out the contradiction between them. The conclusions need to be expanded and should be based on the analytical approach developed above and on the data collected in the survey. Any further speculation about possible causes of the patterns observed (that is, those issues not directly supported by the data) should be presented as suggestions for further research.

We agree that with our available data, we cannot isolate the extent of impact of vouchers and HEFs. But the contribution of these schemes to improving access to skilled birth attendants for the poor was obvious. However, the contribution was less obvious for the total population, as these schemes target the poor who represent only about 26% of the total population in the study
area. We therefore revised our “Conclusions” accordingly. Our response to the reviewer 1 also addresses this point.

Other corrections:
In general: The correct use of skilled birth “attendants” is needed and not “attendance”.
“Attendants” are the people (midwives) who assist women in delivery.
“Attendance” is the act of being at the place and does not refer to people as such.
The use of “%” and “percent” needs to be consistent and a single format should be used throughout the article.
We changed all words “attendance” to “attendants” or otherwise.

Annex 1 on the “Questionnaire and eligibility criteria for HEF” is unnecessary and should be removed.
We removed Annex 1 and put it in the additional file.

p.6 - Should be 12.3% of “births” not “women”
We changed it.

p.7 - Pre and post ID. If pre-ID was introduced only in late 2008 it could not have had any impact on the data collected in 2006-2008 and should not be mentioned.
As explained above, we deleted it.

p.12 - HIS data and VMA reports: which data were used and which were not?
There was confusion, as explained in our response above. We use both data. The VGM reports only provide data on voucher and HEF beneficiaries, but not on the total facility deliveries, for which we need HIS. What we did not use were data on deliveries attended at home reported in the HIS through community representative (Village Health Support Group). To avoid confusion, we delete the paragraph explaining the non-use (See our response to your point above).

p.13 – Reference to “perception of voucher recipients” is unnecessary and inaccurate. In fact the FGD looked for reasons to explain observed behaviours.
We agreed and made changes accordingly.

Final remarks:
I have made here extensive comments on the article – perhaps too extensive –solely with the purpose of assisting the authors to strengthen the analysis and presentation of the case they wish to make. The principle concerns are with the consistency of the logical argument and can be addressed by looking at the structure and the analytical approach presented in the article. The authors may choose to follow my suggestions or simply to deal with the main concerns in their own way.

We have tried our best to address all your comments and followed as much as possible your comments and suggestions. But this must be balanced with the views of the reviewer 1 and 3 which are sometimes contradictory. In this case, we were obliged to take the view in line with our ideas. We hope you understand this.
Reviewer 3: Anna Cornelia Cornelia Gorter

This is an excellent paper. Voucher scheme in health is a new and promising approach to provide priority services to currently underserved populations. There are many voucher schemes underway or planned to be implemented in other developing countries, while the evidence base for these interventions is still being build and needs considerably strengthening. The paper clearly describes the results of a voucher scheme implemented in Cambodia and does considerably contribute to the much needed best practice guidance and body on evidence of the potential impact of voucher schemes. The question: `assessing the extent to which the voucher and HEF schemes improved access to skilled birth attendance for poor women in three rural health districts in Cambodia` is well defined. The methods are appropriate and well described, and the data are sound. Limitations are clearly pointed out. The manuscript adheres to the relevant standards for reporting and data deposition and the discussion. Nevertheless the authors made a conceptual mistake regarding the nature of the delivery incentive scheme implemented by the Government and will need to correct this. The delivery incentive scheme is a demand side subsidy scheme and not a supply-side subsidy scheme (see comments). Conclusions are well balanced and are adequately supported by the data, although the discussion needs some revision. The limitations of the work are clearly stated. The authors clearly acknowledge any work upon which they build. The title and abstract accurately convey what has been found. The writing is acceptable, but the English of the discussion could be improved.

We totally agreed with all the points you made. We have corrected the conceptual mistake regarding the delivery incentive scheme (See the detail of our responses in the following). We also revised the Discussion, as explained in our response to the reviewer 2 above.

Discretionary Revisions ADD docs

We have added the references as you recommended.

- Minor Essential Revisions
1. Page 6: “In Kampong Cham, 12.3% of women delivered in a health facility and only 8.2% occurred in public facilities. Fifty three percent of the women delivered at home with traditional birth attendants [12].” Add province to distinguish from town and make clear that this are the DHS data: In Kampong Cham province, the DHS 2005 found that 12.3%...

We added the words “province” and “DHS” as you recommended. Since we added one new paragraph to briefly describe the context in Kampong Cham province, as recommended by the second reviewer, this sentence was moved to this new paragraph.
2. Page 10: “In exchange, at the end of each month the contracted health centres will get the user fees paid for their services.” It is not entirely clear how much these are. Are these the 7.5 US$ users normally have to pay? And the health centre will also receive the extra payment of 12.5 US$ - 15 US$ from the government? Maybe add here that the centre also will receive the costs for transportation to be paid to the pregnant women and the costs occurred for the referral services.

