Comparing models of maternity care serving women at risk of poor birth outcomes in Washington, DC

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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 described and evaluated the patient and provider perceptions, and costs of three maternity care models to address the needs of pregnant women who were at a low risk of poor birth outcome. The authors concluded that the birth centre model provided the most competitively priced prenatal and postnatal care. Insufficient comparative health benefit and cost information was provided to assess the cost-effectiveness of the different service models.

Type of economic evaluation
Cost-effectiveness analysis

Study objective
This study described three maternity care models to address the needs of pregnant women who were at a low risk of poor birth outcome. It evaluated the costs and funding mechanisms, and the provider and patient perceptions of each model.

Interventions
Three maternity care models were compared. The first was an obstetric clinic at a large teaching hospital, with care provided by residents. The second was a health care centre (safety net clinic), which employed certified nurse-midwives and obstetricians, with prenatal and postnatal care, in the community setting, and births at a teaching hospital. The third was a birth centre, which provided prenatal, labour and birth, and postnatal care, using a midwifery model.

Location/setting
USA/community and hospital.

Methods
Analytical approach:
The effectiveness and cost outcomes were based on a qualitative, comparative study of the three maternity care models. The models had different settings and different populations. The percentage of the population that was African American was 77% at the birth centre, and 90% at both the hospital clinic and the health care centre. The birth centre only cared for low-risk patients, referring all high-risk patients to the obstetric clinic. The health care centre managed many high-risk cases, and referred those at highest risk to the obstetric clinic. Only those services of the obstetric clinic that were aimed at low-risk patients were considered. The time horizon was the duration of prenatal and postnatal care. No study perspective was stated.

Effectiveness data:
The effectiveness data were the responses of the patients to questions on their satisfaction with the care delivered. A qualitative survey, using focus groups, with women receiving prenatal services, provided the feedback on the services.

Monetary benefit and utility valuations:
Not relevant.

Measure of benefit:
The measure of benefit was the patients’ satisfaction with their maternity care.
Cost data:
The study evaluated the costs of providing the services, for each programme. These included provider fees (such as staff time), facility overheads (such as utilities and nurses' salaries), and malpractice insurance. These costs were from the institutions' financial records. Each care model had a different financing structure. Most of the revenue for the hospital obstetric clinic came from insurance reimbursements; the health care centre received a substantial proportion of revenue from the federal government; and the birth centre received half of its funding from the federal government. The study reported reimbursement costs to insurers, as well as fees charged to insurers. All costs were reported in US $.

Analysis of uncertainty:
There was no analysis of uncertainty, as the study was mostly qualitative in nature.

Results
The patients at both the birth centre and the health care centre were equally satisfied with the care they received. Health care centre patients appreciated the friendly environment, the convenience of the clinic, the short wait times, and that they could give birth at the teaching hospital. Birth centre patients thought their care was comprehensive (especially in group sessions), they received more attention than in their previous experiences, and they liked the unlimited familial support during birth.

At the hospital obstetric centre, the viewpoint of staff was that the nurse educator was great, but underused, and the educational service and nursing staff created a trusting environment. At the health care centre, the multiple services available were highlighted so that a lot could be achieved in one patient visit. At the birth centre, the focus on social support, through staff-patient relationships, positively affected women's lives.

The fees and reimbursements for the health care centre were not available.

The average physician and facility fees charged to insurers per case, for prenatal and postnatal care, were $5,254 in the hospital clinic, and $909 at the birth centre. The charges for vaginal birth were $2,578 in the hospital clinic, and $1,300 in the birth centre.

The average reimbursements for prenatal and postnatal care were $919 for hospital clinic, and $545 for the birth centre. For vaginal birth these were $451 for hospital clinic, and $780 for the birth centre.

Authors' conclusions
The authors concluded that adopting practices, such as group prenatal care and increased use of certified nurse-midwives, could improve non-clinical care, and that the birth centre model provided the most competitively priced prenatal and postnatal care.

CRD commentary
Interventions:
The interventions were sufficiently described. Existing models of care were compared, which was useful for local decision makers.

Effectiveness/benefits:
The measure of benefit was the patients' satisfaction with the maternity care provided, as reported in response to open-ended questions. This suited the objective of this study, but for the cost-effectiveness of the different models of care to be fully assessed some consideration of health outcomes, preferably the baby and mother's, as well as patient satisfaction should be assessed. Without an assessment of health benefit, the usefulness of the analysis may be limited. Patient satisfaction was not assessed for the hospital obstetric clinic, and the qualitative responses make it difficult to compare overall satisfaction between the service models.

Costs:
The fees were not available for the health care centre, so it was not clear how the costs of that model compared with those of the other two models. The authors reported the fees charged to insurers and the reimbursements made by insurers, which varied greatly. It was not explained why these differed, and which represented the actual costs of the centres. No total costs for each service model were provided. These issues make comparison difficult.
Analysis and results:
As this was mostly a qualitative analysis, it was adequately described. Few details of the qualitative survey were reported, making it difficult to determine if the summary was appropriate. For the cost-effectiveness of the different service models to be fully evaluated, the health benefits and total costs need to be fully evaluated and reported.

Concluding remarks:
The study did not appear to undertake a full cost-effectiveness analysis, and there was insufficient comparative health benefit and cost information to assess the cost-effectiveness of the different service models.

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