**Author's response to reviews**

**Title:** Setting priorities in primary health care - on whose conditions? A questionnaire study

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**Author's response to reviews:** see over
Dear Editor:

We hereby submit a new, revised version of our paper “Setting priorities in primary health care - on whose conditions? A questionnaire study” (MS: 7695940627330473).

The valuable comments from you and the referees are greatly appreciated. We have carefully considered the remarks and revised the manuscript in accordance with the suggestions.

We hope that our changes are acceptable and answer all of the questions from you and the referees.

Sincerely,

Eva Arvidsson
Comments from editor:

The authors should clarify:
i. how the criteria used in this paper relate to the criteria of the report of the parliamentary commission including the validity of the three item scale when the report identified six items.

The section addressing the background of the criteria has been rewritten. One sentence has been revised, and seven new sentences, three references, and one figure have been added, page 2, 2nd paragraph.

ii. the validity of the measures level of severity of the health condition, patient benefit of the planned intervention and its estimated cost effectiveness.

The scale has been described in the methods section. One sentence has been revised, page 5, 1st paragraph.

The reason for choosing the scale and the validity of the scale steps is discussed. Five sentences and two more references have been added to the discussion, page 12, 2nd paragraph.

iii a) why the number of complete data sets is so low
iv the data analysis issues raised by reviewer Meyer especially
b) the collinearity of predictors,
c) the rationale for the analysis of the 3 items as an interval scale
d) possible interaction effects etc.

iii a) Patients returned 2150 (56%) of the questionnaires. From these we identified 1851 matched pairs (one questionnaire from staff and one from a patient concerning the same contact). These data are analysed in comparing priority setting by staff and patients. The 299 non-matched patient questionnaires were largely due to errors in coding of the questionnaires, which made matching impossible. In some cases, the reason was that questionnaires from staff were missing. When analysing priority setting by staff only, we used all of the staff's questionnaires (n=3679, Table 5). Two sentences have been added on page 4, last paragraph, and one on page 6, 2nd paragraph.

iii b) We found no multicollinearity of predictors. One sentence has been added in the methods section, page 6, 4th paragraph, and one footnote has been added to Table 5.

iii c) When the beta coefficients from the regression analysis were dummy coded, they seemed to have a linear association with the dependent variable.
   For example, the beta coefficients for patient benefit (GPs) were 0.68
   If instead we introduce the variable with dummy coding, the Betas for them are:
   [Point1] 0
   [Point2] 0.66
   [Point3] 1.36 (1.36 – 0.66 = 0.70)
Here the linear approximation of 0.68 is not far off. All other variables behave similarly to the one shown here (but patient benefit [GPs] shows the largest difference when the two methods are compared).
Two sentences have been added, page 12, 3rd paragraph.

iii d) We found one significant interaction, but it had only a small effect on the interpretation of the variables. Two new sentences regarding interactions have been added, page 7, 3rd paragraph.
Response to the comments from reviewer 1
Date: 9 July 2012, Reviewer: Heiner Raspe

1. The final report of the Swedish Parliamentary Commission was published in 1995, not 1997 (p. 3).

This has been clarified. One sentence has been revised, and a new sentence and a reference have been added, page 2, 2nd paragraph.

2. No data on the quality of the questionnaires seem to be available. Was there no qualitative and quantitative pretesting?

The questionnaires were pretested. One sentence has been added, page 3, 1st paragraph. The questionnaires were pretested at two of the participating health centres.

3. The questionnaires obviously did not use all relevant criteria/variables of the Swedish model of prioritisation: at least 6 separate items reflecting severity (present/future symptoms, functional capacity, quality of life) were collapsed into a single trichotomous variable, which additionally impairs the precision of point estimates of measures of occurrence and association. Neither burdens and risks of interventions were included nor the quality of any relevant evidence relating to all other criteria.

The section describing the background of the criteria has been rewritten. One sentence has been revised, and seven new sentences, three references, and one figure have been added, page 2, 2nd paragraph.

4. It would be interesting to read the exact wording of the question addressing the overall priority of a patient. It could help to understand the authors’ concept of “priority” (Spicker 2009).

One sentence has been rewritten, page 5, 2nd paragraph.

5. The number and proportion (48%) of complete data sets is low compared to the overall number of registered patients. It is further reduced where and when only two disease subgroups are analysed (are little more than 600 data sets?). A non-response analysis is mentioned – its range seems limited though GPs’ registers usually cover much more relevant data than age and gender.

Patients returned 2150 (56%) of the questionnaires. From these we identified 1851 matched pairs (one questionnaire from staff and one from a patient concerning the same contact). These data are analysed in comparing priority setting by staff and patients. The 299 non-matched patient questionnaires were largely due to errors in coding of the questionnaires, which made matching impossible. In some cases the reason was that questionnaires from staff were missing.
When analysing priority setting by staff only, we used all of the staff’s questionnaires (n=3679, Table 5).

Two sentences have been added on page 4, last paragraph, and one on page 6, 2nd paragraph.

All the acute/minor and chronic stable health conditions together total 566 (169+174+84+139, Table 4). In the discussion we write: "However, despite over 1800 complete pairs of observations, the frequency of each specific health condition and intervention was low due to the wide variation of health problems in primary care." This variation, in combination with trying to include only typical conditions in the acute/minor and chronic stable groups, resulted in the low number.
One reference is added, page 11, 3rd paragraph.

