Treatment costs, cost offset, and cost-effectiveness of collaborative management of depression


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
Collaborative depression management.

Type of intervention
Treatment.

Economic study type
Cost-effectiveness analysis (incorporating cost-offsets and treatment costs).

Study population
Subjects suffering from depressive illness.

Setting
The practice setting was primary care. The economic analysis was carried out at the Centre for Health Studies, Seattle, Washington, USA.

Dates to which data relate
Effectiveness data were collected between 1994 and 1996 (approximately). Resource data were collected in 1998. No price year was stated.

Source of effectiveness data
Estimates for the cost-effectiveness of collaborative care were derived from two single studies.

Link between effectiveness and cost data
Prospective costing was undertaken on the effectiveness study sample.

Study sample
Study subjects suffered from depression (DSM III-R criteria) and were referred by their physician to the study. Subjects had a score of 0.75 or greater on a 20-item version of the depression scale from the SCL-90, were aged between 18 and 80 and were willing to take antidepressant medications. In all, 281 patients (217 randomised) were referred in the first study (primary care physician and consultant psychiatrists co-managed), and 217 patients (153 randomised) were referred for the second study (primary care physician and consulting psychologist providing a brief Cognitive Behavioural Therapy programme). Power calculations were mentioned in the analysis of the paper but were not published. Exclusions were made on the basis of current alcohol abuse, psychotic symptoms, or dementia, pregnancy, terminal illness, limited command of the English language or plans to withdraw from the study within the...
following 12 months. The numbers of exclusions were not stated and their data were not included within the analysis. Between the two studies follow-up data were available for 332 subjects (89.7%).

**Study design**
The studies were randomised controlled trials (77.2% of subjects in study one and 70.5% in study two were randomised in their treatment allocation).

**Analysis of effectiveness**
The analysis of the study was based on intention to treat. It was not clear whether the two groups of subjects were comparable in terms of age, diagnosis, gender, etc. The primary health outcomes were the proportions of successfully treated patients in the major depression group and the minor depression group, for psychiatrist consultation services and psychologist interventions with brief therapy, respectively. A successfully treated patient was defined as a 50% or greater reduction in SCL-90 depression symptom score at the 4-month follow-up.

**Effectiveness results**
For psychiatrist consultation services the proportions successfully treated for major depression was 0.744 (intervention) and 0.438 (control) and for minor depression was 0.6 (intervention) and 0.679 (control). For psychologist interventions with brief therapy the proportions successfully treated for major depression were 0.704 (intervention) and 0.423 (control) and 0.667 and 0.528 respectively for minor depression. Statistical analyses to determine confidence intervals and p values were not utilised.

**Clinical conclusions**
Both interventions improved the number of successfully treated patients among those suffering from major depression, but this was not the case for those with minor depression as only small differences were observed.

**Measure of benefits used in the economic analysis**
Benefits were expressed in terms of successfully treated patients.

**Direct costs**
Direct costs included inpatient costs, medication, ambulatory services, and primary care and outpatient visit costs using a combination of figures from the Group Health Cooperative's cost database and market price estimations (Seattle area). Costs and quantities were reported separately. Discounting was not reported due to the short period of analysis (less than 1 year). The perspective of a hospital was adopted within the study. The price year was not stated.

**Statistical analysis of costs**
Not undertaken.

**Indirect Costs**
Not assessed.

**Currency**
US dollars ($).

**Sensitivity analysis**
No sensitivity analysis was performed.
Estimated benefits used in the economic analysis
Benefits were expressed as the number of successfully treated patients. The reader is referred to the effectiveness results reported earlier in this abstract.

Cost results
The cost per patient treated in the psychiatrist consultation services for major depression was $1,337 (intervention) and $850 (control) and for minor depression was $1,298 (intervention) and $656 (control). The cost per patient treated in the psychologist intervention with brief therapy for major depression was $1,182 (intervention) and $918 (control) and for minor depression was $1,045 and $525 respectively.

Synthesis of costs and benefits
Incremental cost-effectiveness was computed for:

(1) psychiatrist consultation services, collaborative management; major depression $1,592 and minor depression -$8,190.

(2) psychologist intervention with brief therapy, collaborative management; major depression $940 and minor depression $3,741.

Authors' conclusions
Collaborative care increased depression treatment costs and improved the cost-effectiveness of treatment for patients with major depression.

CRD COMMENTARY - Selection of comparators
The selection of usual care and collaborative care as comparators was justified.

Validity of estimate of measure of benefit
Benefits were expressed in terms of proportions of successfully treated patients and success was assessed by a reliable method. The authors noted, however, that sample sizes were rather small and no statistical analyses of health benefits were undertaken. As such the results need to be treated with a degree of caution.

Validity of estimate of costs
Cost estimates appear to be valid although no (common) price year was stated. A comprehensive list of cost items was provided. Indirect costs were not assessed which might be relevant for those patients who were in employment.

Other issues
Withdrawal data were not included in the final analysis of costs and cost-effectiveness. No sensitivity analysis of the study assumptions and results was carried out. No real evidence as to the strategy utilised to select the two studies used (or the methodologies therein) was provided. Small samples were used in the compilation of average costings for both papers and for both minor and major depression.

Implications of the study
The results suggest that, by targeting patients with major depression in the primary care setting, effective treatment can be achieved with only modest increases in the cost of treating depression. Redeployment of some mental health professionals from the speciality setting to primary care clinics may result in a more cost-effective use of their skills. The results need to be validated, however, by large-scale randomised controlled trials.
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