

Appendix D– Health Economic Extractions by Question

132 Is there an optimal PP stay in hospital

No 621 **Study Quality:** ++ Home-based care after a shortened hospital stay versus hospital-based care postpartum:

an economic evaluation

Author: Petrou S;Boulvain M;Simon J;Maricot P;Borst F;Perneger T;Irion O; 2004

Relevance: This paper shows that there are cost savings attached to early discharge amongst low risk neonates (and no clinical disadvantages). The relevance of this hinges on whether the definitions of early discharge used are appropriate.

Intervention: Early discharge (24-48 hours after a vaginal delivery 72-96 hours after a caesarian section) followed by an average of 4.7 midwife visits in the first 10 days

Comparison: Standard release (4-5 days after a vaginal delivery 6-7 days after a caesarian section) followed by no midwifery care unless clinically indicated

Population: 459 mothers at the University Hospital, Geneva were randomly assigned to the control (n=231) and the intervention (n=228). The infants were all single and had an unproblematic

Perspective SOCIETAL

Study CEA

Methods: RCT

Healthvaluations: NOT APPLICABLE

Costcomponents: Post natal hospital care, hospital readmissions, hospital outpatient care, community care, direct non-medical costs, indirect costs

Currency: OTHER

Cost Swiss Francs (2000)

Timehorizon: 28 days

Discount rate: Not appropriate

Results 7798 Swiss Francs in the early discharge group. 9019 Swiss Francs in the hospital group. The difference between to two is statistically significant (p=0.017). Subdividing the costs into the cost components, the only statistically significant (at 5%) components of cost are the cost of post natal hospital care (p=0.001) and the cost of community care (p<0.001)

cost/patient: The results showed no statistically significant difference in hospital readmissions by the mother or the infant, their utilisation of outpatient care and community care services

Results Since there was no statistically significant difference in terms of outcomes, the statistically significant reduction in costs means the early discharge scheme weakly dominates the control.

Results A sensitivity analysis was undertaken, varying each model parameter to discern a change in the conclusion. The non-parametric approach showed that the mean difference in costs between the control and the intervention remained between 202 Swiss Francs per mother and 2155 Swiss Francs per mother. This remained significant at the 5% level.

Uncertainty:

Source Funding: Public

Comments:

An analysis on the generalisability of the results to the England and Wales setting has been performed. It suggests the conclusions remain valid once different cost levels are established

The use of a societal perspective is unproblematic in this instance as there is no statistically significant difference in indirect costs between the intervention and the control.

134 What are the models for delivering the care?

No 654 **Study Quality:** + The costs to the NHS of maternity care: midwife- managed vs shared

Author: Young D;Lees A;Twaddle S; 1997

Relevance: This paper shows that reduced costs can be incurred in postnatal care through a shared care approach as outlined in the clinical narrative. However, it does not address the clinical outcomes of the two groups of mothers.

Intervention: 648 women were randomised to midwife-led care (see clinical narrative for details)

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Comparison: 651 women were randomised to shared care (see clinical narrative for details)
Population: 1299 women from the Glasgow Royal Maternity Hospital experiencing normal pregnancy between 11 January 1993 and 25th February 1994

Perspective NHS
Study Costing study
Methods: Not applicable
Healthvaluations: NOT APPLICABLE
Costcomponents: Clinic time and resources, tests and investigations, day-care attendances, referrals, procedures, operations, inpatient days, postnatal visits

Currency: £
Cost 1993-4
Timehorizon:
Discount rate: Not applicable

Results cost/patient: Assuming an annual case load of 29 women per midwife per year, the cost of midwife-managed care postnatally was £470.34. The cost of shared care was £352.03. This cost saving is therefore £118.31 per mother and is statistically significant at the 5% level ($p < 0.01$)

Results effectiveness: Not reported since study was a costing study only

Results incremental: Not applicable

Results Uncertainty: The authors looked at the effect of changing the caseload of midwives. If the midwife can adequately look after 39 mothers, the difference between the postnatal costs of the two groups narrow to £52 (still statistically significant $p < 0.01$)

Source Funding: Public

Comments:

The paper actually looks at the costs of shared-care and midwife care antenatally, intrapartum and postnatally. The difference in costs in the other two periods was not statistically significant (p-values of 0.48 and 0.4) respectively.

