Do indicated preventive interventions for depression represent good value for money?

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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 assessed the cost-effectiveness of a comprehensive group-based psychological intervention and a brief psychological intervention based on bibliotherapy, from the perspective of the health care provider. The interventions were designed to prevent depression, after opportunistic screening for depression that was not full syndrome, in general practice. The authors concluded that both interventions, particularly brief bibliotherapy, were cost-effective, but further evaluation was needed. The methods were good and this should ensure the validity of the authors’ conclusions.

Type of economic evaluation
Cost-utility analysis

Study objective
This study examined the cost-effectiveness of two interventions designed to prevent depression, after opportunistic screening for depression that was not full syndrome, in general practice. It was a part of a project, called Assessing Cost-Effectiveness in Prevention, which assessed the cost-effectiveness of 100 preventive interventions, using a standardised framework.

Interventions
The two interventions were a brief psychological intervention based on bibliotherapy and a comprehensive group-based psychological intervention. The brief bibliotherapy was an individual self-help programme with minimal support and consisted of a visit to a psychologist, a self-help cognitive-behavioural therapy manual, and six short follow-up telephone calls. The group-based intervention was cognitive behavioural and consisted of eight visits to a psychologist and one booster session, all with groups of patients. Each intervention was started after positive screening in primary care and was compared with the usual care, which was no intervention.

Location/setting
Australia/primary care.

Methods
Analytical approach:
The analysis was based on a Markov model with a five-year time horizon. The authors stated that the perspective of the health sector was adopted.

Effectiveness data:
A review of the literature was undertaken to identify the relevant sources of evidence. Two studies were found; a meta-analysis for the group intervention and a clinical trial for the bibliotherapy intervention. Other epidemiological inputs were from the National Survey of Mental Health and Well-Being (NSMHWB); some assumptions were needed. The efficacy of the interventions, which was the relative risk of developing depression, was the key input to the model.

Monetary benefit and utility valuations:
The disability weights were from a Dutch study and were adapted to the Australian population using the proportion of mild, moderate, and severe cases from the NSMHWB.

Measure of benefit:
Disability-adjusted life-years (DALYs) were the summary benefit measure and they were discounted at an annual rate
of 3%.

Cost data:
The costs of bibliotherapy included those of training practice nurses to opportunistically screen patients, the practice nurses’ time for screening, the screening instrument, the general practitioner’s time referring the person to a psychologist, the private psychologist’s time, including six short telephone calls, and the cognitive-behavioural therapy manual. The costs of the manual and the private psychologist were borne by the patients. These costs were from official sources, such as the Medicare Benefits Schedule (MBS), the Australian Practice Nurse Association, and the Manual of Resource Items and their Associated Costs. The costs of group therapy included screening and referral as for bibliotherapy, plus a psychologist for one full face-to-face consultation and nine group sessions lasting two hours, as well as costs for those who did not complete the therapy. These costs were based on the MBS. Travel and time costs were reported, but were not included in the health care costs. Time costs were based on age- and sex-adjusted wages. The costs offset by the interventions (for treatment of major depressive disorder) were from the Australian Institute of Health and Welfare’s Disease Costs and Impact Study. All costs were in Australian dollars (AUD), the price year was 2003, and a 3% annual discount rate was applied.

Analysis of uncertainty:
A Monte Carlo simulation was undertaken to consider the uncertainty underlying selected inputs, using predetermined probability distributions; cost-effectiveness acceptability curves were generated. Alternative scenarios were considered using univariate sensitivity analysis on the decay rate for the intervention efficacy, the time horizon, and the cost of the psychologist for brief bibliotherapy.

Results
In the whole population of eligible patients, the expected DALYs were 2,600 with brief bibliotherapy and 1,700 with group therapy. The total costs were AUD 37 million with brief bibliotherapy and AUD 38 million with group therapy. The costs offset were AUD 6 million with brief bibliotherapy and AUD 4 million with group therapy.

Compared with no intervention, the incremental cost per DALY gained was AUD 8,600 (AUD 11,000 without costs offset) with brief bibliotherapy and AUD 20,000 (AUD 23,000 without costs offset) with group therapy.

At a threshold of AUD 50,000 per DALY averted, the intervention was not cost-effective in 18% of simulations for brief bibliotherapy and 4% for group therapy. The inclusion of time and travel costs increased the incremental cost-utility ratios to AUD 21,000 for bibliotherapy and AUD 44,000 for group therapy.

The results were robust in all the scenarios considered. The worst case was assuming 10% decay of therapy benefits after one year and the incremental cost per DALY was AUD 19,000 with brief bibliotherapy and AUD 33,000 with group-based intervention.

Authors’ conclusions
The authors concluded that both psychological interventions, particularly brief bibliotherapy, were cost-effective, but further evaluation of their effectiveness was needed.

CRD commentary
Interventions:
The selection of the comparators was appropriate as each strategy was compared against no prevention, which was the usual care in the authors’ setting. A direct comparison of the two interventions was not carried out and could have been interesting.

Effectiveness/benefits:
The clinical data came from a review of the literature, but this was not fully described. The treatment effect was from a clinical trial for brief bibliotherapy and from a meta-analysis for group therapy. These are generally valid sources for efficacy data, but the authors acknowledged some limitations of these two studies. The clinical trial had a small sample and there was high uncertainty around base-case findings, while there was high heterogeneity in the studies included in the meta-analysis. The other sources for the epidemiological data represented the Australian context and appear to
have been appropriate. DALYs were a valid measure, not only because they capture the impact of the disease on several dimensions of patient health, but also because they allow comparison with interventions to prevent other disorders.

Costs:
The authors provided extensive information on the method used to calculate the costs of the two interventions. A breakdown of cost items and the assumptions for the quantities of resources were clearly presented, as were the data sources, but the unit costs were not reported. Other details, such as the discount rate for long-term costs and the price year, were clearly stated. Costs borne by the patient and not the health care provider were included, but the authors stated that the perspective was that of the health sector.

Analysis and results:
The results were clearly reported and an incremental approach was used to synthesise costs and benefits of the two strategies. The assumptions made for the model were explicitly reported. The authors justified their selection of the time horizon, which appears to have been appropriate for capturing all the relevant clinical and economic outcomes. The uncertainty was satisfactorily investigated, using a deterministic and a probabilistic approach, to overcome some of the issues with the validity of the clinical evidence.

Concluding remarks:
The methods were good and this should ensure the validity of the authors’ conclusions.

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