The economic impact of early intervention in psychosis services for children and adolescents

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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
The study evaluated the economic impact of a specialist early intervention referral for people aged under 18 with or at high-risk of psychosis. The authors concluded that early intervention services were likely to provide at least the same economic benefits in terms of direct health-care costs in young people as for working-age adults. Methods were sufficiently well reported but it is not clear whether the authors’ conclusions are appropriate given the uncertainty in the model parameter estimates.

Type of economic evaluation
Cost-effectiveness analysis

Study objective
The study aimed to evaluate the economic impact of a specialist early intervention referral for people aged under 18 with or at high risk of psychosis.

Interventions
The intervention was referral to a specialist early intervention team. This was compared with standard care provided by the Child and Adolescent Mental Health Services.

Location/setting
UK/Secondary care

Methods
Analytical approach:
A decision tree based model was used to model the clinical problem and included the probabilities of having psychosis, being at risk of an adverse mental state or another disease and different treatment options given those health states. The time horizon was six months. The authors stated that the study was from a mental health perspective.

Effectiveness data:
The probabilities of different treatments for at-risk patients or the early intervention group were obtained from a published report by Tiffin and Hudson with details of 42 patients (see Other Publications of Related Interest).

Intervention effect data in the model were the probability of receiving specific treatments given an individual that is at risk of an adverse mental state. It was assumed that the probability of being treated according to an at-risk state for standard care was half that for the early intervention group.

Monetary benefit and utility valuations:
Not relevant.

Measure of benefit:
There was no measure of benefit in the analysis as the study focused on evaluating cost savings associated with increased treatment of patients at risk of an adverse mental state.

Cost data:
Costs included treatments (medication and psychiatrist appointments), length of in-patient stay and the early intervention team (included six nurse/care coordinator contacts during the six month period). Resource use for the
treatments were obtained from the published report by Tiffin and Hudson. Activity data for the early intervention team and hospital admissions were obtained from the service monitoring records for the Teeside and Durham area and from the Clinical Reporting System. Medication costs were obtained from the British National Formulary. Health service contact costs were obtained from the NHS Reference Costs 2009-10. In-patient stay costs were obtained from Unit Costs of Health and Social Care, 2010. The price year was 2011.

Analysis of uncertainty:
One-way sensitivity analyses were conducted where the parameter value was varied up and down by 50% or by the maximum amount.

Results
The average cost was £13,186 for the early intervention group and £18,000 for standard care. The extra cost of treatment was outweighed by cost savings associated with the reduced length of stay.

The cost-saving result for early intervention was not very sensitive to the changes in the parameter values.

Authors' conclusions
The authors concluded that early intervention services were likely to provide at least the same economic benefits in terms of direct health-care costs in children and adolescents as those found for working-age adults.

CRD commentary
Interventions:
The early intervention was described adequately. Standard care was not described clearly.

Effectiveness/benefits:
There was no relative effectiveness data. The authors acknowledged that the assumed probabilities of treatment for at-risk patients meant that there was considerable uncertainty in this estimate; appropriately some sensitivity analysis was conducted. It was noted that a six-month time horizon was relatively short. There was no measure of health benefit in the analysis as the study focused on evaluating the cost-savings associated with early intervention. It may be the case that providing increased treatment will necessarily lead to increased health outcomes.

Costs:
Relevant health service costs for the intervention and comparator for the setting appeared to be identified and valued appropriately. There was considerable uncertainty around the effect on hospital length of stay from early intervention and on the probability of receiving treatment. The probability of receiving treatment was assumed. The effect on admissions came from observational data and there may be confounding factors as discussed by the authors.

Analysis and results:
The analysis and results were reported adequately. It might have been useful to separate the difference in treatment costs from the difference in hospitalisation costs. There were several one-way sensitivity analyses but it was not clear that uncertainty around both the probability of treatment and hospital length of stay was explored adequately.

Concluding remarks:
The methods were sufficiently well reported but it is not clear whether the authors' conclusions are appropriate given the uncertainty in the model parameter estimates.

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