



## The cost-effectiveness of transplantation

- Kidney transplantation is highly cost-effective, particularly in relation to NHS spend,<sup>1</sup> 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.<sup>2</sup>
- 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.<sup>3</sup>
- The average cost of dialysis is £30,800 per patient per year.<sup>4</sup>
- 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.<sup>5</sup>
- The immuno-suppression required by a patient with a transplant costs £5,000 per patient per year.<sup>6</sup>
- 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)<sup>7</sup> is £241,000 or £24,100 per year for each year that the patient has a functioning transplanted kidney.
- In 2007-08, 2,282 people received a kidney transplant.<sup>8</sup> These transplants are now saving the NHS £46.1m in dialysis costs each year for every year that the kidney functions.
- In 2007-08, 152 more kidney transplants were provided than in the previous year. These transplants are now saving the NHS £3.2m every year until graft failure.<sup>9</sup>
- At the end of 2008, the national transplant database had records of over 22,000 people in the United Kingdom with a functioning kidney transplant.<sup>10</sup> In this year, these patients will save the NHS over £490m in the dialysis costs that they would need if they did not have a functioning kidney transplant.
- On 1 April 2008 there were 6,793 patients waiting for a transplant of which the majority will be on dialysis, costing around £190m per year. If all of these patients received a transplant, the approximate cost would be £40m per year,<sup>11</sup> which represents a saving to the NHS of £150m per year.

**You can find out more about organ donation and join the NHS Organ Donor Register by calling 0845 60 60 400 or visiting the NHSBT website**  
[www.organdonation.nhs.uk](http://www.organdonation.nhs.uk)

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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.

- <sup>1</sup> *Economic evaluation of end-stage renal disease treatment*. G Ardine de Wit, P Ramsteijn and F de Charro, Health Policy 44, 1998, pp215-232.
- <sup>2</sup> UK Renal Registry.
- <sup>3</sup> UK Renal Registry, Eighth Annual Report December 2005.
- <sup>4</sup> A weighted average of the cost of dialysis based on 76% of patients receiving haemodialysis.
- <sup>5</sup> Estimated tariff for renal transplantation in England (to be updated later in 2009)
- <sup>6</sup> Based on NICE assessment of the clinical and cost effectiveness of home and hospital haemodialysis for patients with end stage renal failure, 2004.
- <sup>7</sup> UK Transplant, based on adult cadaveric kidney-only graft recipients of transplants carried out in 1992-1994.
- <sup>8</sup> UK Transplant, *Activity Report 2005-2006*.
- <sup>9</sup> UK Transplant.
- <sup>10</sup> UK Transplant, 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.
- <sup>11</sup> Based on the cost of a transplant and ten years of immuno-suppression, averaged over ten years.

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