

Cost-effectiveness of transplantation

- Kidney transplantation is highly cost-effective, particularly in relation to NHS spend, and is the treatment of choice for many patients with end-stage renal failure.
- The indicative cost of maintaining a patient with end-stage renal failure on renal replacement therapy (dialysis) is £17,500 per patient per year for a patient on peritoneal dialysis and £35,000 per patient per year for a patient on hospital haemodialysis.
- There are over 37,800 patients with end-stage renal failure in the UK. Nearly 21,000 are on dialysis, whilst the remainder have a transplant. Of those on dialysis, 76% are on haemodialysis and 24% on peritoneal dialysis.
- The average cost of dialysis is £30,800 per patient per year.
- 3% of the NHS budget is spent on kidney failure services.
- The indicative cost of a kidney transplant (including induction therapy but excluding NHSBT costs) is £17,000 per patient per transplant.
- The immuno-suppression required by a patient with a transplant costs £5,000 per patient per year.
- Kidney transplantation leads to a cost benefit in the second and subsequent years of £25,800 pa.
- The cost benefit of kidney transplantation compared to dialysis over a period of ten years (the median transplant survival time) is £241,000 or £24,100 per year for each year that the patient has a functioning transplanted kidney.
- In 2008-09, 2,497 people received a kidney transplant. These transplants are now saving the NHS **£50.3m** in dialysis costs each year for every year that the kidney functions.
- In 2008-09, 215 more kidney transplants were provided than in the previous year. These transplants are now saving the NHS **£4.5m** every year until graft failure.
- At the end of March 2009, the UK Transplant Registry had records of over 23,000 people in the United Kingdom with a functioning kidney transplant. In this year, these patients will save the NHS over **£512m** in the dialysis costs that they would need if they did not have a functioning kidney transplant.
- On 1 April 2009 there were 6,920 patients waiting for a transplant of which the majority will be on dialysis, costing around **£193m** per year. If all of these patients received a transplant, the approximate cost would be **£41m** per year, which represents a saving to the NHS of **£152m** per year.

You can find out more about organ donation and join the NHS Organ Donor Register by calling 0300 123 23 23 or visiting the NHSBT website www.organdonation.nhs.uk

References and notes: many figures are approximate. In particular, data on the costs of dialysis, transplantation and immuno-suppression can differ quite markedly between patients.

1. Economic evaluation of end-stage renal disease treatment. G Ardine de Wit, P Ramsteijn and F de Charro, Health Policy 44, 1998, pp215-232.
2. UK Renal Registry.
3. UK Renal Registry, Eighth Annual Report December 2005.
4. A weighted average of the cost of dialysis based on 76% of patients receiving haemodialysis.
5. Estimated tariff for renal transplantation in England (to be updated later in 2009).
6. Based on NICE assessment of the clinical and cost effectiveness of home and hospital haemodialysis for patients with end stage renal failure, 2004.
7. NHSBT - Organ Donation & Transplantation, based on adult cadaveric kidney-only graft recipients of transplants carried out in 1992-1994.
8. NHSBT - Organ Donation & Transplantation, Activity Report 2008-2009.
9. NHSBT - Organ Donation & Transplantation.
10. NHSBT - Organ Donation & Transplantation, based on number of patients in the UK with a functioning kidney transplant, who have not been lost to follow-up or have died, and whose last assessment date was after January 2005.
11. Based on the cost of a transplant and ten years of immuno-suppression, averaged over ten years.