Care management, dementia care and specialist mental health services: an evaluation

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.

Health technology
The provision of a dedicated care manager within a community mental health team for the elderly with dementia.

Type of intervention
Secondary prevention.

Economic study type
Cost-effectiveness analysis.

Study population
The study population comprised elderly persons in the UK who were living in the community, mostly alone, with cognitive impairment.

Setting
The setting was the community. The study was conducted in the UK.

Dates to which data relate
No specific dates were reported. The project "predates the community care legislation" of 2000. It can be assumed that the effectiveness evidence and cost information related to the late 1990s.

Source of effectiveness data
The effectiveness data were derived from a single study.

Link between effectiveness and cost data
The effectiveness and cost data related to the ongoing project. Prospective effectiveness data were reported at 6, 12, 18 and 24 months. Cost data were reported for the first 12 months.

Study sample
No power calculations to determine the sample size were performed. The samples were selected pragmatically. New referrals were identified as suitable for inclusion in the intervention group, and were matched with a similar case in the control group. There was evidence that the initial study sample was appropriate for the clinical study question. The characteristics of the sample fit the description of the study population. There were 45 cases in the intervention group and 50 cases in the control group. Forty-three pairs were included for the paired comparisons.

Study design
This was a quasi-experimental design with matched controls. The controls were matched according to several characteristics, although the exact method employed was not stated. Patients in one community team setting received the intervention, while those in a similar setting in the same locality did not. The follow-up for effectiveness was for up to 24 months. The costs were monitored for one year. The loss to follow-up due to death, or placement in long-term care outside the area, meant that some of the effectiveness measures were derived using unmatched groups. In fact, it was not based on matching other than for placement. It was impractical to blind the assessment of the outcomes.

Analysis of effectiveness
The analysis was conducted on an intention to treat basis. A number of standard and study specific instruments were used to evaluate the outcomes. For example, dependency was assessed by the CAPE instrument, and depression was measured by the CARE schedule. The Malaise scale was used as an indicator of overall stress. Other measures were destination (at home, placed or dead), dissatisfaction with home, social contacts, distress and disturbing actions, carer felt burden, and hours of carer input. There was no significant difference between the groups in terms of their age, gender, cognitive impairment, social class, presence of informal carer, dependency, physical disability, social disturbance, communication disorder, or apathy. Adjustments were stated to have been made for confounding factors, but the results were not given.

Effectiveness results
No statistical analysis was reported for the main effectiveness indicator of destination outcome at 6,12, 18 and 24 months.

The destination outcome for 43 pairs at 6 months after referral was:
for at home, 86% for the intervention and 91% for the control;
for placed, 12% for the intervention and 7% for the control; and
for dead, 2% for the intervention and 2% for the control.

The destination outcome for 43 pairs at 12 months after referral was:
for at home, 74% for the intervention and 74% for the control;
for placed, 19% for the intervention and 19% for the control; and
for dead, 7% for the intervention and 7% for the control.

The destination outcome for 43 pairs at 18 months after referral was:
for at home, 56% for the intervention and 51% for the control;
for placed, 28% for the intervention and 28% for the control; and
for dead, 16% for the intervention and 21% for the control.

The destination outcome for 43 pairs at 24 months after referral was:
for at home, 51% for the intervention and 33% for the control;
for placed, 21% for the intervention and 33% for the control; and
for dead, 28% for the intervention and 35% for the control.

The statistically significant effectiveness results for changes from 0 to 6 months were:
for dissatisfaction with home base, -0.67 for the intervention group and 0.39 for the control group (F=5.69), (p<0.05);
for changes in social contacts, 0.91 for the intervention group and 0.30 for the control group (F=7.44), (p<0.05);
for distress and disturbing actions, 0.14 for the intervention group and -1.91 for the control group (F=6.50), (p<0.05);
for overall needs, -4.22 for the intervention group and -0.25 for the control group (F=23.9), (p<0.001);
for ADL needs, -2.85 for the intervention group and -0.55 for the control group (F=7.11), (p<0.01);
for rise and retire need, -1.00 for the intervention group and -0.19 for the control group (F=8.53), (p<0.01);
for weekly domestic need, -0.59 for the intervention group and 0.04 for the control group (F=4.73), (p<0.05); and
for overall risk, -0.64 for the intervention group and 0.05 for the control group (F=4.90), (p<0.05).

The statistically significant effectiveness results for changes from 0 to 12 months were:
for carer felt burden, -1.46 for the intervention group and -0.39 for the control group (F=5.94), (p<0.05);
for total carer input (hours), -11.19 for the intervention group and -3.15 for the control group (F=3.94), (p<0.05); and
for main carer input (hours), -9.60 for the intervention group and -1.65 for the control group (F=4.19), (p<0.05).

