Increased satisfaction with care and lower costs: results of a randomized trial of in-home palliative care


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
The study examined the clinical and economic impact of a multidisciplinary team intervention consisting of in-home palliative care added to usual care for terminally ill patients. In-home palliative care delivered by a multidisciplinary team increased patient satisfaction and reduced the consumption of medical services and costs of terminal medical care, although survival was reduced. The quality of the study methodology was good, with clear presentation of the study results and a robust study design.

Type of economic evaluation
Cost-effectiveness analysis

Study objective
The objective of the study was to examine the clinical and economic impact of a multidisciplinary team intervention consisting of in-home palliative care added to usual care for terminally ill patients with a life expectancy of 12 months or less. Terminally ill patients included those with chronic obstructive pulmonary disease, congestive heart failure or cancer.

Interventions
The two strategies under examination were usual care alone and usual care plus an in-home palliative care programme delivered by an interdisciplinary team providing pain and symptom relief, patient and family education and training, and a wide range of medical and social support services. Specifically, patients and families were trained in the use of medications, self-management skills and crisis intervention in the home. Usual care included various amounts and levels of home health services, acute care services, primary care services and hospice care.

Location/setting
USA/community.

Methods
Analytical approach:
This economic evaluation was based on a single clinical study. A short-term time horizon (4 months) was considered. The authors stated that the perspective of a health management organisation (HMO) was adopted.

Effectiveness data:
The clinical evidence was derived from a randomised clinical trial, which was performed at two managed care sites. Details of the randomisation procedure and the use of power calculations to determine the sample size were reported. A sample of 310 patients was enrolled, 155 in each group. However, in the end, only 297 patients (51% men and 49% women; mean age 74 ± 12 years) were included in the study as 13 died before the start of the intervention. Statistical tests were performed in order to take potential confounding factors into account. The key clinical end point was satisfaction with care. The patients were followed for 120 days after enrolment.

Monetary benefit and utility valuations:
None.

Measure of benefit:
No summary benefit measure was used as a cost-consequences analysis was performed. The clinical measures derived from the clinical analysis were satisfaction with care at 30, 60, 90 and 120 days, severity of illness, survival and site of death. Satisfaction with care was measured using the Reid-Gundlach Satisfaction with Services instrument.

Cost data:
The analysis of the costs included the following items: emergency department visits, physician office visits, hospital days, skilled nursing facility days, home health and palliative visits, palliative physician home visits and days in hospice. The resource use data were derived retrospectively from the HMO database. The costs were derived using actual costs for contracted medical services and proxy cost estimates from all services provided within the HMO. The price year was 2002. The costs were in US dollars ($). Statistical analyses of the costs were performed because of the skewed distribution of medical cost data.

Analysis of uncertainty:
The issue of uncertainty was not explored by means of a sensitivity analysis.

Results
The clinical analysis showed that rates of satisfaction increased in the intervention group at 30 days (odds ratio, OR=3.37, 95% confidence interval, CI: 1.42 to 8.10, p=0.006) and 90 days (OR 3.37, 95% CI: 0.65 to 4.96, p=0.03) after enrolment, with 93% of those enrolled in the palliative care group being very satisfied with care at 90 days after enrolment, compared with 81% of usual care patients. No statistically significant difference was found at 60 days, while satisfaction with care at 120 days was not calculated given the low number of surviving patients.

In the analysis that controlled for age, survival time and medical conditions, in-home palliative care participants were 2.2 times as likely to die at home as those receiving usual care (OR 52.20, 95% CI: 1.3 to 3.7, p<0.001).

The adjusted mean cost for patients enrolled in the palliative care group was $12,670 (± 12,523), compared with $20,222 (± 30,026) for usual care. (p<0.03; 95% CI for difference: -12,411 to -78).

The average cost per day incurred by palliative care recipients was significantly lower than that of usual care group members ($95.30 versus $212.80). However, survival was lower for those enrolled in the intervention group than for those in the usual care group (average 196 ± 164 days versus 242 ± 200 days, p<0.03).

Authors’ conclusions
The authors concluded that, compared with usual care for terminally ill patients, in-home palliative care delivered by a multidisciplinary team increased patient satisfaction and reduced the consumption of medical services and costs of terminal medical care. The authors noted that the issue of ethnic variation should be investigated in future studies.

CRD commentary
Interventions:
The choice of usual care reflected the standard of care in the authors’ setting. The two strategies under examination were clear and were extensively described.

Effectiveness/benefits:
The evidence came from a randomised clinical trial, which is considered to be a highly valid source of clinical data given its randomised design; this should limit the potential for selection bias. Further strengths of the analysis were the use of power calculations and other statistical tests to derive robust and unbiased clinical estimates. Furthermore, the demographic and clinical characteristics of the patients enrolled in the study were presented in order to show the baseline comparability of the study groups. Blinding was clearly not feasible given the nature of the interventions. The study was carried out at two medical institutions and this should enhance the external validity of the analysis.

Costs:
The categories of costs included in the analysis were reported clearly, but the unit costs and the quantities of resources used were not presented separately. The authors described the sources used to derive data on both resource consumption and unit costs, which are likely to reflect the accounting system of a typical US HMO. As the authors noted, the cost-
savings achieved in this economic evaluation might not be generalisable to other health care settings, owing to the peculiarities of the closed-system managed care setting. Extensive statistical analyses were performed to deal with the non-normal distribution of cost estimates and the potential impact of confounding factors. The price year was reported, which will enable reflation exercises to be carried out in other time periods.

**Analysis and results:**
The costs and benefits were not combined given the cost-consequences design of this economic evaluation. The results of the analysis were presented clearly by means of tables and graphical representations. The issue of uncertainty was not explicitly addressed. Nevertheless, the authors calculated clinical and economic outcomes that were adjusted by potential confounding factors. This might, in part, reduce the uncertainty surrounding some data. The authors discussed the issue of difference in survival between the intervention and usual care groups and stated that terminally ill patients often prefer pain and symptom relief than aggressive therapy intended to prolong life.

**Concluding remarks:**
The quality of the study methodology was good, with clear presentation and discussion of the study results. The robust design of the study represents its main strength. The authors’ conclusions appear valid.

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**Bibliographic details**

**Other publications of related interest**


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