Exploratory economic analyses of two primary care mental health projects: implications for sustainability

Mihalopoulos C, Kiropoulos L, Shih S T F, Gunn J, Blashki G, Meadows G

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
The health interventions examined in the study were two programmes for the treatment of mental disorders (panic and depression): an Internet-based psychological intervention supported by either general practitioners (GPs) or psychologists (Panic Online), and a Primary-care Evidence-based Psychological-interventions (PEP) strategy which involves training GPs to deliver specific psychological interventions. Both interventions delivered cognitive behavioural therapy (CBT). Panic Online assisted by a psychologist was a 12-week intervention comprising an average of 12 sessions of 45 minutes with a public sector psychologist responding to the participant's emails, one consultation with a GP, and a computer with software to undertake the online intervention. Panic Online assisted by a GP was also a 12-week intervention, comprising an average of six consultations with a GP, and a computer with software to undertake the online intervention. PEP focused mainly on CBT and consisted of traditional visits to GPs who were trained using specific software.

Type of intervention
Treatment.

Economic study type
Cost-utility analysis.

Study population
The study population comprised a hypothetical cohort of patients suffering from depression and panic disorders.

Setting
The setting was primary care. The economic study was carried out in Australia.

Dates to which data relate
Effectiveness data and some resource use information came from studies published between 1998 and 2005. The price year was 2004.

Source of effectiveness data
The effectiveness evidence came from a synthesis of completed studies.

Modelling
The authors stated that the cost-effectiveness of the two programmes was estimated using a modelling approach based on the ACE-MH (Assessing Cost-Effectiveness in Mental Health) project. However, no information on these methods was provided and it was not clear whether a decision model was used to calculate final outcomes.
Outcomes assessed in the review
The outcomes estimated from the literature were the effectiveness of the Panic Online programme, prevalence of panic disorder (with or without agoraphobia), size of the Australian population in 2004, number of people with panic disorder who consulted a GP, differentiated according to the type of care received, proportion of individuals who had access to a computer and the Internet, prevalence of depression in Australia and the proportion of patients with depression who sought care from a GP and did not receive EBM.

Study designs and other criteria for inclusion in the review
The primary studies appear to have been identified selectively rather than through a systematic review of the literature. Some data came from Australian statistics. Limited information on the other sources was provided.

Sources searched to identify primary studies
Not relevant.

Criteria used to ensure the validity of primary studies
Not stated.

Methods used to judge relevance and validity, and for extracting data
Not stated.

Number of primary studies included
Approximately 9 studies were used as the source of clinical data.

Methods of combining primary studies
A narrative approach was used to combine primary estimates.

Investigation of differences between primary studies
Not stated.

Results of the review
The clinical estimates derived from the literature were not reported. It was stated that Panic Online had equal effectiveness to traditional face-to-face CBT and that GPs delivering CBT had little or no benefit over usual care.

Measure of benefits used in the economic analysis
The summary benefit measures used in the economic evaluation were the disability-adjusted life-years (DALYs), which were estimated by combining data from multiple sources, as reported above. It was not stated whether a discount rate was applied to health benefits.

Direct costs
The analysis of costs was carried out from the perspective of the health sector, divided into costs to government and to individuals. The analysis of Panic Online included only the professional costs associated with delivering the intervention. The analysis excluded computer acquisition costs (as computers were assumed to be already owned), the cost of the Panic Online software (available free of charge), start-up and development costs of the software (largely a sunk cost), and the potential effects of the intervention on other health services (e.g., emergency department visits, hospitalisations, alternative therapies), as there was no evidence on which to base any cost offsets or inclusions. The
estimation of resource use was based on the Panic Online study. These data were then applied to the Australian setting. The analysis of PEP evaluated the costs of expanding a PEP-type intervention nationally and included training costs estimated directly from the PEP study, including not only the costs of printed materials, trainers, venue hire, and catering (but not GP recruitment), but also the costs of GPs delivering the intervention. Resource use data were based on both authors’ assumptions and the PEP study. Unit costs and quantities of resources used were not presented separately. Costs were mainly estimated from Medicare Benefits Schedule for GP contacts. The price year appears to have been 2004. Discounting was not relevant as costs were incurred over a period of less than two years.

**Statistical analysis of costs**

Costs appear to have been treated deterministically.

**Indirect Costs**

Indirect costs were not included.

**Currency**

Australian dollars (AUD)

**Sensitivity analysis**

The authors stated that a probabilistic sensitivity analysis was carried out to define uncertainty intervals (UIs) around point estimates for costs, benefits, and cost-utility ratios. The cost-effectiveness of PEP was estimated using a threshold analysis.