The non-response analysis was based on the non-matching questionnaires from staff, not on the GPs’ registers. All questionnaires were coded and anonymous and were not connected to the GPs’ registers.

Response to the comments from reviewer 1
Date: 13 July 2012, Reviewer: Thorsten Meyer

The weakness of the study appears to be a crude operationalization of the level of estimated severity of the health condition, estimated patient benefit of the planned intervention and its estimated cost effectiveness. Besides applying a very global 3-point rating scale, the thresholds from one point to the other should be expected to differ between the professional participants. However, the substantial amount of priority rating variance accounted for by these three ratings (40% and 54%) can be understood as an indicator of their validity.

The scale has been described in the methods section. One sentence has been revised, page 5, 1st paragraph.
The reason for choosing the scale and the validity of the scale steps is discussed. Five sentences and two more references have been added to the discussion, page 12, 2nd paragraph.

(An earlier study addressed the validity of the key criteria and how they were perceived in primary care (reference 18: Arvidsson E, Andre M, Borgquist L, Carlsson P: Priority setting in primary health care - dilemmas and opportunities: a focus group study. BMC Fam Pract 2010, 11:71.).

Unfortunately, the study design precludes the opportunity to make a direct comparison of priority setting ratings of individual patients between GPs and nurses, which would have been informative.
We agree that this would be interesting. However, a different study design would be necessary to study this.

**Minor Essential Revisions**

1. Since the report of the parliamentary commission on priority setting from 1995 had been referred to in the international priority setting literature it would be helpful to a) explain how the criteria used in this paper relate to the criteria of the report (esp. why the criteria of human dignity was left out, e.g. prioritizing people with reduced autonomy) and how they were selected, and b) to add issues (and controversies) around the hierarchy of these criteria. This appears to be important because if the result of the study is that GPs put the main weight on cost-effectiveness, this goes against the original idea of the hierarchy of priority setting criteria as proclaimed by the parliamentary commission and should be commented in the discussion section.

The section addressing the background of the criteria has been rewritten. One sentence has been revised, and seven new sentences, three references, and one figure have been added, page 2, 2nd paragraph.

In the discussion seven new sentences have been added, and two sentences have been revised on page 9, last paragraph.

On page 12, last paragraph, one new sentence has been added.

2. Methods section, Questionnaires: Please add the labels of the 3-point rating scale to allow for better comprehensibility.

The scale has been described in the methods section. One sentence has been revised, page 5, 1st paragraph.

3. Data analysis: Please check for multicollinearity of predictors, which can be expected from a substantive point, since patient benefit and cost-effectiveness should be positively related.

We found no multicollinearity of predictors. One sentence has been added in the methods section, page 6, 4th paragraph, and one footnote has been added to Table 5.

4. Data analysis: the 3-point-single-item-ratings appeared to have been introduced into the regression model as interval scale variables. This is a strong assumption. Dummy coding would have been more appropriate but makes the analysis of interaction more difficult. This should be discussed.

When the beta coefficients, from the regression analysis were dummy coded, they seemed to have a linear association with the dependent variable.
For example, the beta coefficients for patient benefit (GPs) were 0.68. If instead we introduce the variable with dummy coding, the Betas for them are:

Point1 0
Point2 0.66
Point3 1.36 (1.36 – 0.66 = 0.70)

Here the linear approximation of 0.68 is not far off. All other variables behave similarly to the one shown here (but patient benefit (GPs) shows the largest difference when the two methods are compared).

Two sentences have been added, page 12, 3rd paragraph.

5. Data analysis: It should be noted whether the dependent variable of the model (priority rating) followed a normal distribution.

Since our data are clearly non-normal, we have used robust standard error as suggested by Huber & White. If this method is used with enough observations (our smallest n is 1489 when we perform regression) the robust standard errors will be correct even if the probability model for the outcome variable is wrong. This leads to changes in the confidence intervals in table 5.


Two new sentences have been added, page 6, 4th paragraph and the confidence intervals are revised.

6. Data analysis and results: There is no reference to the analysis of possible interactions between the three criteria, i.e. at present the model is restricted to the analysis of simple linear effects of the three criteria. It might be expected, that certain interactions can explain additional variance, e.g. the interaction between severity of health condition and patient benefit (as was the case in the original "need" concept of the parliamentary report). E.g. estimation of patient benefit might be different with regard to priority rating of the patient by the level of severity of the health condition. These interactions are not yet represented in the present modell.

We found one significant interaction, but it had only a small effect on the interpretation of the variables. Two new sentences regarding interactions have been added, page 7, 3rd paragraph.

Discretionary Revisions

1. 1st sentence of second paragraph of background needs revision.

The sentence has been revised, page 2, 2nd paragraph.
2. In the abstract and in the conclusions it is read that preventive measures had a comparable lower priority. This might be misleading since this only relates to secondary or tertiary preventive measure in chronic conditions. This should be made more explicit.

One sentence has been revised in the results section of the abstract and one in the conclusions in the article (page 12, 2nd paragraph).

3. 3rd line of acknowledgement needs revision.
The sentence has been revised, page 13, 2nd paragraph

4. Any idea why men are overrepresented in the patient sample?

We made a mistake and mixed the headings. This has been corrected, Table 2.