Author's response to reviews

Title: Criteria for priority setting of HIV/AIDS interventions in Thailand: A discrete choice experiment

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Version: 2 Date: 8 February 2010

Author's response to reviews: see over
Responses to the reviewers’ comments

We thank the reviewers for their comments. Most comments are addressed in the revised version of the paper. Here we highlight the changes we made. The reviewer comments are in bold, our replies in normal case, and revised text in italics.

Reviewer: Cheryl LL Carling, 14 Sept 2009

1. The methods and message of the study will be more accessible to the reader of BMC health services research if it included a short introduction to DCE, (see e.g. Lagarde M, Blaauw D A review of the application and contribution of discrete choice experiments to inform human resources policy interventions Human Resources for Health 2009 Jul 24; 7:62.) You might also consider moving paragraph 2 from p. 14 about the applicability of this methodology, “Intervention utility can be calculated...........” into this new section.

Authors: We have now added a section on page 5, in addition to the already quite elaborate description on page 5 to 6.

Discrete choice experiments are a quantitative methodology for evaluating the relative importance of the different product attributes that influence consumer choice behaviour (Louviere et al. 2000). In such experiments, respondents are asked to make choices between hypothetical alternative goods or services.

Moving the indicated paragraph from p. 14 (It is now p.12) would not do good to the flow of the text as the paragraph is about the interpretation of the DCE results in priority setting of interventions, and not so much about conducting DCEs.

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Authors: Since this paper is on guiding policy makers in the choice of interventions in HIV/AIDS control – and as such oriented towards the population level - we are not sure whether it would do good to the paper to elaborate on the impact of HIV/AIDS at the individual level. The more since the paper is already quite lengthy.

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3. Choice of methodology/ methods: The authors state that this is the first study to use this methodology [DCE] in this area and that this study is “experimental”. (Here I think you mean "exploratory", see comment 6. Findings below.) This calls for arguments for the authors’ choice of methodology. In addition, it would be useful if you included references. Why did you choose this method over other valuation methods e.g. visual analogue scales (VAS), and time trade-off (TTO) for this particular task?

Authors: The valuation methods above are the techniques for valuing health states. Although the DCE can be used for this purpose, the aim of this study was not using the DCE to do so. We purposively selected the DCE for eliciting the relative importance of multiple priority setting criteria.
The study uses discrete choice experiments (DCE) to elicit explicit preferences in HIV/AIDS area, and is the first study to do so in this area. The technique allows the assessment of the relative importance of different criteria that influence choice, in this case the priority setting of health interventions. The technique has shown promising results in a number of other disease areas in low-income settings [21-23]. The present study can hence be interpreted as exploratory, to test the feasibility of the approach, and evaluate its potential importance.

4. What is known about feasibility, validity and reliability of DCE and how does it compare to other valuation methods?

Authors: The identification and assessment of the relative importance of criteria for priority setting is a rather new research area, and only very few studies have been carried out. To our knowledge, no other valuation methods than DCE have been applied to reach this objective. Please note that we do test the validity of DCE by relating its results to those achieved by a simple rank order exercise (Table 5).

5. What are the grounds for selecting these particular informant groups?

Authors: In the revised version, we are now more specific on the selection process of the participants.

In this study, we chose to explore the views of policy makers in comparison with two other groups of stakeholders, i.e. PLWHA, and the general population represented by village health volunteers (VHV).

The policy makers were represented by 28 national – and province level decision makers strongly involved in health resource allocation decisions in Thailand specifically on HIV/AIDS. As a first step in the selection process, members of the National AIDS Committee were asked to participate. As a second step, they were asked to nominate other decision-makers meeting the above criterion. A total of 30 decision makers were invited, and 28 agreed to participate in the study. They were predominantly male (71.4%), and all being higher educated (bachelor degree or more). (Table 3).

The PLWHA were all members of the Thai network for people living with HIV/AIDS, representing PLWHA groups at the province and regional level in Thailand. In a regular network-meeting, we invited the members to participate in the present study. In total, 74 out of 85 invited PLWHA agreed to participate. They were predominantly female (61%) with a minority being higher educated.

The general population was represented by VHVs – these are community members who have been trained by public health providers in order to provide basic health care delivery including first aid and necessary health information to members of the village they reside in. In the selection process, we invited 100 VHVs in a semi-urban district of Samutprakan province, and out of these, 50 agreed to participate. They were predominantly female (80%), with a minority being higher educated.

6. In light of the fact that the general public, certainly one the biggest stakeholders in this health scenario, was not represented in either the group discussion to determine criteria for the DCE or the survey for comparing and weighting the criteria, the claim that this study has identified criteria for priority setting (1st sentence, discussion) needs to be restricted.
Authors: It is generally agreed that the public involvement in the process of priority setting can lead to better decisions in health prioritization. We actually included the general public in the study by starting the study with a better-informed sample group of the public i.e. village health volunteers. This is also stressed in the Discussion on page 10-11:

The study has identified criteria for priority setting of HIV/AIDS interventions in Thailand using perspective of policy makers, PLWHA, and VHV's, and revealed that different stakeholders have different preferences vis-à-vis these criteria. A number of observations can be made (...).