**Clinical conclusions**
In general, there was a positive impact on the patients and their carers as a result of the intervention. The differences in
the changes over time in the intervention, compared with the control group, were beneficial on most indicators. For
destination outcome, the benefits in terms of greater proportions of patients still at home only took place after 18
months.

**Measure of benefits used in the economic analysis**
There was no summary measure of benefit. The study thus constituted a cost-consequences analysis.

**Direct costs**
The costs were not discounted even though the effectiveness was assessed over 24 months. The costs were assessed in
terms of the time (hours, days) for care and professional time inputs. These were summarised as the total costs per year,
but no prices of the different input types for time were reported. The time data were obtained from the study. The
source of the price data was not reported. No dates for the price data were reported. The costs were not reflated.

**Statistical analysis of costs**
Statistical analyses were conducted for differences in the time inputs and for major cost categories only.

**Indirect Costs**
The indirect costs were not included in the analysis.

**Currency**
UK pounds sterling (GBP).
No sensitivity analysis was conducted.

**Estimated benefits used in the economic analysis**
See the 'Effectiveness Results' section.

**Cost results**
The days per year were:

for long-term care, 31.4 for the intervention and 24.9 for the control, (non significant);
for acute hospital care, 30.7 for the intervention and 20.7 for the control, (non significant);
for respite overnight away from home, 6.0 for the intervention and 10.1 for the control, (non significant); and
for professional visits, 63.3 for the intervention and 33.5 for the control, (p<0.01).

The days per week for total day care were 0.84 for the intervention and 0.63 for the control, (non significant).
The hours per week for total home care were 13.3 for the intervention and 4.7 for the control, (p =<0.001).

The mean annual costs for all matched cases alive (n-86) were:

for long-term care, 1,599 in the intervention group and 1,674 in the control group, (non significant);
for acute hospital care, 4,573 in the intervention group and 3,055 in the control group, (non significant);
for respite care away from home, 391 in the intervention group and 560 in the control group, (non significant);
for respite care in own home, 57 in the intervention group and 0 in the control group, (non significant);
for day care, 1,737 in the intervention group and 1,158 in the control group, (non significant);
for professional visits, 2,455 in the intervention group and 1,111 in the control group, (p<0.01);
for home care: 4,781 in the intervention group and 2,259 in the control group, (non significant);
for personal expenditure, 3,104 in the intervention group and 3,107 in the control group, (non significant);
for housing, 1,528 in the intervention group and 1,691 in the control group, (non significant);
for carers, 3,916 in the intervention group and 5,072 in the control group, (non significant).
for the social services department, 8,815 in the intervention group and 4,676 in the control group, (p<01); and
for the NHS, 6,038 in the intervention group and 4,507 in the control group, (non significant).
The total costs were 23,402 in the intervention group and 19,053 in the control group, (non significant).

**Synthesis of costs and benefits**
Not relevant given the cost-consequences analysis approach adopted.

**Authors' conclusions**
The provision of a dedicated care manager to coordinate services for mentally ill elderly people in the UK resulted in
benefits for older people and their carers. Since there was no difference in the overall costs, it was concluded that intensive care management can be a cost-effective intervention.

CRD COMMENTARY - Selection of comparators
The choice of the comparator was justified, as it represented the traditional way of working at the time of the study.

Validity of estimate of measure of effectiveness
The source of the effectiveness data was a comparison of two groups of patients in a similar community setting. The analysis used a quasi-experimental design, which was appropriate for the community-based nature of the study. The study sample was representative of the study population and the patient groups were shown to be comparable. The analysis of effectiveness suffered from some weaknesses. Specifically, matching was only used for one of the effectiveness measures (placement). There was no statistical control for confounding. In addition, the effectiveness may have been less than in other settings that are less resource rich in service provision for the control group.

Validity of estimate of measure of benefit
No summary benefit measure was provided.

Validity of estimate of costs
The costs were derived using data obtained as part of the study, but they were not comprehensive. For example, the costs did not include that of the care giver for home placement. The costs were based on time only and no price information was provided on how the time costs were converted to monetary costs. They may or may not have included the cost of equipment and overheads. Direct cost comparisons with other situations would, therefore, be difficult. Also, it is not known to which year the costs relate, and no discounting was conducted.

Other issues
The authors made extensive comparisons with the results of other studies. In particular, they drew attention to the importance of setting and patient selection in terms of generalisability. The results were reported in full for effectiveness, but selectively for cost. As the authors identified, a major benefit of the intervention is expected to arise in terms of the cost reduction, due to lower rates of institutionalisation for patients in the intervention group than for those in the control group. This effect was shown to occur only after 18 months, but the reported costs were based on the first 12 months. The authors’ conclusions were in keeping with the study population.

Implications of the study
The authors stated that the study demonstrated how care managers can respond flexibly in a joint agency setting. It therefore provides an example of an integrated service, which could be provided jointly by health and social services or a NHS Care Trust subsequent to recent community care legislation.

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