Author's response to reviews

Title: Health Service Costs and Clinical Gains of Psychotherapy for Personality Disorders: A randomized controlled Trial of Day Hospital-based Step-down Treatment versus Outpatient Treatment in Specialist Practice

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Author's response to reviews: see over
Oslo, Sept. 26. 2013
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BMC Psychiatry
Dear Editor

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We hereby submit the revised manuscript: “Health Service Costs and Clinical Gains in Psychotherapy for Personality Disorders: A randomized controlled Trial of Day Hospital-based Step-down Treatment versus Outpatient Treatment in Specialist Practice” by authors Elfrida Hartveit Kvarstein, Espen Ajo Arnevik, Vidar Hallsteinli, Frida Gullestad Rø, Sigmund Karterud, and Theresa Wilberg.

We thank the editor and reviewers for interest and comments.

1) In response to the editors comments the revised paper now explains in more detail about missing data, use of mixed model statistics and investigations of possible bias by attrition (revised paper: pages 8, 10, and 19).

2) In response to both reviewers we have thoroughly revised the manuscript in order to improve language, flow and clarity. The introduction and discussion have been shortened, the results section reorganized in accordance with reviewer recommendations and tables revised and reorganized. Specific revisions are commented in detail in sections below.

Response to reviewer I: Morten Hesse

Morten Hesse: ...the writing is complicated...

We thank reviewer I for detailed and thorough review. A main and consistent objection (in need of compulsory revision) was lack of clarity in our presentation. In accordance with the comments of reviewer I we have therefore thoroughly revised the whole article in order to improve the main issue of clarity. We hope that our message now comes through more clearly and consistently. It is a main point in our study that the costs and gains of the two compared treatment conditions (OPC and SDC) depended on the patient’s type of personality disorder (PD). We have tried to improve our communication throughout the result section, main findings, discussion, and tables.

Response to specific details in reviewer Morten Hesse’s report:

Morten Hesse: ...If I read the data right, it says that ... I get more health benefits for less by offering SDC...

This is an unfortunate misunderstanding and reviewer I includes several points in his report (based on text and tables) which all reflect the same essential confusion.
Our results were the following: In the whole sample health benefits (GAF improvements) were greater for patients in OPC, but total costs did not differ between SDC and OPC. Analyses of the subgroup of patients with avoidant PD revealed poorer GAF improvements for avoidant PD patients in SDC compared to OPC, but higher total costs in OPC. SDC was therefore not more cost effective for these patients. Analyses of the subgroup with borderline PD revealed no difference in GAF improvements nor total costs and thus no difference in cost effectiveness.

We have in the revision consistently tried to improve our communication of these results in the abstract, result section, main findings, discussion (revised paper: from page 15), and in the revised Tables 5-6 (revised paper: pages 31-32). We hope clarity has now improved.

The revised Tables 5 and 6 (revised paper: pages 31-32).
Reviewer I has several important comments on Tables 5 and 6 in the originally submitted manuscript, also under “minor essential revisions”. It seems that the original tables have been confusing and misleading. We have therefore reorganized and revised Tables 5 and 6 in the originally submitted manuscript, and we hope this improves clarity:

In the revised paper Table 5 now demonstrates all mixed model-based estimations of differences in mean costs per patient between SDC and OPC (revised paper: page 32) including monthly costs in the first period, change-rate, estimated costs for whole trial period and incremental costs. Table 6 (revised paper: page 33) now equivalently demonstrates all mixed model-based estimations of differences in mean GAF scores between SDC and OPC, including baseline estimates, change-rates, estimated GAF change over the whole trial period, and incremental effects.

Morten Hesse: … Further, I think the sub-group analyses in the study are overstated. The subgroup with avoidant personality disorder consists of a total of 24 patients, and huge fluctuations in healthcare costs may simply be a chance finding...

Although we agree that this study does not represent a large sample, we prefer to keep our focus on the analyses of subgroups. The PD subgroup analyses are a central aspect because the two subgroups dominate the sample and have contrasting outcomes. It is therefore misleading not to emphasize this factor in the paper. The revised paper clarifies total numbers as we understand that our first version may have been misleading on this point. The statistical inferences are not based on so small numbers as may be the reviewer’s impression. Avoidant PD was diagnosed for 44 patients (40%) and borderline PD for 51 patients (46%). Moderator analyses, estimated costs, and all statistical inferences are based on all patients (total numbers) with the respective PDs. In the present revised paper we have included more detail about numbers in Table 1 (revised paper: page 27). A section in the statistics describes how all patients are included in the analyses (revised paper: page 10).

Morten Hesse: …I would be greatly helped by a clear definition of different health economic terms that can be used throughout the paper...

Definitions of the different treatment costs and specific health economic terms and are given in the methods section (revised paper: pages 7and 11) in addition to Tables 2 and 3 (revised paper: pages 28-29) which specify each standard costs and frequencies of health services. Tables 4 and 5 also specify which costs which are presented in the table (revised paper: pages 30 and 31).

We have also reorganized the results section and hope this helps to clarify which health service costs and which treatment condition (SDC or OPC) we refer to (revised paper: pages 11-14).
Morten Hesse: ... the statistical procedures section should be clarified so that the outcome variables for each model are highlighted and it becomes clear what models are applied for what purposes.

We have revised this section and specifically presented more detail about predictor and moderator models in the statistical procedures section (revised paper: pages 9-10).

Response to reviewer II: Marco Chiesa

..The style of presentation and the way the paper is organised need major attention. It makes heavy reading and I had to read the paper several times before I could get a somewhat clear understanding of the content.

We also thank reviewer II for detailed and thorough review and constructive suggestions for improvements. According to reviewer II a main objection (in need of compulsory revision) was the style of presentation. In accordance with this reviewers comments we have therefore thoroughly revised the whole article in order to improve the main issues of language, flow and clarity. We now hope it makes better reading.

The discussion has been revised, shortened, subsections merged, and it starts by presenting 3 main findings (revised paper: from page 15).

We have reorganized and simplified several tables, in particularly, Tables 5 and 6 (revised paper: pages 31-32, see specific comments to reviewer I above).

In the methods section we have trimmed information about staff and therapists and specified more the inclusion of patients (revised paper: pages 5-6).

In order to further simplify the presentation we decided to take out the separate sections discussing our findings concerning Axis-I comorbidity (introduction, abstract and discussion in the original version). We have, however, kept the reports of the analyses in the results section as it is important to convey that we have checked for impacts of different comorbidity.

...the superior cost-effectiveness of OPC over SDC... thread that needs unravelling and discussing.

The unravelling of the above mentioned finding is represented in the subgroup analyses – we found that the differences between OPC and SDC were largely explained by the subgroup of patients with avoidant PD (40% of the sample) who responded differently in the two conditions. It would be misleading to discuss differences between OPC and SDC without conveying the large differences in response among patients with avoidant and borderline PD (46 % of the sample). This result made us cautious in our original manuscript. In the revision we have emphasized these two PD subgroups more clearly. We also discuss the implications of our results when it comes to possible conclusions about treatment recommendation

Other minor essential revisions recommended by reviewer II:

We have reorganized the result section (revision pages 11-14):

a) Comparison of costs of the two specialist treatments
b) Comparison of costs of other health services
c) Total costs and clinical outcomes
d) Pretrial functioning and health service costs
We hope our revisions have sufficiently improved the paper and would appreciate consideration of the revised manuscript for publication in BMC Psychiatry

Kind regards,
on behalf of all coauthors,

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