Secondly, the study reveals large similarities in the preferences for criteria for HIV/AIDS interventions between policy makers and VHV’s. This may indicate that the preferences of the general population (based on the sample used) are well reflected through decisions made by policy makers. This study also highlights the differences in preferences between PLWHA and the other stakeholder groups. The preferences of the former for care and treatment may reflect self-interests, whereas the preferences of the latter may reflect preferences for the society at large.

7. On p. 13, the authors state that inclusion of different stakeholder is important. Why did you not have an informant group made up of the general public?

Authors: The general population is included in the study, and represented by the VHV’s. Lay people may not be informed well-enough, and may not have thought well enough about these issues, to adequately respond to the DCE.

The general population was represented by VHV’s – these are community members who have been trained by public health providers in order to provide basic health care delivery including first aid and necessary health information to members of the village they reside in. In the selection process, we invited 100 VHV’s in a semi-urban district of Samutprakan province, and out of these, 50 agreed to participate. They were predominantly female (80%), with a minority being higher educated.

8. The “lay people” participants in this study not representative of the general public, they were a particular subclass of “lay” people; they were directly involved in the health care of their communities. (I dare say that it is likely that most of the PLWHA are also “lay people”.) This should be reflected in the article text, and a more appropriate label other than “lay people” could be found.

Authors: We agree with the reviewer and now use ‘village health volunteers’ instead of ‘lay people’.

9. It is not clear (p. 7, bottom) if the “lay people” were both “health leaders in communities” AND “village health workers”, or if the village health workers are the health leaders in the communities. Please specify.

Authors: This has been changed. See our reply to comment #7.
10. Describe how participants were recruited. It is curious that the PLWHA had a higher level of education than the “lay people” (table 1), although not surprising by virtue of gender and occupation (60% housewives in “lay people” group) distributions in these groups.

Authors: We have added more information on the selection process of participants. See our reply to comment #5.

11. You need to account for and discuss the effects of attribute framing on choice in the DCE questions. For example, in the scenario example in table 3, the outcome in Option A is framed negatively while that in Option B is framed positively.

Authors: We designed the DCE choices on the basis of the suitable plan that the catalogue suggested that guarantee the basic properties of DCE design i.e. orthogonality and minimizing multicollinearity. Then each scenario was paired by fold-over technique. Therefore, we did not frame any option of the DCE.

12. I request that the 16 scenarios be submitted as supporting/additional files.

Authors: We have now added the DCE questionnaire as a supporting file. The editor may wish to provide this to the reader on the website.

13. It is stated in last paragraph of the background section that this study is intended to explore the usefulness of this methodology: “.... this study can hence be interpreted as experimental, to test the feasibility of the approach, and evaluate its potential importance.” First, the use of the term “experimental study” could be misconstrued and lead people to think that you are referring to experimental design, which this obviously is not. The term “pilot” or “exploratory” might be better. Second, since this study is, according to the authors, “experimental”, they need to present more clear arguments for the validity, reliability and applicability of the study’s findings in the results and discussion.

Authors: The term ‘experimental’ has changed to ‘exploratory’. On page 5 we write:

‘The present study can hence be interpreted as exploratory, to test the feasibility of the approach, and evaluate its potential importance.’

14. Conclusions: I don’t see where this is substantiated in the paper.

This experimental study ..........has demonstrated the importance of eliciting explicit preferences on the criteria for prioritization of HIV/AIDS interventions in Thailand.

Authors: The reviewer is rights. We have removed this sentence.
14.p. 15 “formulaically” I suggest that you use more accessible terminology.

Authors: We now use ‘in a mathematical manner’, which holds the same meaning.
Reviewer: Godfrey Woelk

1. How were the PLWHA actually selected? The authors state "The PLWHA were represented by their formal representatives from each region ...". This implies there was one PLWHA organisation representing all of them. Is this in fact the case? How were the other 74 PLWHA selected?

Authors: Yes, there is a network of people living with HIV/AIDS in Thailand. The network is created from PLWHA groups at a province and regional level to provide help and support to their members. We got allowance from the network’s leader to introduce our study in their monthly meeting. All of the meeting’s participants were invited to join our study and 74 PLWHA were willing to participate in the DCE.

The PLWHA were all members of the Thai network for people living with HIV/AIDS, representing PLWHA groups at the province and regional level in Thailand. In a regular network-meeting, we invited the members to participate in the present study. In total, 74 out of 85 invited PLWHA agreed to participate. They were predominantly female (61%) with a minority being higher educated.

2. The lay people were represented by health leaders in communities; village health volunteers. Was this all over the country? What about the urban people? I also assume that the prevalence and risk of HIV is not evenly spread across the country. How was region/ethnicity taken into account?

Authors: We purposively selected village health volunteers (VHVs) as being our sample group of the general population. There are VHVs in every district of the country and most of them are rural people. However, we chose Samutprakan as being our study site because it is a boundary of Bangkok where the population characteristics are in between the urban and the rural people.

