Costs and longer-term savings of parenting programmes for the prevention of persistent conduct disorder: a modelling study
Bonin EM, Stevens M, Beecham J, Byford S, Parsonage M

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 objective of the study was to assess the potential long-term cost-effectiveness of parenting programmes for prevention of persistent conduct disorder in five-year-old children. The authors concluded that effective implementation of a parenting programme was likely to yield cost savings to the public sector and society. Overall quality of the study methodology was good. Methods and results were reported adequately. Given the scope of the study, the authors’ conclusions appear valid.

Type of economic evaluation
Cost-effectiveness analysis

Study objective
To assess the potential long-term cost-effectiveness of parenting programmes for the prevention of persistent conduct disorder in five-year-old children.

Interventions
Provision of an evidence-based parenting programme to five-year-old children with clinical conduct disorder and no provision of parenting programmes for five-year-old children.

Location/setting
UK/Community care.

Methods
Analytical approach:
A decision analytic Markov model was used to combine published data and assess costs and outcomes associated with the two interventions. The time horizon of the model was 25 years. A public sector and a societal perspective were adopted in the economic analysis.

Effectiveness data:
Extensive literature searches were performed to obtain clinical and effectiveness data using National Health Services Economic Evaluation Database, Cochrane Database of Systematic Reviews, PsycINFO and MEDLINE databases and Google Scholar. Google searches were used to identify grey literature and unpublished studies. The main estimate of effectiveness was the impact of parenting interventions on childhood disorders that persist into adulthood. The effectiveness of the intervention was derived using data from studies included in a systematic review of randomised controlled trials (see Other Publications of Related Interest).

Monetary benefit and utility valuations:
None.

Measure of benefit:
The probability that a child with conduct disorder at age five continued to show conduct problems at later ages.

Cost data:
Public sector costs included in the analysis were provision of the intervention, National Health Service, Social Services
Department, Department for Education and the Criminal Justice Service. From a wider societal perspective the costs included voluntary sector, lost output due to crime, victim costs due to crime and other costs of crime (such as anticipation of crime, property damage and victim services). Costs of the parenting programme were derived from a commissioning toolkit that included staff, overheads, materials, catering, childcare and training and supervision. Costs to the public sector were derived from previously published studies. Costs of crime were derived from national reports, published studies and government data. Costs were presented in 2008/2008 UK pounds (£) and discounted using an annual rate of 3.5%.

Analysis of uncertainty:
A series of scenario analyses were performed. A best case showed the maximum potential cost saving from improved outcomes due to the intervention given low drop-out and recidivism and high rates of intervention effectiveness. The worst case tested whether there would be any cost savings given worst assumptions in drop-out and recidivism rates and low effectiveness of the interventions. Results were presented in a table.

Results
The probability that a child with conduct disorder at age five continued to show conduct problems in later years was 59% with no intervention. With a parenting intervention, the probability that the conduct disorder persisted beyond age 16 was 54%.

The present value of savings per family from a parenting programme was £5,837 for the public sector and £16,435 for society overall.

In the worst case scenario the present value of net public sector savings per family was £1,271 and in the best case scenario it was £41,611.

Authors’ conclusions
The authors concluded that effective implementation of a parenting programme was likely to yield cost savings to the public sector and society.

CRD commentary
Interventions:
Only brief details of the intervention were provided. The authors reported that their aim was not to model a specific programme but rather a generic parenting intervention drawing on data on various evidence-based programmes that were likely to be implemented in the English context. The interventions were likely to be relevant to the study's setting. It was difficult to assess whether the interventions were generalisable to other settings.

Effectiveness/benefits:
Extensive literature searches were performed using five databases. The authors identified grey literature and unpublished studies using Google searches. It was not reported whether the literature review was systematic, but the large number of databases searched and the search for grey literature indicated that no major relevant study or piece of evidence was omitted from the review. No details were provided on inclusion criteria or methods used to derive clinical estimates in the study, which made it difficult to fully assess the quality of the review and reduced the replicability of the study. The benefit measure appeared appropriate for this study but was quite disease specific and this made it difficult to compare with other public health interventions available to children.

Costs:
The perspectives adopted in the economic analyses were explicitly reported. It appeared that no major cost category was omitted for the public sector and societal perspectives. The authors reported as limitations that some relevant costs were omitted and that adults with histories of conduct disorders had higher probability of unemployment and lower than average wages. The sources from which costs were derived were adequately reported. The costs were appropriately discounted and adjusted for inflation.

Analysis and results:
Cost and outcome information were synthesised using a Markov decision analytic model, which was appropriate. Adequate details of the model used were given and included a graphical depiction. The results were reported clearly.
Uncertainty in the model was evaluated with a series of scenario analyses that went some way in evaluating uncertainty but did not capture overall model uncertainty as well as probabilistic sensitivity analyses. The authors reported a further limitation to their study that potential positive effects of the intervention such as better interactions between children and their social networks (parents, friends and so on) were not included in the analysis.

Concluding remarks:
Overall quality of the study methodology was good. Methods and results were reported adequately. Given the scope of the study, the authors’ conclusions appear valid.

Bibliographic details
Bonin EM, Stevens M, Beecham J, Byford S, Parsonage M. Costs and longer-term savings of parenting programmes for the prevention of persistent conduct disorder: a modelling study. BMC Public Health 2011; 11:803

PubMedID
21999434

DOI
10.1186/1471-2458-11-803

Original Paper URL
http://www.biomedcentral.com/1471-2458/11/803/abstract

Other publications of related interest
Dretzke J, Davenport C, Frew E, Barlow J, Stewart-Brown S, Bayliss S, Taylor RS, Sandercock J, Hyde C. The clinical effectiveness of different parenting programmes for children with conduct problems: a systematic review of randomised controlled trial. Child and Adolescent Mental Health 2009; 3(1):7.

Indexing Status
Subject indexing assigned by NLM

MeSH
Child Behavior Disorders /prevention & control; Child, Preschool; Conduct Disorder /economics /prevention & control; Cost Savings; Cost-Benefit Analysis; Decision Support Techniques; Evidence-Based Medicine; Health Promotion /methods; Humans; Parenting; Parents /education

AccessionNumber
22012008433

Date bibliographic record published
12/04/2012

Date abstract record published
24/05/2012