Author’s response to reviews

Title: A Systematic Review and Meta-Analysis of the effects of Clinical Pathways on length of stay, hospital costs and patient outcomes

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Author’s response to reviews: see over
Response to BMC Peer Reviewers’ Comments re “A Systematic Review and Meta-Analysis of the effects of Clinical Pathways on length of stay, hospital costs and patient outcomes”

(1) Response to Suzanne Richards:

<table>
<thead>
<tr>
<th>Peer Reviewer</th>
<th>Comment</th>
<th>Response</th>
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<tbody>
<tr>
<td>Suzanne Richards</td>
<td>Minor essential Pg 10. ‘evidence for meting’. Change ‘meting’ to ‘meeting’.</td>
<td>corrected</td>
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<tr>
<td>Suzanne Richards</td>
<td>Minor essential Pg 14. ‘= 60,9)’. Replace comma with decimal point...</td>
<td>corrected</td>
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<tr>
<td>Suzanne Richards</td>
<td>Minor essential Pg 16. ‘study data resulting in a divers set of included studies’. Should ‘divers’ be ‘diverse’?</td>
<td>corrected</td>
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<tr>
<td>Suzanne Richards</td>
<td>Minor essential Table 1: The editing has resulted in a much clearer table. However you still need to change ‘(N/n)’ to ‘(n/N)’ as this reflects the order in which you presented the data in the pathway and control group columns. The legend is also in a different, much larger font than the table – I would shrink it to match the table. Change ‘data was’ to ‘data were’.</td>
<td>corrected</td>
</tr>
<tr>
<td>Suzanne Richards</td>
<td>Discretionary revisions Pg 11. ‘studies, whereas we excluded 49 out of’. Suggest re-word to: ‘studies, excluding 49 out of’.</td>
<td>corrected</td>
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<tr>
<td>Suzanne Richards</td>
<td>Discretionary revisions Pg 13. ‘Table 3 details the cost differences in detail’. Replace ‘details’ with ‘describes’.</td>
<td>corrected</td>
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<tr>
<td>Suzanne Richards</td>
<td><strong>Discretionary revisions</strong></td>
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<td>Table 3 &amp; 4: Format of legend different from table. Consider standardizing font.</td>
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<td><strong>corrected</strong></td>
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<tr>
<td>Suzanne Richards</td>
<td><strong>Discretionary revisions</strong></td>
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<td>Table 4: The use of full stops in some records (e.g. Grines et al, experiment group = $8.161) but not others (e.g. Kim, control group, $1512). Review table, and consider standardizing use of '.'</td>
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<td></td>
<td><strong>corrected</strong></td>
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(2) Response to Patriek Mistiaen

<table>
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<tr>
<th>Peer Reviewer</th>
<th>Comment</th>
<th>Response</th>
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</table>
| Patriek Mistiaen | 1 inclusion process: the response of the authors is not completely satisfactory; it is still not clear if the inclusion was done by one or by more reviewers in the different phases of the inclusion process. | Rewritten and clarified: Now it is clearly stated and justified that in every phase of the review in- and exclusion was done by two reviewers and any disagreement was discussed with a third reviewer. Please see Methods, Subheading “quality assessment and data analyses: page 6:  

“For quality of studies (see additional Table 1), we adhered to the Effective Organisation of Care Group (EPOC) module and defined three risk classes: Class I (low risk of bias), Class II (moderate risk of bias) and Class III (high risk of bias). Two reviewers independently assessed and abstracted data, on the intervention criteria, study characteristics and methodological quality. Any disagreement was discussed with a third reviewer. Studies with a high risk of bias were excluded from the review after documentation.”

Please see additionally “discussion” on page 18: “studies were independently assessed and data extracted by two with any disagreement discussed with a third reviewer”. And furthermore under the subheading “Authors contributions” on page 20 is stated “that screening was always done by two (TR & RK) and quality assessment by TR & RK and…any disagreement between TR and RK was discussed with HG as a third party reviewer”. |
| Patriek Mistiaen | 2 methodological assessment: in this new version of the manuscript, it became clear that the authors applied not only content-criteria but also methodological quality criteria to in- and exclude studies. Was the methodological assessment done by two authors? How was the agreement? And how were disagreements solved? I consider this important since this is a judgment about other’s work.

