CRD summary
This review concluded that a number of features of interventions to prevent disability in community-dwelling older people appeared promising. The authors’ conclusions were reasonable in view of the results of the review, but the lack of a study validity assessment made it difficult to determine the reliability of these conclusions.

Authors' objectives
To provide an overview of interventions aimed at disability prevention in frail community-dwelling older people and to summarise promising features of these interventions.

Searching
PubMed, Cochrane Central Register of Controlled Trials (CENTRAL) and CINAHL were searched up to March 2008 for studies reported in English, Dutch or German. Search terms were reported. References of relevant papers were checked.

Study selection
Randomised controlled trials (RCTs) and controlled clinical trials (CCTs) that assessed interventions aimed at community-dwelling frail older people and reported disability as a primary or secondary outcome were eligible for inclusion. Authors' definitions of frailty were accepted. Studies that exclusively recruited participants based on age, age and fall incidents or age and a diagnosis of one chronic disease were excluded. Studies were required to use Activities of Daily Living or Instrumental Activities of Daily Living to assess disability.

Included studies assessed comprehensive geriatric assessment (transmural care or community-based care), physical exercise, nutrition, assistive technology and other interventions. A range of definitions of frailty was used.

Two independent reviewers selected papers for the review. Disagreements were resolved through discussion or arbitration by a third reviewer.

Assessment of study quality
The authors stated that they did not assess validity.

Data extraction
Data were extracted on the statistical significance of disability outcomes at the reported follow-up points.

Two reviewers performed the data extraction; it was not stated whether this was done independently.

Methods of synthesis
Studies were combined in a narrative synthesis grouped by the type of intervention assessed.

Results of the review
Forty-eight studies (49 interventions) were included in the review. Forty-six studies were randomised. Eleven studies reported follow-up data for longer than six months after the end of the intervention.

Comprehensive geriatric assessment (26 studies): Several different forms of comprehensive geriatric assessment were identified: transmural care (seven studies); community-based care (assessment followed by referrals and recommendations) (four studies); and community-based care (assessment followed by treatment) (15 studies).

One study of transmural care showed a significant effect in favour of the intervention. One of the four community-based care studies in which assessment was followed by referrals and recommendations showed a significant effect in
favour of the intervention. Nine of the 15 studies in which assessment was followed by treatment showed a significant positive effect.

**Physical exercise (12 studies):** Four studies, three of which were multi-component, showed significant positive impact of the intervention on disability; this may have been limited to moderately physically frail older persons.

**Nutrition (three studies):** None of the three studies showed evidence of an impact of nutritional interventions on disability.

**Technological interventions (two studies):** Both of the included studies of assistive devices and home modifications showed a significant positive impact on disability in the experimental group.

**Other interventions (six studies):** One of the six studies found a significant positive effect for a programme delivered by a nurse during home care attendance.

**Authors’ conclusions**

Positive effects of interventions were reported for 18 of the 49 interventions. Promising features of the interventions appeared to be that they were multidisciplinary and multifactorial, individualised assessment and intervention, case management, long-term follow-up, incorporation of a physical exercise component in the case of older people with moderate degrees of physical frailty and use of technology.

**CRD commentary**

The review question and the inclusion criteria were clear, if broad with regard to interventions, participants and outcomes. The authors searched three relevant databases. The decision to restrict the review to studies published in English, Dutch or German may have led to the omission of relevant studies and increased the possibility of language bias. The authors reported that they used methods designed to reduce reviewer bias and error in the selection of studies for the review; it was unclear whether such methods were applied to data extraction. The authors reported that they did not assess the validity of the included studies because of the exploratory nature of the review process; this made it difficult to determine the reliability of the evidence included in the review. The decision to perform a narrative synthesis appeared appropriate in view of the degree of clinical heterogeneity between the included studies.

The authors’ conclusions were reasonable in view of the results of the review, but the lack of a study validity assessment made it difficult to determine the reliability of these conclusions.

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

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

**Research:** The authors stated that future studies of interventions to prevent disability in frail community-dwelling older people were necessary and should combine the following elements as well as considering the addition of novel elements: multidisciplinary and multifactorial interventions, individualised assessment and intervention, case management, long-term follow-up, incorporation of a physical exercise component in the case of older people with moderate degrees of physical frailty, and use of technology.

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Record Status
This is a critical abstract of a systematic review that meets the criteria for inclusion on DARE. Each critical abstract contains a brief summary of the review methods, results and conclusions followed by a detailed critical assessment on the reliability of the review and the conclusions drawn.