Reviewer's report

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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Reviewer: C S Landefeld

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GENERAL COMMENTS

This paper reports the results of a prospective cohort study to determine the feasibility and potential effects of an exercise program to prevent functional decline in hospitalized older patients. The study was conducted as a “service improvement project.” The exercise intervention targeted strength, balance, and mobility. The results indicate that screening for eligible patients and implementing the intervention were feasible, and that there may be large effects on length of stay and post-discharge destination, although the statistical significance of these results generally did not meet conventional standards.

The intervention is novel in the tailoring of the exercise program to individual patient needs and capacity. In fact, this sort of intervention has been rarely studied at all. The methods support the conclusion that program was feasible. The design of the study with non-random assignment and the small number of subjects in the comparison “usual care” group greatly limit the robustness of the study to support strong inferences about the effects of the intervention. An important measure, the Elderly Mobility Scale on admission and discharge, was available for only 20% of patients; this situation prevents testing the hypothesis that apparent effects of the intervention were mediated by or related to effects on mobility. In general, these limitations are recognized and acknowledged.

SPECIFIC COMMENTS

The paper might be improved by attention to the following.

Major Compulsory Revision #1

Some statements may strike a tone that goes beyond the conclusions that can be drawn – for example, the following from the Conclusion:

• Individually tailored exercise programs for older medical patients showed statistically significant 78% reduced likelihood of referral and 69% reduced likelihood of approval for admission to high level residential care (nursing homes) in this setting

• Individually tailored exercise programs for older medical patients showed a 59% reduced likelihood of readmission to hospital within 28 days which was

...
not statistically significant in this setting

Major Compulsory Revision #2
In the Abstract and Methods, the design should be specified more clearly. If I understand the methods correctly, this is a prospective cohort (or longitudinal) study. The intervention and comparison groups might be specified more clearly – for example, something like “Patients were allocated to intervention group when AHA staff were available to start the intervention within 48 hours of admission. Otherwise, patients were allocated to the usual care group when AHA staff were not available to start the intervention within 48 hours of admission.” The phraseology in the current manuscript was less clear on first reading to this reviewer.

Major Compulsory Revision #3
There is an apparent disconnect between the major results for the ACAT outcomes and the discharge destination outcomes. Shouldn’t these results be fairly comparable? Also, are the bivariate results shown in Fig 2 statistically significant; it appears they likely are.

Minor Compulsory Revision #1
Abbreviations are overused, often without simultaneously introducing their meaning. For example, the meaning of FMP is not specified in the abstract but only on page 5. In Table 2, ACAT is not specified – tables should be able to be read without needing to search the text for the meaning of an abbreviation. On page 6, AHA is not specified.

Minor Compulsory Revision #2
The possibility of selection bias introduced by the method of allocation of the intervention is real and should be acknowledged more directly.

Level of interest: An article of importance in its field

Quality of written English: Acceptable

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

Declaration of competing interests:
I do research in a related area. The research is funded by NIH and the John A. Hartford Foundation.