Is Medicare getting what it pays for in kidney transplant outcomes?

Suying Li, PhD1, Nicholas Salkowski1, Craig Solid, PhD1, Mark Schnitzler, PhD2, Jon J. Snyder, PhD1, S. Joseph Kim, MD, PhD3, Bertram L. Kasiske, MD 1,4, and Ajay K. Israni, MD4

**Introduction**

- A recent Institute of Medicine report, titled Best Care at Lower Cost: The Path to Continuously Learning Health Care in America, stated that more than $750 million was wasted by the U.S. healthcare system in 2009.

- The relationship between cost and kidney allograft failure has not been investigated in the US.

- Therefore, we describe the cost of kidney transplantation to Medicare, and the potential drivers of increased cost. We also explore the association between cost and kidney allograft failure.

**Methods**

- The study population included adult Medicare kidney recipients transplanted between 1/1/2007 and 6/30/2009. We excluded those without Medicare as Primary Payer and small transplant centers with less than 3.69 expected allograft failures.

- The expected allograft failures were determined from the publically reported Program Specific Reports created by the Scientific Registry of Transplant Recipients (SRTR, www.srttr.org).

- Allograft failure is defined as return to dialysis, re-transplantation, or patient death. Follow-up was censored at allograft failure.

- Using Medicare claims from the United States Renal Data System, we determined Part A and B costs for the first year post transplant.

- The expected cost was obtained from multiple linear regression models adjusted for recipient, donor and transplant characteristics, region of country, and the local wage index, for transplant recipients of deceased donor kidneys.

- Using the SRTR program-specific reports, we determined the observed/expected allograft failure for all kidney transplant centers. We determined the correlation coefficient between relative cost and observed/expected allograft failure for all kidney transplant centers in the study.

**Results**

- Among 20,757 transplants at 165 centers, the mean observed cost was $65,366 (IQR=55,094-71,624).

- For deceased (Table 1) and living donor (Table 2) kidney recipients, higher cost was associated with several factors.

- The relative cost was 0.99 (0.88, 1.10).

- The mean observed/expected allograft failure was 1.03 (IQR=0.81-1.37).

- There was no correlation between relative cost and observed/expected allograft failure (r=0.10, p=0.20; Figure 1).

**Conclusions**

- There was no association between the cost of transplant to Medicare and a center’s all cause allograft failure during the first year post-transplant.

- Variation in cost and outcomes suggests a need to determine the most cost-effective practices to reduce costs.

- There are opportunities to improve the outcomes and reduce cost to Medicare by disseminating cost-effective practices.