Record Status
This is a critical abstract of an economic evaluation that meets the criteria for inclusion on NHS EED. Each abstract contains a brief summary of the methods, the results and conclusions followed by a detailed critical assessment on the reliability of the study and the conclusions drawn.

CRD summary
This study evaluated the effectiveness and cost-effectiveness of reminiscence groups for people with mild-to-moderate dementia and their carers. The authors concluded that the trial showed a lack of clinical effectiveness and cost-effectiveness for the intervention. Further research was needed, as these results were contrary to previous findings. The study was very well reported, and reached appropriate conclusions. The time horizon was short, and there was a need for further research.

Type of economic evaluation
Cost-effectiveness analysis, cost-utility analysis

Study objective
This study evaluated the effectiveness and cost-effectiveness of reminiscence groups for people with mild-to-moderate dementia and their carers.

Interventions
The reminiscence groups were compared with usual care. There were 12 weekly reminiscence groups, followed by seven monthly maintenance sessions. Up to 12 pairs of patients and their carers were invited to each two-hour session. All sessions focused on a theme and were led by two trained facilitators. Each session included a range of activities, in large or small groups, and encouraged patient participation.

Usual care varied between and within centres. All patients had access to the same services, including unstructured reminiscence, but patients in usual care did not receive the specific paired group reminiscence.

Location/setting
UK/social care.

Methods
Analytical approach:
The economic evaluation was conducted alongside a large pragmatic multicentre randomised controlled trial; the REMiniscence groups for people with dementia and their family CAREgivers (REMCARE) trial. The primary endpoint was measured at 10 months. The authors stated that the economic evaluation was conducted from a public sector (NHS and social services) perspective.

Effectiveness data:
In the REMCARE trial, pairs of patients and carers were randomised (196 pairs to reminiscence, and 140 to control), grouped by spousal or non-spousal relationships. All patients were living in the community at the start of the trial. Assessments were conducted at the start, three months, and 10 months by people who were blind to allocation. The primary outcome measures were self-reported quality of life for the person with dementia (Quality of Life in Alzheimer's Disease; QoL-AD), and psychological distress for the carer (General Health Questionnaire; GHQ-28). Persons with dementia also reported their autobiographical memory, depression, anxiety and activities of daily living. Carers reported their stress about care giving and their anxiety and depression. All participants completed a quality of relationship survey (quality of caregiver-patient relationship; QCPR) and the EQ-5D, which included a proxy measurement of patient quality of life made by carers. Different imputation methods were used for missing data.
depending on the context. The data were adjusted for initial imbalances using linear regression.

**Monetary benefit and utility valuations:**
The utility valuations were made by patients and carers using the EQ-5D.

**Measure of benefit:**
The measures of benefit were the primary outcomes for patients with dementia (QoL-AD) and their carers (GHQ-28). A secondary cost-utility analysis was conducted using quality-adjusted life-years (QALYs).

**Cost data:**
The costs were calculated from micro-costs. All the resource inputs were collected for setting up and delivering the reminiscence intervention. The resource use included staff time, materials, room rental, and recruitment and supervision of staff. The costs were from local authorities, voluntary organisations, or the NHS. Most of the unit costs were from NHS and Personal and Social Services. These included hospital services, community services, and day care. They were reported in 2010 UK £. For the economic evaluation, only cases with full cost data were used.

**Analysis of uncertainty:**
Non-parametric bootstrapping was used to evaluate the uncertainty around the point estimates for the costs and outcomes.

**Results**
The primary intention-to-treat analysis did not demonstrate any differences in effectiveness between the interventions for people with dementia or their carers. Secondary effectiveness analyses showed significant differences for carers, on the Hospital Anxiety and Depression Scale (HADS) for anxiety and depression, and on the Relatives' Stress Scale (RSS).

The mean cost per pair for the provision of the intervention was £964. Service use was generally higher for the control group, but not statistically significant. Rehabilitation wards and day hospital use had higher service use for the intervention (p<0.05).

The mean cost of a one point improvement in QoL-AD was £2,586 (95% CI -20,280 to 24,340). For carers, the GHQ-28 showed a small decrement in mental health, indicating that the addition of reminiscence was dominated (less effective and more expensive) by usual care. Uncertainty was high for both analyses, but the costs were consistently higher for the intervention.

For patients, the costs were £1,544 higher, and the QALYs were only 0.001 more, resulting in a very high incremental cost-effectiveness ratio. For carers, there was no difference in utility. The cost-effectiveness planes showed that the intervention was more costly and less effective in about half of the 5,000 bootstrap simulations.

**Authors' conclusions**
The authors concluded that the REMCARE trial showed a lack of clinical effectiveness and cost-effectiveness for the reminiscence intervention. Further research was needed to confirm these results, as they were contrary to previous findings.

**CRD commentary**

**Interventions:**
The reminiscence therapy was well described. Usual care was an appropriate comparator. A better definition of what was included in usual care at each study hospital would have improved the ability to generalise the results.

**Effectiveness/benefits:**
The study analysed a wide range of effectiveness data, which allowed for a nuanced interpretation of the results. The primary measures of benefit were disease specific, but preference-based quality of life was assessed using the EQ-5D. This should allow comparison with other medical interventions. The REMCARE trial was large and had good methods, but the follow-up was only 10 months. As dementia is a chronic progressive condition, the REMCARE trial may not have been sufficient to capture the intervention's effects on disease progression or other long-term measures for those
with dementia and their carers.

Costs:
The costs were clearly reported, and were from appropriate UK sources. The details on the resource use will allow the results to be applied to alternative settings, making them generalisable. The public sector, multi-agency perspective was appropriate.

Analysis and results:
While incremental cost-effectiveness ratios were not presented for the cost-utility analyses, the authors were correct in stating that they would have been meaningless; for persons with dementia, the ratio would be over £1.5 million per QALY gained, and for carers, it could not be calculated as there was no difference in QALYs (a zero denominator). No cost-effectiveness acceptability curve was produced, but the likelihood of the intervention being cost-effective was probably close to zero, over a range of thresholds. The authors thoroughly discussed the limitations of their study, and were clear about the need for further research, and the place of their study in the existing research on dementia. They indicated that carer outcome measures could be developed, as the current ones tended to focus on difficulties that carers experienced, without capturing any positive factors.

Concluding remarks:
The study was very well reported, and reached appropriate conclusions. The time horizon was short, and there was a need for further research.

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