Author's response to reviews

Title: The effectiveness of computerized clinical guidelines in the process of care: a systematic review

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Author's response to reviews: see over
The Editor,

BMC Health Services Research

Dear Editor,

We would like to thank you for revising our manuscript. We also thank the reviewers for their critical comments, which helped us to provide better clarifications.

Please, find below our point to point responses to these second round comments.

Yours Sincerely

Gianfranco Damiani, Luigi Pinnarelli, Simona Carmela Colosimo, Roberta Almiento, Lorella Sicuro, Rocco Galasso, Lorenzo Sommella, Walter Ricciardi.
1. The term traditional method is not precise. What about audit/feedback, paper reminders...). There are many methods which have been proposed to implement clinical guidelines. clinical computerized guidelines can be compared to routine care but also to other methods, are they traditional?

We agree with your specification and taking it into account we replaced the confusing term “traditional methods” with “non-computerized clinical guidelines” (please see revised manuscript).

2. The authors did not respond to my question concerning quality assessment and what they name “appropriate statistical analysis”.

The item “data analysis and presentation of results” used in our quality assessment was modified from Chalmer’s method, reported on page 37 in Chalmers TC, Smith H Jr, Blackburn B, Silverman B, Schroeder B, Reitman D, Ambroz: A method for assessing the quality of a randomized control trial. A. Control Clin Trials. 1981, 2(1):31-49. It is composed by two criteria “appropriate statistical analysis” and “clear presentation of results”.

A study meets the criteria “appropriate statistical analysis” if chosen statistical tests are appropriate for measured outcomes, the results are presented in such a way that the reader could make the actual calculations (the test statistics and the observed probability level should be stated) and estimate within confidence limits. The study meets the criteria “clear presentation of results” if the graphical and tabular representations are clear and correct (e.g. no three-dimensional graphic, absence of misleading use of colours, table reporting abbreviations always coupled with clear explanations).

3. The decision to include or exclude a study based on a score is debatable.


4. There is no information on the effect size of the result, which could add some information compared to previous reviews.

The different type of outcomes reported in selected articles did not allow the estimation of within-study comparison, so the effect size of the result was not computable and we could not combine the results across studies in a meta-analysis (Higgins JPT, Green S (editors). Cochrane Handbook for Systematic Reviews of Interventions Version 5.0.1 [updated September 2008]. The Cochrane Collaboration, 2008. Available from www.cochrane-handbook.org.)

5. Considering the list of studies presented table 3 it is difficult to understand why some studies included in other systematic reviews are not included and on the contrary why some studies excluded in other systematic reviews are included in this review. we need probably at least to have the list of excluded articles and the reason for exclusion.
According to your comment, at the end of this reply we enclose the list of articles excluded from our review belonging to reviews of Kawamoto and Garg, dated from 1992 (starting point of our observation period). The articles are grouped by main reasons of exclusion (please see attached appendix).

The recent Cochrane review from Shojania et al. is exclusively focused on the effect of on-screen reminders (such as pop-up windows) while our review was focused on comparison between computerized clinical guidelines and non-computerized clinical guidelines. The articles excluded from this review were included in our reviews because we had a different target and we applied different selection criteria.

Analyzing the exclusion list reported in Shojania et al. paper we can state that:


Demakis 2000, Derose 2005, Hetlevik 2000 and Montgomery 2000 were excluded by Shojania et al. because of “ineligible comparison or inappropriate control” while our review was focused on comparison between CCG and non-computerized clinical guidelines.

Hetlevik 1999 and Shojania 1998 were excluded by the above mentioned authors because they did not report specific outcomes, that were not objects of our assessment.

Concerning the articles excluded from Kawamoto and Garg systematic reviews and if not included in our review we would like to highlight the fact that there is not publicly available the list of excluded article from these review so we cannot provide you a point by point answer, like we did for Shojania et al.

6. The main result “presence of automatic provision...” was already the conclusion of the paper of Kawamoto (BMJ 2005). What is the added value of this article?

Kawamoto and Garg reviews dealt with the all CDSS, while our paper was focused on CCG, that are specific part of CDSS. Our contribution provides an updated and quantitative analysis on a topic (CCG) reviewed last time in 1998 (Shifmann et al 1998), on the basis of a different approach.


7. Table 4 is useless

Taking into account your suggestion, table 4 has been removed in the revised paper.
APPENDIX

Articles included in Kawamoto Review and excluded from our review

Reasons for exclusion: lack of certified computerized clinical guidelines compared with non-computerized guidelines.


Reason for exclusion: articles contained in proceedings


Reason for exclusion: articles focused on pediatric patients


Articles included in Garg review and excluded from our review

Reasons for exclusion: lack of certified computerized clinical guidelines compared with non-computerized guidelines.


49. Tierney WM, Miller ME, Overhage JM, McDonald CJ. Physician inpatient order writing on microcomputer workstations: effects on resource utilization. JAMA. 1993;269:379-383. FREE FULL TEXT


Reason for exclusion: articles contained in proceedings


Reason for exclusion: articles focused on pediatric patients


Reviewer: Paul Glasziou

1) I still do not have a clear sense of what "automatic provision of recommendation in electronic form as part of clinician workflow" meant in the studies and would suggest giving some more detailed examples in the Discussion on page 8. The authors might like to consider that they are giving a "how to" guide to the best examples in the literature. I think this would improve the useablity of the review.

Taking into account your advice, we explained more clearly the feature "automatic provision of recommendation in electronic form as part of clinician workflow" in the discussion section, showing also to the reader some practical applications of an automatic system applied to some clinical contexts (please see page 8, lines 5-12).