Is short-term palliative care cost-effective in multiple sclerosis? A randomized phase II trial

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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 cost-effectiveness of a short-term palliative care service for people with multiple sclerosis (MS). The authors concluded that the service was likely to be cost-effective and further study in phase III trials was needed. The methods of the study seem to have been appropriate and were clearly reported. The conclusions reached by the authors appropriately reflect the uncertainty in the results.

Type of economic evaluation
Cost-effectiveness analysis

Study objective
The aim was to evaluate the cost-effectiveness of a short-term palliative care service for people with multiple sclerosis (MS).

Interventions
Immediate access to a multi-professional palliative care team (fast track) alongside best usual care was compared with the best usual care for three months and then access to the palliative care team. The palliative care team comprised a consultant in palliative medicine, a clinical nurse specialist, an administrator, and a psychosocial worker. Patients were usually visited in their own homes, nursing homes, or hospital. Following assessments, treatments were proposed to improve their physical, emotional, social, and other problems. Specialist welfare benefit advice, bereavement support, and liaison with local services were provided. Patients usually had one to three contacts (visits, phone calls, or both) with the palliative care team. The usual care comprised normal community and hospital services (including neurologists, MS nurses, rehabilitation, and neurological and social services).

Location/setting
UK/tertiary care (teaching hospital).

Methods
Analytical approach:
The economic evaluation was based on one clinical trial of patients severely affected by MS, with a mean Expanded Disability Status Score (EDSS) of 7.7 and a mean age of 52 years. The primary time horizon was 12 weeks and the authors stated that a broad perspective was used.

Effectiveness data:
The evidence came from a phase II randomised controlled trial, with 26 patients randomised to the palliative care team fast track (25 completed the trial), and 26 to the control (21 completed). The patients had similar baseline characteristics. Caregivers were identified through the patients. The main analysis was reported to be intention-to-treat and was carried out at 12 weeks, with a follow-up conducted at 26 weeks. The main effectiveness estimates were the Palliative care Outcome Scale (POS-8) score and the score on the 12-item version of the Zarit caregiver Burden Interview (ZBI).

Monetary benefit and utility valuations:
Not relevant.

Measure of benefit:
No summary outcome measure was used, the main clinical outcomes were presented alongside the costs.
Cost data: 
The cost categories included health care (hospital in-patient care), social and voluntary services, and informal care. The resource use data (for the previous three months) were from patient interviews. The unit costs were from published UK sources. The costs were reported in UK pounds sterling (£), and the price year was 2005.

Analysis of uncertainty: 
The uncertainty around the cost-effectiveness estimates was explored by resampling the costs and effects 1,000 times to produce bootstrapped estimates of the differences in costs and effectiveness. The results were plotted on the cost-effectiveness plane. Alternative analyses, using different imputation methods for missing data (last value carried forward, next value carried backward, and mean value), were tested.

Results 
There was no significant difference over time in POS-8 (at week 12), but the mean ZBI scores had reduced in the fast-track group (−2.88) and increased slightly in the control group (1.58), creating a difference of 4.47 (95% CI 1.05 to 7.89).

The total mean costs at 12-week follow-up for the fast-track group, compared with control, were minus £1,789 (95% CI -5,224 to 1,902). These cost savings were mostly due to less use of primary and acute hospital services.

The bootstrapped analysis, with POS-8 as the outcome, produced better outcomes and lower costs for the fast-track group in 33.8% of replications, and worse outcomes, but lower costs in 54.9% of replications. With ZBI as the outcome, 47.3% replications had lower costs and better outcomes and 48.0% had higher costs and better outcomes.

From 12 to 24 weeks of follow-up, the ZBI was reduced (improved) in the control group, by a mean of 1.58 (95% CI -3.21 to 0.07). The results were largely unchanged in the fast-track group over the same period.

Sensitivity analyses showed that the results were similar using no imputed data and when using all the imputation methods.

Authors' conclusions 
The authors concluded that the trial suggested that the short-term palliative care service for people severely affected by MS and their caregivers was likely to be cost-effective and deserved further study, particularly for other conditions, with longer follow-up, and for other outcomes.

CRD commentary 

Interventions: 
The interventions were described, and appear to have been relevant to the health problem. They might be relevant in other health care system settings.

Effectiveness/benefits: 
The authors gave the details, such as the design, methods, inclusion criteria, baseline characteristics, and loss to follow-up, of the small randomised controlled trial that provided the effectiveness data for the analysis. The outcome measures were disease-specific ZBI and POS-8 scores, which limit broader comparisons with the benefits of other health care interventions, such as quality-adjusted life-years. The authors argued that the differences found between groups in the caregiver burden (ZBI), with an effect size of 1.3, suggested that the palliative care team might have an effect, but they highlighted the exploratory nature of their study.

Costs: 
The authors stated that a broad perspective was adopted, which included the costs to the health, social, and voluntary services, and informal caregivers. The resource use and costs were given in detail, with each separate cost category and its subcategories clearly reported. The authors did not report the absolute total costs for each intervention, only the differences between the interventions.

Analysis and results:
The authors stated that this phase II trial was intended to determine whether the service offered sufficient benefit for further study, and thus lacked power due to a small sample. A future trial would need to recruit 80 to 100 patients. No health-economic summary measure of benefit was used and the results were presented in a disaggregated manner. The authors acknowledged the possibility of measurement bias, as the study was not blinded, and the short time horizon of their study. The authors reported that the cost savings of their palliative care team were similar, but slightly smaller than those of two published retrospective studies, conducted in the USA and Spain.

Concluding remarks:
The methods of the study seem to have been appropriate and were clearly and transparently reported. The conclusions reached by the authors appear to be appropriate.

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