Long-term economic effects of team-based clinical case management of patients with chronic minor disease and long-term absence from working life

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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.

Health technology
A team-based clinical case management programme in the rehabilitation of patients with chronic minor disease and long-term absence from working life.

Type of intervention
Rehabilitation.

Economic study type
Cost-effectiveness analysis.

Study population
Patients less than 58 years old with chronic minor disease who either experienced long-term absence from work (>90 days) or had frequent short-term absence because of sickness.

Setting
Tertiary care. The economic study was carried out in Linkoping, Sweden.

Dates to which data relate
The effectiveness data were gathered for patients presenting to hospital between 1984 and 1987. 1991 price levels were used.

Source of effectiveness data
The evidence for the final outcomes was derived from a single study.

Link between effectiveness and cost data
Costing was performed retrospectively on the same patient sample as that used in the effectiveness study.

Study sample
Power calculations were not used to determine the sample size. The study sample consisted of 239 patients undergoing the case management programme.

Study design
The study was a prospective case series, carried out in a single centre. The duration of follow-up was five years after discharge. The loss to follow up after 1 year from discharge was about 6% (15 patients out of 239). The loss to follow
up after 5 years from discharge was about 11% (26 patients out of 239).

Analysis of effectiveness
The analysis of the clinical outcomes was based on intention to treat. The vocational outcome after 1 year and five years after discharge was used as the measure of effectiveness. The results were also reported for subgroups of patients in terms of diagnostic categories and primary inactivity. No significant differences were discovered among the subgroups.

Effectiveness results
One year after discharge, 20.5% of the discharged patients were active in the labour market. The corresponding figure after five years from discharge was 57% of those active patients and 11.7% in terms of the whole sample (239) of the study.

Clinical conclusions
The authors concluded that “in the evaluated programme, one-year and five-year vocational outcomes were largely independent of the patients’ age, sex, and main diagnosis, and the length of inactivity prior to admission only influenced the one-year outcome”.

Modelling
An incidence-based model was used to gather the discounted costs and benefits associated with each case. The human capital model was employed to estimate the expected life-time income of a rehabilitated person in the labour market.

Measure of benefits used in the economic analysis
No single measure of benefit was produced by the authors.

Direct costs
Costs were discounted. Quantities were not reported separately from costs. Some of the cost items were reported separately. The cost analysis included capital costs (the costs of rent for the office and furniture), costs for subsidiary services (including secretaries' wages, costs of communication services and consumed office materials), the cost of professional service, and travel costs for patients. The perspective adopted in the cost analysis was that of the health service and of patients. The sources of cost data were not given. The date of the price data was 1991. Costs borne by other health care or welfare organisations were not considered since they were negligible. The future costs of the programme and no-programme options were not included.

Indirect Costs
The human capital model was employed to estimate the expected life-time income of a rehabilitated person in the labour market. The probability of full productivity was assumed to be 0.75. Indirect costs were discounted.

Currency
Swedish Kroner (SEK). A conversion to Pounds Sterling ($) was carried out.

Sensitivity analysis
A set of one-way and two-way sensitivity analyses was performed to assess the impacts of changes in the discount rate and the probability of full productivity on costs, benefits, and cost-benefit ratio.

Estimated benefits used in the economic analysis
Cost results
The discount rate was 8%. The total discounted cost of the intervention programme for 239 patients was SEK7.2 M (600,000). The average total discounted cost was SEK30,000 (2,000). The expected life-time production value of 28 patients active in the labour market after five-year follow-up interview was SEK35.1 M (2,500,000). The case management programme had a benefit-cost ratio of 4.9 (i.e. savings/costs). The sensitivity analysis produced a range of values for the benefit-cost ratio from 16.8 (with a 3% discount rate and the probability of full productivity of 1) to 6.2 (8% discount rate and the probability of full productivity of 1).

Synthesis of costs and benefits
Not applicable.

Authors’ conclusions
Tertiary care level team-based clinical case management for vocational rehabilitation of patients with chronic minor disease has a positive cost-benefit ratio. A cross-boundary awareness at a health policy level is needed of the societal costs involved for this group of patients who fall between the traditional services in health care and social work.

CRD COMMENTARY - Selection of comparators
The reason for the choice of the comparator is clear.

Validity of estimate of measure of benefit
As the authors noted, the lack of both a control group and randomisation, renders the internal validity of the results open to doubt.

Validity of estimate of costs
Resource utilisation was not reported separately from costs. Few details of the methods of cost estimation were given. The sources of the cost data were not given. Costs for other members of society (for example, relatives) could also, usefully, have been considered.

Other issues
Given the lack of a randomised controlled design, comprehensive sensitivity analysis, and statistical analysis of the costs, the results need to be treated with some caution. The issue of generalisability to other settings or countries was not addressed.

Implications of the study
A randomised controlled trial is needed to assess the cost-effectiveness of a clinical case management programme in the rehabilitation of patients with chronic minor disease and long-term absence from working life as the findings of this study could not account for the placebo effect. Effects on the quality of life of patients should also be considered.

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