Analysis of case management programs for patients with dementia: a systematic review
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CRD summary
Weak evidence suggested that case management improved quality of care, quality of life, and satisfaction, but it was unclear for hospitalisation and institutionalisation; further research was needed. There was potential for bias in the review, the evidence was weak, and the clinical relevance of the results was unclear, suggesting that the findings are unlikely to be reliable.

Authors' objectives
To assess the impact of case management programmes on clinical outcomes and resource use in patients with dementia.

Searching
Nine databases, including PubMed, EMBASE, and The Cochrane Library were searched in April 2009 for published articles with an abstract in English; the search strategy was reported.

Study selection
Eligible for inclusion were randomised controlled trials (RCTs) of the effectiveness of case management programmes compared with a control on the clinical outcomes and resource use in patients who were not living in institutions and had dementia (Alzheimer's disease and associated disorders). Case management was defined as care management, case management, or disease management involving at least assessment, individualised plan, and monitoring.

Most of the included RCTs were conducted in USA, with one conducted in Sweden. Case managers were social workers, nurses, mental health workers, or gerontology workers. Where reported, the mean age of patients ranged from 70 to 80 years and most of them were women. The outcomes and methods of measurement varied between trials. The primary endpoints included following recommendations for good practice, intensity of behavioural problems, patient access to services, and use of all types of health care. Patient-related outcomes included mortality, quality of life, and caregivers' quality of life. Resource use included hospitalisation and institutionalisation rates. Where reported, various measures were used to assess cognitive status.

One reviewer selected studies for inclusion.

Assessment of study quality
The 2010 25-item Consolidated Standards of Reporting Trials (CONSORT) statement was used to assess the quality of reporting in the RCTs. Items included the assessment of sequence generation, allocation concealment, blinding, and statistical methods.

The authors did not state how many reviewers assessed trial quality.

Data extraction
One reviewer extracted data for the primary endpoints, patient-related outcomes and resource use. The authors extracted statistically significant results (means and standard deviations or proportions) to calculate Cohen's effect size. Primary authors were not contacted for further information.

The level of integration of the case management programme was estimated based on service delivery and clinical integration; this level was reported as none, low, mild, or high. Case management intensity was assessed based on the case manager's caseload according to a published 18-item scale developed by Pacala, et al.

Methods of synthesis
Due to heterogeneity in the trial outcomes, meta-analysis was not performed. The effect sizes were reported in a narrative synthesis and a table. An effect size of less than 0.2 was considered to be weak, 0.2 was small, 0.5 was moderate, and 0.8 was large or significant. Positive clinical and economic effects were reported (no effect, none, none to slight, very slight, moderate, or moderate to mid).
Programme intensity and the integration of the case management programme were evaluated and discussed.

**Results of the review**

Six RCTs (17 publications) were included in the review. The unit of randomisation was the person in four RCTs and the medical practice in the other two RCTs. Three RCTs fulfilled between eight and 10 items on the CONSORT statement, one fulfilled 11, and the remaining two fulfilled 23 items. The level of integration in two RCTs was reported as none, in one it was low, and in three it was mid. Case management intensity was high for two RCTs, mid for one RCT, and low for three RCTs.

The effect sizes for primary endpoints ranged from no effect (one RCT), through weak effect (0.18; one RCT), and small effect (0.24, 0.33 and 0.34; three RCTs), to a moderate effect (0.54; one RCT). The positive clinical impact of case management programmes was reported to be statistically significant, but the effects were only slight to moderate (four RCTs); one RCT reported no effect and one RCT did not assess it. The impact of case management programmes on resource use was not statistically significant (three RCTs) or only very slight (two RCTs), and one RCT did not assess it.

The two RCTs of high intensity found moderate clinical effects, the medium intensity RCT reported a moderate effect on resource use, and the three low-intensity RCTs reported only slight effects. Other findings were reported and the effects of integration of case management programmes on outcomes were discussed.

**Authors' conclusions**

Case management improved quality of care, quality of life, and satisfaction, but the evidence was less clear for hospitalisation and institutionalisation rates. The intensity and integration of case management programmes affected the magnitude of the clinical effects, but the evidence was weak and further research was needed.

**CRD commentary**

The review question and supporting inclusion criteria were generally broad. A number of databases were searched, but only published articles with an abstract in English were sought, which means that potentially relevant data might have been missed. Study selection and data extraction were not performed in duplicate, and the authors did not state how many reviewers assessed trial quality. There was therefore potential for reviewer error and bias. The full results of the quality assessment were not reported and it was not possible to determine the quality of the trials.

Few patient characteristics and details of the intervention and comparators were reported. There was considerable variation in the outcomes and outcome measures, and a narrative synthesis was appropriate. The synthesis was limited and the authors only reported significant findings, which introduced bias. The authors acknowledged that it was unclear whether the findings were clinically meaningful.

There was potential for bias in the review process and significant variability between trials. The authors correctly highlighted that the evidence was weak and there was uncertainty around the clinical relevance of the findings, which suggests that the findings are unlikely to be reliable.

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

**Practice:** The authors stated that the generalisability of the results to countries outside the USA was questionable.

**Research:** The authors stated that more research, using standardised methods and definitions, was needed on case management programmes for Alzheimer’s disease and dementia. Cost-effectiveness studies were also needed.

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**Bibliographic details**


**PubMedID**
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.