Cost-effective care of end-stage renal disease: a billion dollar question

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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.

Health technology
Kidney transplantation, home and hospital haemodialysis.

Type of intervention
Treatment

Economic study type
Cost-effectiveness analysis

Study population
End-stage renal failure patients.

Setting
The study was carried out in the USA.

Dates to which data relate
It seems that price related to 1977.

Modelling
Epidemiological cohort model (model of survival and disease).

Measure of benefits used in the economic analysis
Life-years gained.

Direct costs
Direct costs are to the health service. For home haemodialysis these were training, home modifications, physician fees, equipment, back-up dialysis, supplies, de-clotting, access revision, hospitalisation, laboratory costs. For hospital haemodialysis these were dialysis, physician fees, equipment, supplies, de-clotting, hospitalisation, laboratory costs. For kidney transplantation live related donor, these were related donor transplant (retrieval, surgery, hospitalisation, physician fees, follow-up, immunosuppressive drugs, incidentals, graft rejection). For kidney transplantation, cadaver donation, these were cadaver donor transplant (retrieval, surgery, hospitalisation, physician fees, follow-up, complications, immunosuppressive drugs, clinic visits, graft rejection). It seems that price information related to 1977.

Currency
US dollars ($). In the DH Register of Cost-Effectiveness Studies, the original results were converted to UK pounds.
sterling () using GDP purchasing power parities and reflated to 1991 using the NHS pay and prices index.

**Sensitivity analysis**
Sensitivity analysis was carried out using the method of single parameter variation.

**Synthesis of costs and benefits**
Outcome and cost duration; were life long. Incremental cost per life-year gained (costs and benefits not discounted) for:
home haemodialysis were 21600; hospital haemodialysis were 40200; kidney transplantation (live related donor) were 12500 and; kidney (cadaver donation) were 24200.

**CRD Commentary**
(This commentary was not written by CRD, but by the authors of the DH Register.) Life expectancies are based on 1976 national data and studies dated 1973. Zero life-expectancy is implicitly assumed for no intervention. Zero cost is implicitly assumed for no intervention. The model has age stratification and transition probabilities built in. The various entries for this study feature different balances of patient mix. The parameters investigated by the sensitivity analysis were not adequately justified. For kidney transplantation, time spent on dialysis awaiting a transplant operation is modelled.

**Bibliographic details**

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**Indexing Status**
Subject indexing assigned by NLM

**MeSH**
Cadaver; Cost-Benefit Analysis; Hemodialysis, Home /economics; Humans; Kidney Failure, Chronic /economics /therapy; Kidney Transplantation; Renal Dialysis /economics; Transplantation, Homologous; Uremia /economics /therapy

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