Economic evaluation of an intensive home visiting programme for vulnerable families: a cost-effectiveness analysis of a public health intervention

McIntosh E, Barlow J, Davis H, Stewart-Brown S

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 was to assess the cost-effectiveness of an intensive programme of home visits aimed at vulnerable families, during the antenatal and postnatal periods, compared with standard care. The authors concluded that the intensive programme could improve maternal sensitivity and infant cooperativeness, but judgement was needed to decide whether these benefits were worth the cost. The methods and reporting of the study were satisfactory and the authors' conclusions appear to be appropriate.

Type of economic evaluation
Cost-effectiveness analysis

Study objective
This study evaluated the cost-effectiveness of an intensive programme of home visits aimed at vulnerable families during the antenatal and postnatal periods.

Interventions
An intensive weekly programme of visits by a home visitor who was trained in working in partnership and in promoting parent-infant interaction, to improve parenting and to reduce infant abuse and neglect, was compared with the standard service.

Location/setting
UK/primary care.

Methods
Analytical approach:
The effectiveness and cost data were collected from a single multi-centre randomised controlled trial. The time horizon was 18 months and the perspective was societal.

Effectiveness data:
The key outcomes were maternal sensitivity and infant cooperativeness, from the CARE-Index, infant mental and emotional development, from the Brief Infant Toddler Social Emotional Assessment (BITSEA), infant development, from the Bayley Scales of Infant Development (BSID), maternal mental health, from the General Health Questionnaire (GHQ), the quality of the infant's home environment, from the Home Observation and Measurement of the Environment (HOME) Inventory, and the number of infants removed from their home. The sample contained 131 women, with 67 randomly allocated to the home intervention and 64 allocated to control.

Monetary benefit and utility valuations:
Not applicable.

Measure of benefit:
The primary measures of benefit were maternal sensitivity, infant cooperativeness, and the number of infants removed from home. These benefits were discounted at 3.5% per annum.

Cost data:
The costs included those of professionals involved in delivering care, including the family doctor, home visitors, social workers, and midwives; support services; hospital treatment, including in accident and emergency; and social and legal services. The resource data were collected prospectively, during the randomised trial, and valued using estimates from the Personal Social Services Research Unit and National Health Service reference costs. The 2004 unit costs were used and were reported in UK pounds sterling (£). They were discounted at an annual rate of 3.5%.

Analysis of uncertainty:
A probabilistic sensitivity analysis was conducted and the results were presented in cost-effectiveness acceptability curves.

Results
The mean societal cost was £7,120 for the home intervention compared with £3,874 for standard care; the incremental cost was £3,246 for home visiting.

The mean maternal sensitivity was 9.27 with the intervention, compared with 8.20 with control. The mean infant cooperativeness was 9.35 with the intervention compared with 7.92 with control. These outcomes were the only ones that showed statistically significant improvement.

The incremental cost-effectiveness ratio per unit improvement in maternal sensitivity was £2,723 and per unit improvement in infant cooperativeness was £2,033.

There was a 95% chance of the intervention being cost-effective if the willingness-to-pay for a unit increase in maternal sensitivity was £16,100 and the willingness-to-pay for a unit improvement in infant cooperativeness was £4,000.

Authors’ conclusions
The authors concluded that trained home visitors performing regular visits could improve maternal sensitivity and infant cooperativeness, but the extent to which these benefits were worth the cost was a matter for judgement.

CRD commentary
Interventions:
The intervention was well described and compared with standard care, which was the usual service in the study setting, but this service was not described in detail. The costs of items were listed, but it is still not possible to interpret the results for other settings. It is possible that there were other interventions available and these could be more relevant to other settings.

Effectiveness/benefits:
The effectiveness data were from a randomised controlled trial, with a strong design, and the risk of bias in the results should be minimal. The follow-up of 18 months might or might not have been sufficient to fully capture the potential benefits of the intervention. The clinical trial was well described and reported.

Costs:
The authors reported the perspective and appear to have considered all the relevant cost categories. The cost analysis was well reported, with the unit costs and resource use data. The cost estimates were relevant to the study population and setting. The price year was reported and future costs were discounted appropriately.

Analysis and results:
The authors used an appropriate incremental approach to compare the relative cost-effectiveness of the intervention against the standard service. The issue of uncertainty was appropriately addressed, using a probabilistic sensitivity analysis. The results were extensively reported and this enhances their generalisability. The authors discussed the key strengths and weaknesses of their study.

Concluding remarks:
The methods and the reporting of the study were satisfactory and the authors’ conclusions appear to be appropriate.
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