A systematic review of comprehensive geriatric assessment to improve outcomes for frail older people being rapidly discharged from acute hospital: 'interface geriatrics'

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CRD summary
The authors concluded there was no clear evidence of a benefit for comprehensive geriatric assessment of frail older people being discharged from emergency departments or hospital settings. However few trials have been carried out and their overall quality was poor. The authors’ cautious conclusions reflect the evidence presented, but the potential for selection bias should be considered.

Authors' objectives
To assess the role of comprehensive geriatric assessment to improve outcomes for frail older people being rapidly discharged from acute hospital settings.

Searching
MEDLINE, EMBASE, British Nursing Index, HMIC, The Cochrane Library, CINAHL, AgeInfo, ASSIA, NRR, the National Information Centre on Health Service Research and Health Care Technology were searched from inception to October 2010. Search terms were reported. Bibliographies of retrieved trials were scanned for additional articles.

Study selection
Randomised controlled trials (RCTs) that evaluated comprehensive geriatric assessment for the care of frail older people (aged 65 or over) discharged within 72 hours from an acute hospital setting were eligible for inclusion. Outcomes included activities of daily living, cost, cost benefit/effectiveness, mortality, health status, length of stay, discharge, readmission, quality of life, satisfaction, carer strain, or carer burden. Trials that evaluated interventions for specific conditions, which related primarily to psychiatric disorders, children or paediatric care or aimed to reduce hospital use were excluded.

Interventions in the included trials were either geriatrician-led comprehensive assessments that focused on fall prevention for cognitively intact older individuals or rapid access nurse-led geriatrician supported comprehensive assessment and management of older patients. All patients were seen in the emergency department in urban hospitals and discharged to their own home.

One reviewer screened the titles and abstracts. Full papers were independently assessed by two reviewers.

Assessment of study quality
The van Tulder critical appraisal tool was used to assess the quality of the included trials. Only trials scoring 9 out of a maximum of 19 points were included in the review.

Two reviewers independently assessed quality.

Data extraction
Data were extracted and used to calculate risk ratios for dichotomous outcomes and standardised mean differences or mean differences for continuous outcomes, with corresponding 95% confidence intervals (CIs).

Data were extracted by two reviewers and cross-checked for accuracy.

Methods of synthesis
Pooled estimates were calculated using a fixed-effect model where there was no evidence of statistical heterogeneity; otherwise a random-effects model was used. Heterogeneity was assessed using the I^2 statistic. Heterogeneity was deemed to be important when I^2 was more than 30%. Where it was not possible to combine trials due to heterogeneity, results were grouped by outcome measure. Publication bias was assessed using funnel plots.
**Results of the review**

Five RCTs (2,287 participants) were included in the review. The mean van Tulder quality score was 11.8 out of 19 points. Length of follow up ranged from 30 days to 18 months.

There were no significant differences between intervention and control groups for mortality (five RCTs; $I^2=0\%$), institutionalisation (three RCTs; $I^2=63\%$), quality of life (one RCT), cognition (one RCT) or readmission (five RCTs; $I^2=42\%$).

One RCT reported a significant improvement for functional outcomes in the intervention group compared with the control group (SMD 0.41, 95% CI 0.21 to 0.61), but it was unclear whether the difference was clinically meaningful.

There were no significant differences for sub-group analysis by intervention type. A sensitivity analysis, excluding one trial which only scored 7 points on the van Tulder scale, did not significantly alter the direction of estimates (data not presented).

There was no evidence of publication bias (data not presented).

**Authors’ conclusions**

There was no clear evidence of a benefit for comprehensive geriatric assessment of frail older people being discharged from emergency departments or acute medical settings. However, few trials have been carried out and their overall quality was poor.

**CRD commentary**

The review question was clear with appropriate inclusion criteria. Several relevant sources were searched but only published trials were eligible for inclusion. Formal analysis of publication bias found no evidence, although the authors correctly note that interpretation of the analysis was difficult given the small number of trials. Only one reviewer screened titles and abstracts for inclusion, so there was the potential for selection bias. However appropriate methods to reduce reviewer error and bias were used for the extraction of data and assessment of quality.

A quality assessment was conducted, but no details were reported and only a mean score was presented, which made it difficult to independently comment on the reliability of the evidence. The authors state that the overall quality of the trials was poor. Appropriate methods were used to synthesise the data. The authors appropriately advised caution in interpreting the results due to the small number of included trials and the presence of statistical heterogeneity for some outcomes.

The authors’ conclusions reflect the evidence presented, but the potential for selection bias should be considered.

**Implications of the review for practice and research**

**Practice:** The authors did not state any implications for practice.

**Research:** The authors stated that further well designed trials (including cost-effectiveness analysis) were needed to evaluate the effectiveness of comprehensive geriatric assessments of frail older people in acute medical settings.

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