Reviewer's report

**Title:** Effectiveness and feasibility of early rehabilitation programs for geriatric hospital patients: review of randomized controlled trials

**Version:** 1  **Date:** 5 August 2013

**Reviewer:** Petra Benzinger

**Reviewer's report:**

The authors of this review deal a highly relevant question and their manuscript merits publication after major revisions. The authors did an extensive literature search. Some of the methodological issues I am commenting on relate to the heterogeneity of the studies and the authors try to present the diversity of interventions comprehensively.

**General remarks**

1. The manuscript would improve substantially after correction by a native speaker. I try to point out some mistakes but do not claim to revise the writing style / language completely. Probably the authors would have the opportunity to ask a native speaker to improve the writing. (Minor essential revisions)

2. The title of the manuscript rather generally “effects” of geriatric rehabilitation. In their background the authors state that the aim of the review is to report on the effects on physical functioning. However, the search strategy included studies reporting only on mortality. Please be more precise. To my understanding, the effect of interest is physical functioning rather than mortality but I would leave it to the authors to report precisely. (minor)

3. The authors use exercise program and rehabilitation program synonymously. I do not think this is the same and would ask the authors to be more precise. To my understanding, there are three types of scenarios:

   Rehabilitation on a geriatric ward by a multi-professional team / Rehabilitation on a geriatric ward by a multi-professional team plus an exercise intervention / Care on a general ward plus exercise intervention. This means, there are single component and multi-component interventions at different settings. Probably, there are even more scenarios. In the light of the current discussion on how to organize care for orthogeriatric patients this distinction is highly relevant and needs to be addressed. For example, different types of interventions could be reported separately in the results section. (major)

4. I have objections on the authors approach to review feasibility. In the Method section they do not specify what the end-point would be. Later in the results section (page 14) they do state the criteria. However, this information on end points is also included in some of the RCTs included. Yet, the authors do not consider the RCTs to answer questions on feasibility but focus on manuscripts identified by their search strategy. I would suggest to include ALL manuscripts reporting on some of the endpoints mentioned as criteria of feasibility. Again, I
would ask the authors to be more precise on what type of interventions they
included (exercise only?). (major)

Abstract
Background: …whether the implementation of these programs…
This is not correct – feasibility is reported on other studies than the effects. In
fact, there are two research questions that should be mentioned in two
sentences. Currently, the reader thinks that feasibility was judged on those
studies included in the first research question. (major)

Methods: The flow of the paragraph is not ideal with a jumping between the two
research questions. I would suggest to reorganize the sentences (discretionary)

Results: 1st sentence: “the” instead of “de”
Especially frail patients seem…. I cannot understand how the authors came to
this sentence (see later) (major)

Background
Page 4
3rd line: please add a “,” after countries
4th line: …. People who are admitted… could be changed to ….patients admitted
4th line: please add “years” after 65
7th line: found instead of have found
18th line: this sentence would better suit after the sentence in line 10
20th line: recurrent would better be replaced by “frequent” or “common”

Page 5
2nd line: please add “,” after years
2nd sentence: what do the authors mean by “patient and hospital outcomes”?  
6th line: please add a “,” after program
8th line: Thus…. This sentence is not logical – what do the authors want to say?
11th line: .to include more recent data… - more recent than what?
4th line: “acute medical elderly patients” ? acutely ill geriatric / elderly patients

Methods
See my comments on the search strategy regarding feasibility
See my comments on types of interventions

Results
This section of the manuscript is far too long and hard to follow. I would strongly
recommend to include more information in tables, e.g. types of instruments used,
settings etc. (minor)

The authors should be careful not to bring in interpretations in the results section
(e.g. page 10 3rd paragraph). (major)
4th line: change “into” to “to”

Selected studies
A flow-chart would help to improve the readers’ comprehension (discretionary)

Methodological quality
4th line: … all ten studies… why ten? Earlier the authors report of 12 studies included. (minor)

Inclusion criteria
“The living situation… varied….” Then “reasons for exclusion were …. Living in nursing homes…”

Clearly there is a great heterogeneity of participants included in the studies and the results need to be interpreted in the light of the population included. This needs to be addressed. (major)

Setting and interventions
See my comments earlier on the importance of settings. I would advise the authors to stratify accordingly and report the differences in results according to a stratification by setting

“Supervised by ….” What do these sentences refer to – to the tailored exercise interventions? This is not completely clear. (minor)

1st line: on these ward ,

5th line: “very limitedly” could be changed to “little”

Again a table would help to improve understanding (setting / intervention / follow up (minor)

The authors do not report on the length of the interventions. This information would be very useful for understanding differences in outcome (major).

The authors report on the different settings / interventions/durations but not on how this influenced the results (table!). (major)

Physical functioning
Rather “physical performance”?
In the first sentence for the first time mortality is mentioned – see my general comment.

AdL
This paragraph is much too long – table with the different instruments used

The paragraph does not report on the issue of floor and ceiling effects systematically. These effects are a major problem in many studies and may fraud the results. They create a massive methodological issue that the authors just briefly mention. I would strongly advise the authors to go into the manuscripts of the RCTs reported and try to find out the frequency of floor and ceiling effects. (major)

“However, four studies excluded NH residents…”. I cannot follow the
interpretation of the authors regarding frail older patients. I think this is very speculative and should not be part of the Results section. (minor)

Page 11, 8th line: “These results suggest…. This is an interpretation and should not be in the Results section (major)

The authors mention differences in follow up data and follow up interventions. Yet, it is not quite clear what the follow-up data was in RCTs with and without follow-up intervention. (major)

Mobility
Again, a table would improve the understanding
The authors report on physical performance measures and physical activity without making a distinction. This is not the same and I would ask the authors to distinguish between PP and PA. Overall, I think “Mobility” is not the best title of this paragraph – why not PP and disregard PA? (major)

Again, the authors mention just two studies with floor and ceiling effects – see my comment with AdL. This is very much the same in PP measures. (major)

Page 12 5th line: “…intervention groups improved more than…” Was there really improvement or rather slowing of decline?
Last line: “these studies” – which studies?

Discharge destination
This endpoint is mentioned in the manuscript for the first time here. It can be regarded as an indirect marker of performance. Why not mention it as an end point earlier in the manuscript? (minor)

Feasibility
Please see my earlier comments.
It needs to be clear if there are differences in feasibility between exercise interventions and multifactorial interventions. I have no access to the three studies included here but my impression is that this refers to exercise interventions – what about the others? (major)

Discussion
First sentence: Not correct – it was not only the identification of such studies but their effect.
The authors summarize their finding nicely after an exhausting results section.
…”seem to increase physical functioning…” really? Or rather prevent functional decline?

Level of interest: An article of importance in its field

Quality of written English: Needs some language corrections before being
published

**Statistical review:** No, the manuscript does not need to be seen by a statistician.

**Declaration of competing interests:**

I declare that I have no competing interests