**Estimated benefits used in the economic analysis**

The incremental DALYs averted with Panic Online in comparison with standard care were 870 (90% UI: 450 - 1,200).

**Cost results**

The mean cost of the Panic Online intervention was AUD 3.8 million (90% UI: AUD 2.3 - AUD 5.3 million) when assisted by a psychologist, and AUD 2.8 million (90% UI: AUD 1.7 - AUD 3.9 million) when assisted by a GP.

As regards PEP, the total costs of providing CBT training to a hypothetical 5% of Australian GPs was about AUD 1 million, while the total cost of the intervention (including therapy with the GP) was AUD 44 million (AUD 6 million are out-of-pocket costs to patients, and the rest are costs to government).

The net cost of PEP (total costs minus cost offsets associated with non-EBM service provision) was estimated at AUD 35 million (AUD 5 million are out-of-pocket costs to patients).

**Synthesis of costs and benefits**

Incremental cost-utility ratios were calculated to combine the costs and benefits of each programme in comparison with standard care.

The incremental cost per DALY averted with Panic Online was AUD 4,300 (90% UI: AUD 3,500 - AUD 5,400) when assisted by a psychologist and AUD 3,200 (90% UI: AUD 2,700 - AUD 3,900) when assisted by a GP.

The uncertainty analysis showed that 100% of all iterations fell below AUD 10,000 per DALY averted for all variations in the key inputs.

As regards PEP, the threshold analysis suggested that quite a modest effect size of benefit (around 0.1) would be sufficient to incur an acceptable cost-effectiveness ratio.
Authors' conclusions
The authors concluded that Panic Online was a very cost-effective intervention for the treatment of panic disorders in Australia, regardless of whether the intervention was delivered by a GP or a psychologist. The analysis also showed that PEP (training of GPs to provide CBT) might be cost-effective for the treatment of depression if clinical trials demonstrated even moderate effect sizes of benefits in comparison with standard care.

CRD COMMENTARY - Selection of comparators
The choice of the comparators for both interventions was appropriate as current care was selected and was described. You should decide whether they are valid comparators in your own setting.

Validity of estimate of measure of effectiveness
The effectiveness data were estimated from published studies. It was not stated whether a systematic review of the literature was undertaken to identify primary studies. Some information on the types of studies used to derive clinical data was provided, and most of the evidence came from official statistics. The main strength of using such data is the inclusion of a large sample of individuals. However, few details were given on the other sources used to obtain effectiveness data. Also, the estimates used in the analysis were not reported.

Validity of estimate of measure of benefit
DALYs were an appropriate benefit measures because they capture the impact of the intervention on both disability associated with the disease, and survival, which are relevant dimensions of health for patients with depression or panic disorder. Details on the approach used to derive disutility weights were not reported. The use of DALYs allows comparisons with the benefits of other health care interventions.

Validity of estimate of costs
The perspective adopted in the study was clearly reported. Only a few categories of costs were included in the analysis, and the reasons for the exclusion of some costs were explicitly reported. The source of data was given, but unit costs and quantities of resources used were not provided. This limits the possibility of replicating the analysis of costs in other settings. Costs were treated deterministically in the base case, but probabilistic distributions were assigned in the sensitivity analysis. The price year was reported, which means that reflation exercises in other time periods will be possible.

Other issues
The issue of the generalisability of the study results to other settings was not addressed and the authors did not compare their findings with those from other studies. This reduces the external validity of the analysis. The authors noted that several assumptions were implicitly made in the analysis, for example it was assumed that Panic Online was available to all eligible people and that adherence was 100%. Furthermore, limited information on the methods and results of the study was provided as this study was a preliminary analysis. The authors also noted that, even if both interventions were cost-effective, their sustainability needs to be addressed before their implementation. The issue of patient acceptability to the interventions should also be addressed.

Implications of the study
The study results suggest that Panic Online and PEP might be cost-effective strategies for the management of panic disorders and depression.

Source of funding
None stated.
Bibliographic details

PubMedID
16296957

Other publications of related interest


Indexing Status
Subject indexing assigned by NLM

MeSH
Attitude of Health Personnel; Attitude to Health; Cognitive Therapy; Cost-Benefit Analysis; Evidence-Based Medicine; Family Practice /education /manpower; Financial Support; Humans; Internet; Mental Health Services /economics; Models, Economic; Panic Disorder /therapy; Patient Acceptance of Health Care; Primary Health Care /economics; Program Evaluation /economics; Psychology /manpower; Quality-Adjusted Life Years; Victoria

AccessionNumber
22005001906

Date bibliographic record published
31/05/2006

Date abstract record published
31/05/2006