The shared care approach applied throughout antenatal and postnatal care becomes equally costly to midwife care when the caseload of the midwife is increased to 39 per midwife per annum. Thus, below this caseload, the study shows savings in shared care for the total period (antenatal through postnatal). In postnatal care in isolation, the caseload would have to increase still further to remove the cost savings of shared care

No 651 **Study Quality:** + Redesigning postnatal care: a randomised controlled trial of protocol-based midwifery-led care focused on individual women's physical and psychological health needs.
 [102 refs]

Author: MacArthur C; Winter HR; Bick DE; Lilford RJ; Lancashire RJ; Knowles H; Brauholtz DA; Henderson C; Belfield C; Gee H; 2003

Relevance: Relevant

Intervention: Protocol-based midwife-led care. GP contact only when deemed necessary. See clinical narrative for further details

Comparison: Standard care. See clinical narrative for further details

Population: There were 1087 women allocated to the intervention group and 977 in the control. All gave birth in the West Midlands Health Region and were expected to remain within practices

Perspective throughout postnatal care NHS
Study CEA
Methods: RCT
Healthvaluations: NOT APPLICABLE
Costcomponents: Midwife costs, GP home visits, GP consultations, prescriptions, referrals and investigations with Primary Care team, inpatient, outpatient and day-care days for surgery, outpatient appointments

Currency: £

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Cost	1998
Timehorizon:	12 months
Discount rate:	Not appropriate
Results cost/patient:	A statistically insignificant lower cost in the intervention group was reported. The saving was £71. However, this figure is based on a slightly incorrect averaging of figures - the real cost implication of the intervention relative to the control is a cost of £31
Results effectiveness:	At 4 and 12 months, the physical health score of the two groups did not differ. The mean values for the Mental Component of the SF-36 questionnaire and Edinburgh Postnatal Depression Scale showed a significantly better result in the intervention group ($p < 0.0003$ for both scales at both 4 and 12 months)
Results incremental:	Given there is no statistically significant result for differing cost levels between the intervention and the control, or for physical health parameters, the statistically significant mental health outputs at 4 and 12 months represent some evidence of cost-effectiveness in the intervention relative to the control
Results Uncertainty:	A sensitivity analysis was undertaken on the conclusion, attempting to deal with the under-recording in control group nurses. This suggested the relative difference between the two groups did not reach statistical significance
Source Funding:	Public

No 641 **Study Quality:** + A randomized trial of two public health nurse follow-up programs after early obstetrical discharge: an examination of breastfeeding rates, maternal confidence and utilization and costs of health services

Author: Steel O'Connor KO;Mowat DL;Scott HM;Carr PA;Dorland JL;Young Tai KF; 2003

Relevance:

Intervention: The telephone screening group received a telephone call from a public health nurse on the first working day post discharge. Further interventions were provided if needs were identified

Comparison: The home visit model provided two home visits in the first ten days post-discharge. The first of these was provided as soon as possible post-discharge

Population: 733primiparas discharged within 48 hours postpartum at two centres in Ontario, Canada

Perspective SOCIETAL

Study CEA

Methods: RCT

Healthvaluations: NOT APPLICABLE

Costcomponents: Routine and unscheduled visits to family physicians and other health professionals, emergency department visits, hospital admissions, laboratory tests, public health nurse contacts, costs to parents and medication

Currency: CAD\$

Cost 1997-9

Timehorizon: 6 months

Discount rate: Not discounted

Results cost/patient: The mean cost for telephone screened infants was \$152.65 compared with \$243.38 for the home visit group, the difference being statistically significant at the 5% level.

Results effectiveness: At the 5% level of significance, there was no difference between the two groups in terms of general health problems (concerns about weight, feeding difficulties, dehydration, jaundice, breathing problems, colds, congenital problems, cord concerns, gastrointestinal/colic issues, infection, injury and rash)

Furthermore, the authors tested for levels of maternal confidence (using the Maternal Confidence Scale of Carty and Bradley) and found it to be unrelated to intervention allocation

Results incremental: Since there was a lower cost in the telephone intervention group, the evidence suggesting comparable clinical outcomes means the telephone group weakly dominates the visitation group in this particular population

Results Not undertaken

Uncertainty:

Source Funding: Public

No 717 **Study Quality:** ++ The Social Support and Family Health Study: a randomised controlled trial and economic evaluation of two alternative forms of postnatal support for mothers living in disadvantaged inner-city areas

Author: Wiggins M;Oakley A;Roberts I;Turner H;Rajan L;Austerberry H; 2004

Relevance: Relevant. In this study, there was little evidence that either support health visitation or community group support played a cost-effective role in helping new mothers and infants.