I would advise that the authors add in the paragraph ‘study selection criteria’ that also methodological quality criteria were set. Finally, it was a surprise for me to read in this new version that 75% of the studies that fulfilled the content-criteria, were rated as ‘high risk of bias’ and excluded. This must be discussed somewhere and there has to be concluded that the research on clinical pathways must urgently be improved.

Or maybe there can be something wrong with the applied instrument (a ‘high risk of bias’ is already assigned if only one criterion was rated as ‘not done’)? |

1. Was the methodological assessment done by two? Yes, please see on page 6 subheading “quality assessment and data analyses: (sentence added and clarified)

“Two reviewers independently assessed and abstracted data, on the intervention criteria, study characteristics and methodological quality. Any disagreement was discussed with a third reviewer. Studies with a high risk of bias were excluded from the review after documentation.”

And on page 20 subheading authors contributions: “(..) any disagreement between TR and RK was discussed with HG as a third party reviewer”.

2. How was the agreement:
As stated in the last submitted version, we have not explicitly measured our “inter-rater agreement”. As far as we know, this is not even a Cochrane standard. However, in the “follow up” EPOC review we are now measuring the inter-rater agreement in every phase of the review process.

Please see revision 1 and.. Study selection criteria on page 5/6: re-written: “We only gathered robust evidence and limited our study selection to randomised controlled trials (RCT) and controlled clinical trials (CCT) including methodological quality criteria (please see -quality assessment and data analyses-).”

3. 75% of the studies that fulfilled the content criteria were excluded. Clinical Pathway research should be improved?
This question already rose after review completion in 2006/2007:
After consulting an EPOC Editor we decided against a discussion |
about the quality of research in the result section because this would go far behind the present review data and results. We explained and justified our decision under the subheading future research on page 18/19: “We explicitly decided to expand this review and will also include less restrictive study designs (i.e.: ITS and CBA studies) in addition to randomized and quasi-randomized trials, to provide a comprehensive theoretical basis. The character of non-experimental studies makes them even more difficult to critically assess and moreover, due to the lack of MeSH terms the search results cannot be as sensitive as those for purely RCT/ CCT-based reviews. Another future direction is a more comprehensive, patient-centred approach, more concentrating on patient-outcomes rather than health-economic study endpoints”.

This will be done with the support of the EPOC group. Based on this data-base, we will judge the “quality of research on clinical pathways”.

We decided to follow this advice and the results will be published separately as a method paper.

4. Could be something wrong with the applied quality assessment instrument?

No. We applied the outlined EPOC quality criteria (see additional table 1) and these criteria are reflecting the Cochrane Gold standard. We are even working in accordance with the EPOC Module referring to the ongoing EPOC Review and the protocol was peer reviewed. However, yes, if one or more study quality criteria were objectively checked as “not done” than we excluded the study. For example baseline characteristics for study and control patients were
not reported and objectively not measured. Or follow up of participants was not appropriate (less than 80% of subjects randomized). Please see Additional Table 1: However, please consider that we previously decided to include only objective or reliable patient outcomes and this is referring to quality criterion “d” and “f” and the information given in the “DONE” column of additional table 1: i.e. (…) or outcome variables are objective, i.e. LOS or hospital costs”. Hope this clarifies.

Authors response in general:
Firstly we were going through the list of points, point by point, to make sure we are conforming with every point on the list. We really hope that we have formatted everything in accordance with your instructions for authors.
Second, after a final consensus round we noticed, that we nearly have overlooked some important information for the reader in the results section of the review (due to translation and editing): Please see on page 12 –Effects on LOS, the last two sentence added “The reported LOS in Kiyama 2003 was calculated from the day of surgery to the day of discharge. All other studies included in this analysis considered the total LOS”.

Thank you very much.

Thomas Rotter (in behalf of the whole review team)