Author's response to reviews

Title: Targeted individual exercise programmes for older medical patients is feasible, and changes hospital and patient outcomes: a service improvement project

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Author's response to reviews: see over
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Dear Dr Marlee

We very much appreciate your time and comments regrading the manuscript we have submitted for consideration, which have been very helpful in directing improvements. We have thoughtfully considered and attempted to address all the issues raised, as outlined below.

Firstly, we would first like to address the comment that we are reporting a controlled clinical trial. We do not consider that we are reporting a controlled clinical trial. This manuscript reports on a short term service improvement project conducted at one hospital, funded by hospital executive to investigate the feasibility and impact of one strategy to reduce bed demands during the busy winter period. The strategy was the provision of an additional exercise program to individual patients identified as being at risk of functional decline during hospital admission and was provided as an adjunct to usual physiotherapy care. Allocation was determined by staffing not by any form of random allocation. The additional exercise program was provided only to those patients who the allied health assistant (AHA) had sufficient time to supervise through every repetition of every exercise.

The primary aim of this manuscript and the service improvement project was to investigate the feasibility of identifying these patients at risk and commencing the program within 48 hours of admission. The comparative analysis of the impact of the program (ACAT referrals and approval, readmissions, LOS, etc) as reported in the manuscript, was undertaken to assist to support a request for further funding from hospital executive to continue provision of the individually tailored exercise program and we consider effect size to be of interest to the reader to assist in power calculation for possible future randomised controlled trials. Whilst we conducted comparison of those who received additional tailored exercises, and those who did not, this was primarily undertaken to support a request to fund ongoing service provision and as stated previously those who were not provided with the program only weren’t as a result of lack of staffing rather than random allocation. For these reasons, it was not considered necessary to obtain ethics approval at the time and we therefore do not have a trial registration number. However, given the outcomes of the project, we have been strongly encouraged to submit for publication, and we do consider the topic of interest to BMC Health Services Research.
Point-by-point response to CS Landefeld Reviewers report

General Comments
We thank the reviewer for the general comments, which support the novelty of the intervention and which generally confirm that we recognise and acknowledge the limitations of the project.

Given the perspective of the reviewer regarding the robustness of the study to support strong inferences about the effects of the intervention, we have attempted to more clearly focus on feasibility of the program in our revisions. We recognise that the limited data collection of the EMS is a major problem, and have included this in the manuscript to alert others of the difficulties of collecting discharge outcome measures in this patient population.

Major Compulsory revision #1
- The concluding statement regarding the impact of individually tailored exercise programs on referral and approval for high level residential care has been deleted. Instead we have indicated that there appears to be sufficient benefit to warrant further rigorous evaluation (page 17).
- The statement in the conclusion regarding likelihood of hospital readmission has been deleted.

Major Compulsory revision #2
In the abstract, it has been identified that this was a prospective cohort service improvement project. The description of the method has been addressed in both abstract and methods sections.

Major compulsory revision #3
The apparent disconnect between major results for ACAT outcomes and discharge destinations is because being approved for HLC doesn’t necessarily mean that patients will be discharged to HLC. With regard to the bivariate results shown in figure 2, the difference was not statistically significant.

Minor compulsory revision#1
Amendments have been made to the text and table labelling to address overuse of abbreviations.

Minor compulsory revision #2
The possibility of selection bias has been acknowledged directly (page 15, first paragraph).
Point-by-point response Nicholas F Taylor Reviewers report

Reviewer’s report
Grammatical error corrected. Positive comments regarding clarity of writing, rationale and background are appreciated. In response to the major concern raised in the reviewer’s report, we have attempted to focus on our primary aim, determining whether such individually tailored exercise programs are feasible in the acute hospital setting. Whilst we have clearly acknowledged that the disparate group sizes limit the ability to compare the patient groups, the small numbers who were not able to receive the additional exercise program does strongly support the feasibility.

Major compulsory revisions
We have clearly acknowledged the major concern regarding comparison of 2 groups, small numbers and non-randomisation in the manuscript. Given that this project was undertaken as a service improvement project to investigate feasibility, rather than research project to compare outcomes, we have focussed on feasibility in the manuscript. We consider that while we have clearly acknowledged limitations of the project, the comparison of outcomes are of interest to assist in determination of power and sample size which may be required for future investigation of this intervention.

Minor essential revisions
Title: (page 1, line 1): “is” has been corrected to “are”

Abstract: (page 2, line 13): Functional maintenance program has been written in full on the first use

Abstract: (pages 2 & 3, Intervention and results): the comparison group has been clarified in both intervention and results

Background: (in previous submission from page 4, second last line, now paragraph overlaps pages 4-5 in Background): In preference to deleting the background information in relation to the pilot study, a publicly available reference has been provided.

Intervention: (page 8, paragraph 3): Greater detail has been provided about the exercise intervention including assessment factors on which exercise prescription was based, description of equipment and an ‘additional file’ with all the exercises available for prescription by physiotherapists.

Statistical analysis (page 9): reference provided for the patient complexity factor. Further explanation has been included.

Results (page 10, paragraph 2): Referral to physiotherapy was an inclusion criterion, and this has been clarified in the Methods section (page 6, paragraph 2). The information in results section including Table 1 is considered sufficiently clear regarding numbers not included due to not being referred to physiotherapy.
Results: (page 11, line 3): It has been more clearly specified in the methods section (page 6, paragraph 1) that resource limitation was the only factor which determined which patients received usual physiotherapy, and which patients received additional exercise. Further clarification has been provided in the results (page 10 last paragraph continuing on page 11).

Results: (page 11, paragraph 1): As this was a service improvement project the collection of baseline characteristics was minimal and all that is available has been presented in age, gender and PCCL index.

Results: (page 11, paragraph 1): The issues about adverse events have been addressed in this paragraph in the results section outlining exercise compliance.

In conclusion, we thank you and the reviewers for the comments and revisions recommended and we look forward to your response.

Kind Regards,
Susie Thomas