Cost-effectiveness of combining systematic identification and treatment of co-morbid major depression for people with chronic diseases: the example of cancer


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 systematic integrated depression screening and treatment for patients diagnosed with cancer, who were attending specialist cancer out-patient services and had a life expectancy of one year or more. The authors concluded that the systematic identification and treatment of depression, integrated with cancer care, was cost-effective. On the whole, the methods and reporting were appropriate and the authors’ conclusions seem valid.

Type of economic evaluation
Cost-utility analysis

Study objective
This study evaluated the cost-effectiveness of systematic integrated depression screening and treatment for patients diagnosed with cancer, who were attending specialist cancer out-patient services and who had a life expectancy of one year or more.

Interventions
Systematic integrated depression management was compared with usual care. This began with two stages of identification. First, screening staff assisted patients with completion of the Hospital Anxiety and Depression Scale (HADS) while waiting for their clinic appointment. Second, patients with a HADS score of 15 or more were phoned at home, and a brief diagnostic interview for major depression was administered. This was followed by Depression Care for People with Cancer (DCPC), a multi-component, systematic, team-delivered treatment programme integrated with cancer care.

Usual care was the identification of major depression by the patient’s general practitioner (GP) using their clinical skills, and their GP’s chosen treatment from monitoring, antidepressant medication, or referral for psychological therapy.

Location/setting
UK/secondary care.

Methods
Analytical approach:
A two-part model was used to analyse the published clinical evidence. The first part was a decision tree for true and false identification of patients with major depression. The second part was a Markov model of the transitions between depression and treatment health states. The time horizon was five years. The authors stated that they adopted a UK NHS and Personal Social Services perspective.

Effectiveness data:
The main effectiveness data included the accuracy of the screening tests, and the remission and relapse probabilities during treatment. Test accuracy was from a published meta-analysis and other published data, and the probabilities were from a trial. Other published data were used for the remaining clinical parameters. The second stage of screening, the brief diagnostic interview, was assumed to have 100% specificity.
Monetary benefit and utility valuations:
The health state utility values for depression and remission were from the clinical trial that provided the effectiveness probabilities.

Measure of benefit:
The measure of benefit was quality-adjusted life-years (QALYs), which were discounted at 3.5% annually.

Cost data:
The costs included health care worker time spent on diagnosis, GP care and the treatment programme. Time for GP diagnosis was based on clinical advice. Published data on the screening system, with a diagnostic interview, was used to calculate completion rates and labour time. Labour costs were from a standard UK national source. Treatment costs were based on the clinical trial that supplied the probabilities. UK national unit cost sources were used, including overheads, training and administration, where appropriate. The costs were reported in 2010 UK £, discounted annually at 3.5%.

Analysis of uncertainty:
Probabilistic sensitivity analysis, exploring joint uncertainty across parameters, and scenario analyses, exploring the effect on the results of altering the model assumptions and parameters, were conducted.

Results
The QALYs per patient were 3.094 for systematic management and 3.085 for usual care. The mean costs per patient were £464 for systematic management and £365 for usual care.

This resulted in an incremental cost-effectiveness ratio of £11,765 per QALY gained.

The likelihood that systematic management was cost-effective at a threshold of £20,000 per QALY gained was more than 99%. Systematic integrated depression management remained cost-effective in all the scenarios tested.

Authors’ conclusions
The authors concluded that the systematic identification and treatment of depression, integrated with cancer care, was cost-effective.

CRD commentary
Interventions:
The interventions were described. Usual care was included, which was useful for decision makers.

Effectiveness/benefits:
The authors stated they used the best available clinical evidence to inform their model, but no details were provided of a systematic review of the literature. The health outcomes from screening and treatment were measured using patient quality of life data, but the method used to obtain these quality of life data was not stated. The authors justified their five-year time horizon by stating that patients would not be followed-up beyond that point. This could slightly underestimate the benefits of a more successful screening strategy if the benefits of reduced depression continue beyond five years. This scenario was explored in the sensitivity analysis.

Costs:
The costs appear to have been appropriate for the study perspective. The unit costs and resource use estimates were adequately reported, and appear to have been obtained from sources relevant to the study setting and population, and related to the effectiveness estimates.

Analysis and results:
The analysis appears to have been well conducted and reported, as were the results. Uncertainty in the cost-effectiveness estimates was appropriately evaluated. The authors commented on the results from other studies and discussed the limitations of their analysis, helping with the understanding of the modelling issues and results.

Concluding remarks:
On the whole, the methods and reporting were appropriate, and the authors’ conclusions seem to be valid.

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