Intervention: Two intervention groups. Respectively, these were based on support health visitation and community group support. Details of these interventions can be found in the clinical extraction

Comparison: Standard care

Population: This study focused on disadvantaged inner-city areas. 731 participants giving birth in 1999 were randomly assigned to one of the interventions or the control

Perspective SOCIETAL

Study CEA

Methods: RCT

Healthvaluations: NOT APPLICABLE

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Costcomponents: Home visits, telephone calls, initial contact and ongoing costs with community groups, GP services, prescriptions, midwifery, hospital services, secondary mental health services, social services, OTC medications, transport

Currency: £

Cost 2000

Timehorizon: 18 months

Discount rate: Costs were discounted at 6%

Results cost/patient: At 12 months, there were no determinants of cost which were statistically significant at the 5% level. At 18 months, there was a statistically significant higher level of mean total spending per mother in the community group support wing of £26 (p=0.05)

Results effectiveness: There was little evidence to suggest differing effectiveness between the two intervention groups and the control. There were some data suggesting a less anxious experience of motherhood in the SHV intervention.

Results incremental: Since there was little evidence of differing costs or benefits, the incremental cost-effectiveness was not undertaken

Results Uncertainty: The report undertook sensitivity analysis on the costs of the interventions relative to the control. Using the non-parametric bootstrapping technique, they found the cost differences between either of the interventions and the control tended to remain statistically insignificant at the 5% level. The only exception to this is that the SHV approach became statistically significantly more expensive when the assumption of constant monthly costs was relaxed

Source Funding: Public

Comments:

The cost-effectiveness impact of focusing on disadvantaged inner-city mothers is questionable. On the one hand, they are likely to have the greater capacity to benefit (meaning the cost-effectiveness for the general population will be lower). On the other hand, they may be less likely to engage fully in the process or may have other constraints limiting the potential benefit of the intervention.

The statistically significant result for cost of the community group support intervention may be the result of the extent of subdivision of costs.

The use of the societal perspective does not affect these conclusions for the purpose of the group

No 702 **Study Quality:** ++ **Costs and benefits of community postnatal support workers: a randomised controlled trial**

Author: Morrell CJ;Spiby H;Stewart P;Walters S;Morgan A; 2000

Relevance: Relevant. This paper shows that a role similar to that of health care assistants is not cost-effective. Indeed, the intervention group had statistically significantly higher levels of costs and poorer outcome measures.

Intervention: Up to 10 home visits in the first post natal month in support of the community midwife

Comparison: No extra visits

Population: 311 women received the intervention and 312 received the control. All were recruited in postnatal wards between October 1996 and November 1997. Mothers were excluded if they could not give consent, communicate in English or had a baby in the special care baby unit for more than 48 hours.

Perspective NHS

Study CEA

Methods: RCT

Healthvaluations: NOT APPLICABLE

Costcomponents: Community midwifery, health visitation, child health clinics, GP contacts, prescriptions for mothers and babies, hospital contacts, secondary mental health contacts for mothers or babies

Currency: £

Cost 2000

Timehorizon: 6 months

Discount rate: 5%

Results The total mean NHS cost to 6-month follow-up for the intervention group was £180 per woman

cost/patient: greater in the intervention than in the control (confidence interval £79.60-£272.40)

Results

effectiveness: There was some statistically significant evidence that outcomes were better in the control group. At six weeks, this included levels of social functioning ($p=0.03$), physical functioning ($p=0.01$) and physical role limitation ($p=0.008$). However, there was some evidence of a higher level of satisfaction in the intervention group

Results

incremental: The lack of evidence on effect, coupled with a statistically significant increase in costs in the intervention group means that the intervention is at least weakly dominated by the control. Therefore, incremental cost-effectiveness analysis was unnecessary

Results

Uncertainty: These conclusions were robust. The cost of the intervention relative to the control could be reduced through shorter visits but cost-effectiveness would only occur if this were linked with positive clinical benefits

Source Funding: Public

Comments:

