Cost-effectiveness of psychotherapy for cluster B personality disorders

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 analysis assessed the cost-effectiveness of three settings for psychotherapy, which were in-patient, out-patient, and day hospital, for the treatment of cluster B personality disorders. The authors concluded that out-patient and day hospital psychotherapy were both cost-effective. The preferred strategy depended on the willingness to pay from each perspective. There were some potential limitations to the analysis, but a robust economic evaluation framework was used and the authors’ conclusions appear to be valid.

Type of economic evaluation
Cost-effectiveness analysis, cost-utility analysis

Study objective
This analysis assessed the cost-effectiveness of three settings for psychotherapy, which were in-patient, out-patient, and day hospital, for the treatment of cluster B personality disorders.

Interventions
In the out-patient setting, patients were offered up to two sessions per week. In the day-hospital setting, patients were offered psychotherapy plus sociotherapy, non-verbal therapy, or both for one to five days per week. In the in-patient setting, patients were offered the same therapy as day-hospital patients, but they stayed in the treatment centres for five to seven days per week.

Location/setting
Netherlands/in-patient and out-patient.

Methods
Analytical approach:
The analysis was based on a published Markov cohort model, with a five-year horizon. The authors stated that two perspectives were adopted: that of society and that of the payer.

Effectiveness data:
The clinical data were from a published non-randomised clinical study, called the Study on Cost-Effectiveness of Personality disorder Treatment (SCEPTRE). This had a follow-up of three years and the probabilities for subsequent years were statistically extrapolated. There were 1,379 patients initially identified and 241 were enrolled in the study. They were assigned to study groups based on a comprehensive assessment battery and the expert opinion of clinicians. There were 57 patients, with a mean age of 35.4 years (64.9% females), in the out-patient group, 99 patients, with a mean age of 31.4 years (76.8% females), in the day-hospital group, and 85 patients, with a mean age of 28.9 years (70.6% females), in the in-patient group. The propensity score method was used to lower potential selection bias. The proportion of patients who recovered was the key model input.

Monetary benefit and utility valuations:
The utility values were assigned based on published Dutch norm scores for the European Quality of life (EQ-5D) instrument.

Measure of benefit:
Two summary benefit measures were used: quality-adjusted life-years (QALYs) for the cost-utility analysis and patient-years in the recovered state for the cost-effectiveness analysis. QALYs were discounted at an annual rate of 1.5%.
Cost data:
The economic analysis considered the direct medical costs (treatment and health care after discharge), direct non-medical costs (lost productivity due to time spent in treatment), and indirect costs (future lost productivity due to the disorder). The resource use for medical costs was from the hospital data system. Productivity losses were based on patient data collected by questionnaire. The unit costs were from the hospital finance departments for staff salaries, equipment, buildings, and departmental overheads. Treatment session costs were estimated using micro-costing. The costs following discharge were estimated using the Trimbos and Institute for Medical Technology Assessment Questionnaire on Costs Associated with Psychiatric Illness. The friction cost method was used to calculate the long-term absence from work, assuming that a worker was replaced after five months. All costs were in Euros (EUR), a 4% annual discount rate was applied, and the price year was 2007.

Analysis of uncertainty:
A probabilistic sensitivity analysis was undertaken, using pre-determined probability distributions for the model inputs. Cost-effectiveness acceptability curves were generated and the cost-effectiveness acceptability frontier was plotted. A 3% discount rate for both costs and QALYs was considered in an alternative scenario.

Results
From the societal perspective, in the cost-effectiveness analysis, the expected five-year costs were EUR 78,548 with outpatient care, EUR 89,323 with day-hospital care, and EUR 96,264 with in-patient care. The recovered-patient-years were 1.1449 with out-patient care, 2.0227 with day-hospital care, and 2.0840 with in-patient care. The incremental cost per recovered-patient-year was EUR 12,274 with day-hospital over out-patient care and EUR 113,298 with in-patient over day-hospital care.

In the cost-utility analysis, the expected five-year costs were EUR 80,247 with outpatient care, EUR 91,090 with day-hospital care, and EUR 97,351 with in-patient care. The QALYs were 3.1080 with out-patient care, 3.3005 with day-hospital care, and 3.3223 with in-patient care. Compared with the next less-costly treatment, the incremental cost per QALY gained was EUR 56,325 with day-hospital care and EUR 286,493 with in-patient care.

In the cost per recovered-patient-year cost-effectiveness acceptability analysis, out-patient psychotherapy was most likely to be cost-effective when the societal willingness-to-pay was below EUR 12,500. For values between EUR 12,500 and EUR 103,100, day-hospital care was most likely to be cost-effective. For values above EUR 103,100, in-patient psychotherapy was most likely to be cost-effective. Similar results were observed in the cost per QALY analysis, but with changes at the threshold values of EUR 59,700 for out-patient to day-hospital, and EUR 298,000 for day-hospital to in-patient. The results were very similar for the cost-effectiveness acceptability frontier.

From the payer perspective, based on the acceptability frontier, the changes were at the threshold values of EUR 9,895 and EUR 155,797 per recovered-patient-year, and EUR 43,427 and EUR 561,188 per QALY. The alternative discount rates did not substantially alter the results.

Authors' conclusions
The authors concluded that out-patient and day hospital psychotherapy were both cost-effective. The preferred strategy depended on the willingness to pay from each perspective.

CRD commentary
Interventions:
The selection of the comparators was appropriate as the three psychotherapy delivery options for these patients were considered. A brief description of each option was provided.

Effectiveness/benefits:
The clinical data were from one published study and its key methods were reported. The study was not randomised, which might reduce its reliability, as might other aspects of the study, such as the sample size (which was not justified using statistical analyses). Statistical methods were used to minimise the background differences between groups and the intention-to-treat analysis was appropriate. The authors noted that a potential limitation of their analysis was the fact that the model relied on data from patients who sought treatment and these patients might differ from those who did not.
seek treatment. Both benefit measures were appropriately selected as they are of clinical relevance to different stakeholders. QALYs allow comparisons to be made with the benefits of other health care interventions.

Costs:
The use of two perspectives should make the findings of interest to various payers. The authors pointed out that societal costs might have been underestimated by excluding the costs of criminal justice. A major limitation of the analysis was the reporting of the costs as category totals, without a breakdown of cost items. This reduces the transparency of the analysis, but the data sources and methods used to estimate the costs were clearly described and the costs were based on a detailed questionnaire given to the patients who were in the clinical study. The price year and discounting were reported.

Analysis and results:
An appropriate incremental approach was used to synthesise the costs and benefits of the strategies. The results were clearly presented and discussed. The uncertainty was investigated, using a comprehensive probabilistic approach, and the findings were clearly illustrated. The non-randomised study might have reduced the internal validity of the clinical analysis, but was likely to reflect real clinical practice.

Concluding remarks:
There were some potential limitations to the analysis, but a robust economic evaluation framework was used and the authors' conclusions appear to be valid.

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