The general population was represented by VHVs – these are community members who have been trained by public health providers in order to provide basic health care delivery including first aid and necessary health information to members of the village they reside in. In the selection process, we invited 100 VHVs in a semi-urban district of Samutprakan province, and out of these, 50 agreed to participate. They were predominantly female (80%), with a minority being higher educated.

3. Who conducted the surveys, what training did they have etc?

Authors: The below sentence has been added to the DCE survey part.

‘...To standardize and maintain quality of the data collection, the group discussion and interviews were conducted only by the first author....’

4. A key group in actual allocation may be the service providers. Yet this group did not seem to be represented in this study. Perhaps we can have an explanation.

Authors: We agree with the reviewer that perspective of the service providers is also important in priority setting. However, most of policy makers are health professionals and they make decisions on
priority at national level. And because of the limit of time and budget, we chose to start the study with the most three groups of stakeholders.

5. Finally, while the authors state this experiment is a starting point, how does this approach meld with political science approaches, which focus on competing and sometimes complementary groups/views? How might overlapping and differing views be reconciled?

Authors: This approach improves the transparency and accountability of the priority setting process, as the priority setting criteria are now clear. It may help to reduce the impact of irrational, ad-hoc influences on the process by improving the evidence-base of the decisions.
1. One of the most important aspects of conjoint survey development is the identification of the attributes and their levels. The final list of attributes is assumed to comprise of key attributes that would drive the decision process. In general, these are supposed to be important, actionable, relatively independent attributes, while their levels need to be logically compatible, simple and consistent. It is unclear how all these key features are addressed in the identification process.

Authors: This is described on page 7:

To define the criteria in DCE, group discussions were organized with each group of stakeholders including six representatives of that group. As an initial step, two HIV/AIDS interventions were presented. Then participants were asked to decide which intervention should be funded and reasons for the choices were discussed. The discussion was then broadened to discuss general reasons, or criteria, to fund HIV/AIDS interventions, and finally agreement was reached on a comprehensive set of criteria. Resulting criteria and associated levels from the three group discussions were compared. The final selection of criteria and levels included those that were identified by two or more discussion groups. This resulted in identification of one criterion at four levels, two criteria at three levels, and two criteria at two levels (Table 2).

2. The design is based on 16 scenarios created from fractional factorial design of a full factorial design of 114 possible combinations. It is unclear how this fractional design was chosen such that an appreciable level of orthogonality is maintained to avoid confounding. This is perhaps one of the greatest weaknesses of the study. In fact, we have no measure of the orthogonality of the fractional design used in the study.

Authors: We have now added information on this in this section.

The DCE was designed on the following principles. To avoid information overload from a full factorial of 144 possible scenarios based on identified criteria and levels ($4^1 \times 3^2 \times 2^2$), a limited number is chosen on the basis of a fractional experimental designs catalogue produced by Hahn and Shapiro [26]. The catalogue includes a number of orthogonal designs, both full factorial and fractional factorial ones, with differing numbers of attributes at differing numbers of levels. The fractional factorial design – fitting the number of identified criteria and levels – included a subset of 16 scenarios (representing an orthogonal array and minimizing multicollinearity), to allow the estimation of all main effects. Each of these 16 scenarios was paired by fold-over technique. A two-scenario with non-labeled experimental design was employed for each choice set. The plausibility of each scenario was evaluated with experts, policy makers, and in a pilot study with general population. An example of scenario for this DCE is presented in Table 3.

3. What software was used to generate the fractional design?

Authors: At the time of the study conducted, we did not use any software to generate the design. We used the ready-to-use catalogue as indicated above.
4. How were the scenarios chosen so as to ensure that the main effects were estimable? What about possible interaction effects?

Authors: As indicated in our reply to comment #2, the design we chose allows estimation of main effect only. This is also stated now in the paper.

5. There is no information about how the sample size was determined to ensure the stability of the models. This is another greatest deficiency which is directly linked to the credibility of the results.

Authors: We have now added an extra section in the Discussion on the sample size in the present study.

Our study findings are based on small sample sizes (ranging from 28 for policy makers, to 74 for PLWHA), and should therefore be interpreted with caution. This also indicates the explorative character of our study. A proper sample size calculation is difficult in the absence a prior information on the variances on the responses - we based our sample sizes on previous similar studies, e.g. in Ghana [21] and Nepal [22] that also included a limited number of respondents.

6. How were the results validated, and how were model assumptions assessed?

Authors: We add more information about the results of Hosmer-Lemeshow goodness of fit test as indicated in the results part. Also, we compared the DCE results with the simple rank order test.

The different models for policy makers, PLWHA and VHV's demonstrate a good fit as indicated by the pseudo R², and Hosmer-Lemeshow chi-square.

Table 5 also shows the results of the simple rank ordering of criteria, and it reveals large overlaps for the policy makers, but less so for PLWHA and VHV's.

7. What software (and version) was used for analysis?

Authors: We add more information about the software in the data analysis part as attached below.

Regression coefficients, average marginal effects, and relative contributions were estimated from the response data by the statistical software program STATA 10.0.

8. The reporting of the results requires some improvement. The results should include not only the estimates of model coefficients, but corresponding standard errors or confidence intervals along with associated p-values.

Authors: We have now revised table 4 and now includes this information.