The VMA only pays the user fees the contracted health centres normally charge from patients (about USD7.5 for a normal delivery and a quarter of USD for each ANC and postnatal care visit). This has been added to the revised sentence. On top of the user fees, health centres receive another USD15 from the delivery incentive scheme. This is explained in the short description of the delivery incentive scheme at the end of the second paragraph of “Study Setting and Interventions”.

3. Page 12: “For this reason, we decided not to use the deliveries by trained health personnel reported in the health information system for our study.” This phrase is unclear. Do the authors mean that they did not use the data collected by the volunteers?

This phrase has been removed as part of the revision of our description about data collection in the Methods section as explained in our response to the second reviewer above.

4. Page 12: “For comparison, similar data were also gathered for other ODs in Kampong Cham province.” This is the first time the authors mention that they intend to compare the data from the intervention area with those from other ODs in the target province. Should be mentioned under methods, Study setting.

In addition to a new paragraph describing the context in Kampong Cham province as explained above, we added another paragraph to briefly describe the context and interventions in six other ODs in Kampong Cham province at the end of the “Study Setting and Interventions”. This point has also been addressed in our response to reviewer 2 above.

5. Page 15: “A total of 2 725 vouchers were distributed in the three health districts within less than two years of operation. During this period, 2 062 vouchers were used by poor pregnant women for ANC1, 1 498 for ANC2, 1 140 for ANC3, 1 280 for delivery and 684 for postnatal care.” The voucher books have 5 coupons and pregnant women may choose to use only 1, either for ANC, delivery or PNC. The figures presented here do not show how many women did not use any of the coupons. After rereading I do understand that 2062 pregnant women made use of their voucher book. Maybe better to rephrase for easy understanding. For example: During this period, 2 062 poor pregnant women made use of their voucher; for ANC1...

Actually, we did not know the exact number of women who used the vouchers for the two years. For this reason, we made an analysis of 1093 women voucher holders in 2007 to know the exact utilisation rate, as described in the “Operational Analysis” section. What we presented in this section was the number of vouchers that were redeemed for different services. One poor pregnant woman could use one or more of the 5 coupons of her voucher for any service recommended at the health centre. Therefore, we did not rephrase this sentence as you recommended. However, we replaced the Table 1 by a new figure named as Figure 2 which gives clearer information about voucher distribution and utilisation and the increase between the
first and second year of scheme operation, as part of our efforts to address the comments made by reviewer 2 above.

6. Page 15: “In 2006, HEF supported 132 poor pregnant women who delivered at the three district hospitals, 295 in 2007 and 549 in 2008, excluding the voucher holders.” I do not understand. From the text on page 10 I do understand that HEF paid for the deliveries of voucher holders who were transferred to the district hospital.

Indeed, HEF paid for the deliveries of voucher holders at the hospital. We rephrased the sentence to “In 2006, HEF supported 132 poor pregnant women who delivered at the three district hospitals. The respective figures for 2007 and 2008 were 346 and 549 and these included the voucher holders”

7. Page 15: “The total number of beneficiaries of voucher and HEF together represents 25.4% of the total facility deliveries, 11.4% of the total expected births and 40.6% of the total expected births among poor women in the three ODs in 2008.” For easy reading write for example: “The total number of 1 425 beneficiaries of voucher and HEF together represents 25.4% of the total facility deliveries. Of the number of xxxx (insert number) expected births, vouchers and HEF financed 11.4% in the three ODs in 2008, and 40.6% of the total expected births among poor women in the three ODs in 2008.

We corrected the sentences as you recommended.

8. Page 17: “The steep increase in the percentage of facility deliveries in the three study ODs highlights the positive impact of the voucher and HEF schemes, especially for the poor.” Figure 4 does not present data regarding the poor. Possible addition: “...especially for the poor. As referred above, 40.6% of the total expected births among poor women in 2008, were financed/subsidized through voucher and HEF.”

This part of the text was removed, as recommended by reviewer 2 because they are not sentences for presenting results, but for discussion. The revision of our Discussion section did address this point (see the first paragraph in the Discussion section).

9. Page 17: “The whole operational process of voucher schemes can be split in three stages...” Better write: “The operational process of the voucher scheme described can be split in three stages...”. In practice voucher schemes include more stages/components, including design (deciding recipient policies, benefit policies, price policies and so on), tendering/identification of providers, accreditation, contracting, marketing of vouchers, quality assurance, definition of M&E plan, definition of management and information system, claims processing and payment, verification mechanism and fraud control, etc.

10. Page 21: “Furthermore, the focus group discussions and in-depth interviews indicated that all poor pregnant women who used vouchers to deliver at health centres and hospitals had no past history of facility delivery, as they used to deliver at home with traditional birth attendants.” Is a result and would be better placed under results.

We placed this under the Results section, but we also refer to it again in the discussion.
- Major Compulsory Revisions

OBSERVATION: the delivery incentive scheme of the Government can be considered as a demand side financed scheme (or even as a voucher scheme without “physical” vouchers). If pregnant women do not come to the health facility, the providers are not paid. The key defining feature of a demand-side subsidy is the direct link between the intended beneficiary, the subsidy, and the desired output (such as delivery in a health facility). The level of funding received by the provider therefore depends on the outputs produced. Demand-side subsidies can be consumer led or provider led. They can be provided before or after service utilization. The delivery incentive scheme is a Provider-Led Demand Subsidy Scheme Provided after Service Provision. Provider-led demand subsidies transferred after service provision include fee-for-service subsidy claims and target payments. Under a fee-for-service subsidy, the provider receives a subsidy from the government for having provided eligible services to eligible individuals. An example is the New Zealand General Medical Subsidy, in which general practitioners receive a payment from the government for each child consultation they give. Receipt of the subsidy may be made conditional on the provider limiting or eliminating the fee paid by the patient. This form of provider subsidy may be administratively simpler than a voucher scheme, but it can be more difficult to control, as an independent mechanism is required to verify that the service was actually provided. Fee-for-service subsidies have also been criticized for leading to too little service among subsidized groups. They do provide a strong incentive to increase productivity, as the provider’s subsidy income is directly related to the rate at which the services are provided. (Reference: A guide to competitive vouchers in health. Washington DC: Private sector advisory unit, the World Bank Group; 2005).

We agreed that the delivery incentive scheme is not a supply-side intervention, but rather a demand-side one. However, there is no clear distinction between these two classifications. Our study does not require the clear separation of these two groups of interventions, but rather separation of demand and supply barriers.

1. Page 5: “other supply-side strategies such as performance-based contracting and delivery incentive schemes”. TAKE OUT supply side. As explained above the delivery incentive scheme is in practice a demand financed scheme, money follows the patient.

We took out the “supply-side”.

2. Page 16: “whereas the increase in the percentage of self-paid deliveries reflects the effect of the supply-side schemes, especially the delivery incentive scheme” TAKE OUT supply side.

This part of the text was removed, as recommended by reviewer 2 (i.e. they are not sentences for presenting results, but for discussion).

3. Page 24: “In this study, supply-side interventions such as performance-based contracting and the delivery incentive scheme contributed to the quality of services.” Take out supply side.

We took out the “supply-side”, as part of our revision of the Conclusions section.

4. Figure 1 should be revised as well. Delivery incentive scheme should be at the right hand under demand side financed scheme.
We revised Figure 1. Instead of putting the delivery incentive scheme under demand-side financing schemes, we removed the words “demand-side” and “supply-side” and replaced them by interventions to improve financial access for the poor (like financial barriers to demand) and interventions to improve the performance of health service providers (like supply-side barriers). However, we did not use the word supply and demand in Figure 1 anymore. To emphasize the focus on vouchers and HEFs, we placed both schemes on the left and the two others on the right hand side.

5. Page 21: “Yet, it seems that the impact of both schemes remains limited at this stage. The total number of voucher and HEF beneficiaries in 2008 accounted for only 25.4% of the total facility deliveries and 40.6% of the total expected births among poor women.” Impact of the scheme of poor women, cannot be considered as limited, since almost none of poor women had a facility delivery before the intervention and with HEF and vouchers this increased to 40.6% in a very short period.

We agreed with your remark and we adapted our statement accordingly, both in the Discussion and Conclusions sections.

6. Page 23: Include in discussion the fact that apart from the mentioned barriers there also may be cultural barriers.

In order to provide more space for discussion on the impact of vouchers and HEFs as compared to the impact of other interventions (as recommended by reviewer 2), we shortened the discussion about the limitations of the voucher scheme and this phrase was therefore removed. However, we took this comment into account and incorporated it in our description of barriers to access in “Conceptual Framework”.

7. Include in discussion that 2 years of implementation is rather short and that innovative schemes need time to refine their functioning, and overcome shortcomings in distribution and utilization of vouchers, and improve other relevant issues, such as promotion/marketing of deliveries at health facilities. With time these schemes mature and become more efficient and effective. Include in discussion a short phrase regarding the future of the schemes, are these still running, for how long, what are the plans.

We did it

8. Page 24: “Yet, these demand-side financing schemes cannot overcome many non-financial barriers, especially supply-side barriers.” Take out this phrase or change in for example: Demand-side financing schemes can have strong effects on the quality and efficiency of the provision of services, especially if these are competitive. In non-competitive schemes the result may be much less.

We took it out and revised the whole Conclusions section as explained in our responses to the reviewers 1 and 2.