



COST-EFFECTIVENESS OF KIDNEY TRANSPLANTATION

Statistics have estimated that 20 million individuals are affected by kidney disease in the United States.^[1] For individuals that are not screened early for kidney disease, the progression from kidney disease to kidney failure is inevitable. Kidney failure has two treatment options: dialysis and kidney transplantation. Medicare beneficiaries, whose health conditions progresses to kidney failure, are automatically eligible for Medicare to cover the costs of dialysis and transplantation. Keeping this in mind, it is important to look at the impact of kidney transplantation on overall fiscal costs for the Medicare program and the improvements in quality of life for individuals affected by kidney failure.

Medicare Coverage of Kidney Transplantation

Not only are the costs of dialysis covered, but the Medicare program also provides coverage for the costs of kidney transplantation. Part A of the Medicare program pays for the costs of inpatient hospital and laboratory services incurred during the transplant procedure. Part B of the Medicare program is responsible for paying for physician fees and 80 percent of the cost of immunosuppressant medications. In 2003, it was estimated that the Medicare program spent an average of \$48,947 on a single Medicare beneficiary with end-stage renal disease (ESRD). On a per capita basis, Medicare beneficiaries with ESRD are more than eight times as costly as the average Medicare beneficiary.^[2]

Kidney Failure – A Financial Burden for Medicare Beneficiaries

The Medicare program incurs significant burdens for covering the cost of dialysis and so do the Medicare beneficiaries. The new Medicare Prescription Drug Benefit, otherwise known as Medicare Part D, affected close to 5.5 million beneficiaries with kidney disease.^[3] Part D does not cover drugs provided under Part A (drugs taken in the hospital) and Part B (injected drugs to correct anemia and anti-rejection drugs for transplant recipients). The Part D Drug Coverage includes a monthly premium, a \$250 yearly deductible, and three levels of prescription drug expenses that require different amounts of contribution from the beneficiary.

Of the three levels of prescription drug expenses, the “doughnut hole” has serious implications for beneficiaries with kidney failure because they are responsible for paying 100 percent of the expenses if his/her yearly drug expenses are between \$2,251 and \$5,100. A recent study demonstrated that 70 percent of Medicare beneficiaries with ESRD have prescription drug costs that will undoubtedly place them in the “doughnut hole,” since they use an average of eight to 13 more drugs than other Medicare beneficiaries.^[4]

Cost-Savings of Kidney Transplantation versus Hemodialysis

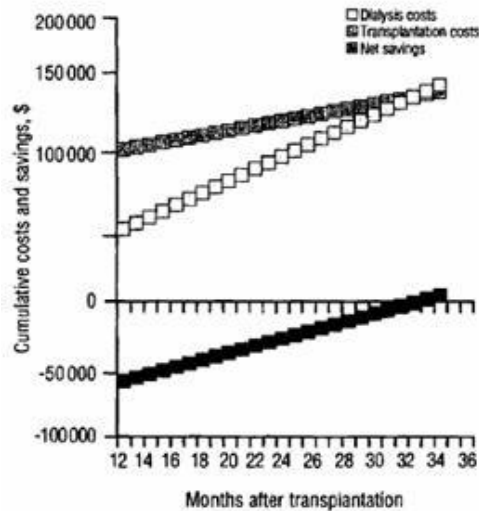
A recent study examined the cost-effectiveness of kidney transplantation versus dialysis by analyzing cases of kidney transplantation performed by transplant centers and estimating the relative costs of transplantation and dialysis incurred by Medicare in New York City.

The relative costs of transplantation were categorized by year: the costs in the first year of transplantation include organ evaluation and procurement costs, the hospital diagnostic-related group payment, hospital pass-through costs, drug costs, physician charges, and follow-up costs. The costs of subsequent years include the costs of immunosuppressant drugs, follow-up with physicians, and in some cases, costs for kidney graft failures. The total cost to Medicare for kidney transplantation was the sum of the first-year costs plus annual costs after the first year.

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Researchers estimated the costs for the first year of transplantation at \$104,792 and \$18,572 for the subsequent years after the first year of transplantation. Even though the initial costs of transplantation were higher than dialysis, researchers found that these costs were regained by the Medicare program.



Source: Loubeau PR, Loubeau JM, and Jantzen, R. (2001). *The Economics of Kidney Transplantation versus Hemodialysis*. *Progress in Transplantation*, 11(4): 291-297.

The figure above demonstrates the financial advantages of transplantation when in comparison to dialysis for the Medicare program in New York.^[5]

Cost-Savings for the Medicare Program

Even though the study results mentioned above specifically analyzed New York City, it still reflects the idea that kidney transplantation can result in greater savings for the Medicare program in the rest of the country. In addition to considering the cost-savings, it is important to examine the effects on quality of life for individuals affected by kidney failure. Dialysis is the common treatment for individuals with kidney failure, but the quality of life is much lower when in comparison to individuals who have received kidney transplants.^[5]

Cost-savings associated with kidney transplantation is directly connected to the organ supply in the U.S. With approximately 74,518 individuals on the waiting list for a kidney transplant^[6], it is critical that individuals are encouraged to become organ donors to help reduce the number of individuals on the waiting list, improve quality of life, and help reduce the costs of kidney failure by encouraging kidney transplantation as the most effective treatment for kidney failure.

Sources:

- [1] National Kidney Foundation, 2007.
- [2] Medicare – A Primer. Washington, DC: *Kaiser Family Foundation*, March 2007.
- [3] Kidney Medicare Drugs Awareness and Education Initiative. Accessed at www.kidneydrugcoverage.org.
- [4] Patel U and Davis M. (2006). Falling into the Doughnut Hole: Drug Spending among Beneficiaries with End-Stage Renal Disease under Medicare Part D Plans. *J AM Soc*
- [5] Loubeau PR, Loubeau JM, and Jantzen, R. (2001). *The Economics of Kidney Transplantation versus Hemodialysis*. *Progress in Transplantation*, 11(4): 291-297.
- [6] United Network for Organ Sharing.

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