A home infliximab infusion program
Condino A A, Fidanza S, Hoffenberg E J

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.

Health technology
The study examined the home-based treatment of paediatric inflammatory bowel disease (PIBS) using an infliximab infusion.

Type of intervention
Treatment.

Economic study type
Cost-effectiveness analysis.

Study population
Patients were selected for the intervention if they were compliant with hospital-based infliximab infusions and other medications, had no adverse events when receiving hospital-based infliximab infusions, were in remission, and had access to experienced paediatric homecare nursing.

Setting
The intervention took place in the patients' own homes in the catchment area of the Children's Hospital, Denver. The economic study was carried out in the USA.

Dates to which data relate
All data referred to the period September 2001 to October 2003. By implication, the prices also related to this period.

Source of effectiveness data
All the evidence reported was derived from a single study.

Link between effectiveness and cost data
The costing was undertaken retrospectively on the same sample of children whose satisfaction was sought.

Study sample
Power calculations were not reported. A convenience sample was selected. A sample of 10 patients was selected for treatment according to the criteria described already (see 'Study Population' section).

Study design
This was a retrospective before-and-after study conducted in one group of patients from a single centre. Patient satisfaction was ascertained by telephone interview at an unspecified interval after the data collection period. The loss
to follow-up was not reported.

Analysis of effectiveness
The measure of effectiveness was patient satisfaction, which was assessed via telephone at home and at the hospital. It was not stated if all the patients’ satisfaction scores were included in both the home and hospital mean estimates. Adverse events were also recorded.

Effectiveness results
The satisfaction rating for patients with in-home infusion ranged from 6.5 to 10 (mean 9.2). The satisfaction rating for patients with hospital infusion ranged from 5.5 to 9 (mean 8.2). No serious adverse events were reported.

Clinical conclusions
The majority of the patients and their families preferred the infusion given at home than that given at the hospital.

Measure of benefits used in the economic analysis
The measure of benefit was patient satisfaction.

Direct costs
The costs, derived from patient charges, were reported as aggregated totals for each patient. The costs for home-based care included charges for infliximab, nursing services, supplies and laboratory samples. In addition to these items, the costs reported for hospital-based care included the cost of physician visits. Discounting was not necessary because of the short time horizon involved. The cost per 100 mg infliximab was reported without breakdowns, either by quantity or by unit cost of individual resource components. All the costs appear to have been reported from a purchaser perspective, without including the patient's transport costs. There was no mention of adjustment for inflation. All the costs would appear to relate to the data abstraction period (September 2001 to October 2003).

Statistical analysis of costs
The Wilcoxon signed rank sum test was used to test for differences between hospital-based and home-based care.

Indirect Costs
The indirect costs were not reported.

Currency
US dollars ($).

Sensitivity analysis
No sensitivity analysis was reported.

Estimated benefits used in the economic analysis
See the 'Effectiveness Results' section.

Cost results
The cost per 100 mg infliximab ranged from $872 to $938 for home-based care, and from $2,184 to $2,344 for hospital-based care.
Synthesis of costs and benefits
The costs and benefits were not combined.

Authors' conclusions
Home-based infliximab therapy for the treatment of children with inflammatory bowel disease was associated with significant cost-savings and excellent patient and family satisfaction.

CRD COMMENTARY - Selection of comparators
The choice of the comparator represented current practice in the authors' setting.

Validity of estimate of measure of effectiveness
The study examined patient and parent satisfaction using a retrospective before-and-after study. The patients comprised a self-selected group who might have had strong preferences for home-based care before receiving treatment. Self-selection, together with the fact that the sample was very small (n=10), casts doubt on the robustness of the findings.

Validity of estimate of measure of benefit
The measure of benefit was patient satisfaction, though it was not synthesised with the costs.

Validity of estimate of costs
All the important categories of costs from the perspective of the purchaser appear to have been included. The costs and the quantities were not reported separately. A statistical analysis of the aggregated costs was performed. The costs were derived from the authors' own setting. Although the sample was self-selected and the sample size was extremely small, the differences between the hospital- and home-based costs were so large that it seems unlikely that a random selection of a larger sample would have altered the conclusion that the costs were substantially cheaper when care was provided in the home. However, the study took place in a single location in which the costs of just one hospital and one home-based provider were examined. These costs may not, therefore, be generalisable to other providers, and the reader is advised to consider whether the costs are likely to apply in their own setting. Although the indirect costs were not reported, it is likely that their inclusion would have strengthened this conclusion.

Other issues
The authors made appropriate comparisons of their findings with those from other studies. The authors did not mention if there were any other studies that had measured satisfaction in these cases. The authors did not report their results selectively and their conclusions reflected the scope of their analysis.

Implications of the study
The authors stated "further study is needed to clarify the benefits and risks of such programs and to determine at what point home or alternative settings may be recommended for selected groups of patients". Given the small and selected nature of the sample, this would appear to be a wise recommendation.

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