Economic evaluation of the DiAMOND randomized trial: cost and outcomes of 2 decision aids for mode of delivery among women with a previous cesarean section

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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
This study examined the clinical and economic impact of two computer-based decision aids for the mode of delivery for pregnant women with one previous caesarean section. The authors concluded that decision aids could reduce decisional conflict and the decision analysis program could reduce the rate of caesarean section, making it cost-effective. The methods appear to have been appropriate and clearly reported. The authors’ conclusions seem to be appropriate.

Type of economic evaluation
Cost-effectiveness analysis

Study objective
This study examined the clinical and economic impact of two computer-based decision aids for the mode of delivery for pregnant women with one previous caesarean section.

Interventions
Usual care was compared with usual care plus an information program, and usual care plus a decision analysis program. The information program provided pregnant women with information on the possible health outcomes associated with different delivery modes for both the mother and her baby. The decision analysis program provided this information and asked women to rate the value of each health outcome. These ratings were then combined with the probabilities of each outcome to generate a suggested delivery option.

Location/setting
UK/primary care.

Methods
Analytical approach:
The analysis was based on a single study with a 43-week time horizon. The authors stated that the study was conducted from the NHS perspective.

Effectiveness data:
The effectiveness data came from a randomised controlled trial (RCT) of 742 women in England and Scotland, recruited between May 2004 and January 2006. The mean age was 32.6 years, and the mean gestation at randomisation was 19.0 weeks. The primary clinical outcome was the woman’s decisional uncertainty, which was measured using the Decisional Conflict Scale (DCS) at 37 weeks of gestation. The proportion of caesarean delivery was presented.

Monetary benefit and utility valuations:
Not considered.

Measure of benefit:
The primary measure of benefit was the DCS score.

Cost data:
The economic analysis considered the medical care cost for the mother and baby, including hospital stay, out-patient
appointment, physician, nurse, and midwife services, and prescribed medications. The resource use was from the patients in the clinical trial. The unit costs were from a published study, the Department of Health's National Tariff, and the British National Formulary. All costs were reported in 2005 UK pounds sterling (£).

Analysis of uncertainty:
A one-way sensitivity analysis was conducted on the delivery cost.

Results
The mean total costs for each mother and baby, using imputed missing values, were £2,033 for usual care, £2,069 for the information program, and £2,019 for the decision program.

The mean DCS scores, with imputed missing values, were 27.9 for usual care, 22.2 for the information program, and 23.5 for the decision program. The proportion of caesarean delivery was 0.70 (95% CI 0.64 to 0.76) for usual care, 0.71 (95% CI 0.65 to 0.77) for the information program, and 0.63 (95% CI 0.56 to 0.69) for the decision program.

The sensitivity analysis indicated that applying a cost premium to emergency over elective caesareans had little effect on the group comparisons.

Authors' conclusions
The authors concluded that the decision program could reduce decisional conflict and the number of caesarean sections, making it cost-effective.

CRD commentary
Interventions:
The two computer-based decision aids were well described, but the usual care was not and this might differ between settings, reducing the generalisability of the results.

Effectiveness/benefits:
The analysis was based on a multicentre RCT, which should have been a valid source of evidence. The disease-specific clinical outcome appears to have been assessed using an appropriate tool.

Costs:
The economic viewpoint was clearly stated and all the relevant cost categories appear to have been included. The resource quantities reflected the actual patterns in the authors’ setting. The cost items were clearly stated, and their prices were provided. The sources of data were reported, as was the price year. This makes it possible to replicate the findings for other settings and time periods.

Analysis and results:
The costs and benefits were not synthesised and a cost-consequences analysis was carried out. A cost-effectiveness analysis might have been useful to compare the different interventions, but the authors discussed their reasons for not using this type of analysis. The results were clearly presented. Statistical analysis was conducted to address the problem of missing data. The authors validated their findings by comparing their analysis with other published studies. They acknowledged several limitations to their analysis.

Concluding remarks:
The methods appear to have been appropriate and clearly reported. The authors’ conclusions seem to be appropriate.

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