Kidney transplantation is the most cost-effective and clinically effective form of renal replacement therapy. Due to long wait times for deceased donors, kidney transplantation is not available to many patients with incompatible living donors. Increased access to kidney transplantation is a shared goal that can be achieved through kidney paired donation (KPD). A single, national system of KPD administered to a set of clinical and ethical standards determined by a consensus of stakeholders including recipients, donors, providers, payers and the United States federal government will provide the best opportunity to offer kidney transplantation to the most people and particularly to those currently unlikely to receive a transplant. We propose that this system will use uniform tissue typing algorithms and a computerized donor and recipient matching program using a national pool of willing donors. The proposed system can be managed best through a single administrative structure that takes advantage of uniform donor evaluation and management with a standardized organ acquisition charge that recognizes that the current lack of standardization contributes to delays in transplantation and payment to programs. This program will use the existing Organ Procurement Organization infrastructure to manage the logistics of organ acquisition, transportation and billing.

Key words: Kidney paired donation, payer perspective

Abbreviations: CMS, Centers for Medicare and Medicaid Services; ESRD, end-stage renal disease; HRSA, Health Resources and Services Administration; JSWG, Joint Societies Working Group; KPD, kidney paired donation; NMDP, National Marrow Donor Program; OPO, Organ Procurement Organization; OPTN, Organ Procurement and Transplant Network; SAC, standardized organ acquisition charge; UNOS, United Network for Organ Sharing.

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Introduction

A conference on kidney paired donation (KPD) was held in Philadelphia on October 27, 2010. The topic of this meeting was the clinical and financial importance of establishing a system of matching willing kidney donors and eligible recipients, and the current progress being made toward achieving that goal. A major point of discussion was the role commercial payers can play in advancing and facilitating paired donation in the United States. Participants at the conference included representatives from several large commercial health care payers, health services organizations, transplant center physicians and administrators, Organ Procurement Organizations (OPO), KPD exchanges, the Division of Transplantation of the U.S. Department of Health and Human Services, Health Resources and Services Administration (HRSA), Organ Procurement and Transplant Network/United Network for Organ Sharing (OPTN/UNOS) and the National Marrow Donor Program (NMDP). As a follow-up, representatives from three major commercial payers; Dr. Dennis Irwin (OptumHealth), Dr. Stephen Crawford (Cigna) and Dr. Anthony Bonagura (Aetna), now propose a formal statement on the “payers’ perspective” in an effort to advance the discussion. We consider this to be an important issue and hope this serves to shape the debate and move toward an ultimate course of action.

The case for expanding the use of living donor kidney transplantation has been made elsewhere (1, 2). We support this effort as an appropriate means of decreasing the numbers of patients with end stage renal disease (ESRD) currently awaiting renal transplantation. In addition, efforts to increase living donor kidney transplantation can be expected to result in national cost efficiency compared to ongoing renal dialysis. Estimates of the saving to Medicare can vary depending on the assumptions used and the time horizon. Given the national median wait time for deceased donor kidney transplantation of 49.0 months (Scientific Registry of Transplant Recipients, July 2011), typical patients covered by commercial insurance can expect to become Medicare primary well before they receive a kidney transplant. If these patients are transplanted preemptively before starting dialysis, there is a net benefit to the commercial payer of $250 000–400 000 for cost avoidance during the 33 months Medicare is the secondary payer and to Medicare the net benefit will be over $100 000 for the average of 16 months Medicare would become primary before transplantation (United States Renal Data System,
2010). This financial consideration is increasingly relevant on a backdrop of ever-increasing health care expenditures. The importance of KPD in furthering the objective of increasing living donor kidney transplantation is underscored by the implementation of the National Kidney Paired Donation Pilot Program by OPTN/UNOS in October 2010 (3,4). The rapid implementation of a national system has been advocated by Serur and Danovitch in a recent editorial in the Nephrology Self-Assessment Program (5).

Health services organizations and payers have unique insight and input on the process of organ transplantation. Health plans and self-insured employers have a vested interest in improving cost-effective management of ESRD, and therefore an incentive to facilitate KPD nationally. Importantly, we are also in the position to foster payment models that allow equitable and consistent administration of these transplant chains to the advantage of national health care improvement.

Proposal

We propose the following considerations as a framework for fostering KPD in the United States. These suggestions provide two important features: first, a consistent and comprehensive platform for KPD that is based on models for deceased-organ allocation that have proved successful; and second, a model for managing costs that can be administered consistently and fairly by all payers, commercial and governmental.

- Utilize a national system:
  - Single administrative organization.
  - National matching and allocation with potential for use of regional protocols.
- Donor procurement is performed locally when the donor chooses not to travel to the recipient center.
- Existing OPO manage organ acquisition logistics, transportation and financial transactions in the same way they manage deceased donor organs today.
- Donor charges billed to the recipient center by the OPO.
- Donor costs and evaluation are standardized:
  - Standardized laboratory testing with specifically contracted labs working to a single standard on a regional or national basis.
  - Standardized administration fee to pay for the matching program.
  - Standardized organ acquisition charge (SAC) model.
- Donor issues are managed in a consistent manner that insures that donor safety is a primary goal of any living donor program.

Discussion

We believe that the designation of a national organization to administer and provide oversight to KPD would best meet the needs of expanding access to kidney transplantation in a fair and equitable manner. We are impressed by a number of ingenious and resourceful regional and local approaches that have been used in various facilities across the country to provide KPD. However, considering the scope of the national kidney transplant needs, we believe that a national system that maintains the foresight and flexibility to foster innovative approaches to KPD will allow management of one seamless national effort. The NMDP is an example of an organization that has successfully addressed most, if not all, of the issues confronting the kidney transplant community through a single national program that functions effectively and efficiently to provide a standardized system of matching willing donors to compatible recipients. An analogous administrative and organizational approach for KPD could be through a similarly constituted national organization or as a component of OPTN/UNOS. Like the C.W. Bill Young Stem Cell Transplant Program (NMDP) and OPTN/UNOS, to be successful, a national KPD program would be managed under the auspices of HRSA.

A perceived barrier to a national system of KPD has been donor reluctance to travel. Increasingly, transporting the organ rather than the donor is becoming the de facto standard. Living donor kidneys can do well with cold ischemia times up to 8 h and possibly longer (6,7). This is well within the ability to fly organs from coast-to-coast as part of a scheduled procedure.

The current system of OPOs effectively manages deceased donor evaluation, coordination of organ procurement and organ transport. Similarly, the OPO system could manage the KPD process. Initially for a KPD, a donor-recipient pair would be confirmed through a national matching program, with donor and recipient consents obtained by the respective centers. The donor center’s OPO could then effectively handle the coordination of the organ procurement with the donor and recipient centers along with postprocurement activities including packaging the organs for transport and arranging transportation to the recipient center. It would ultimately be responsible for billing and payment for these services. In this proposed model, the current OPO structure under the oversight of a national program allows for standardization of the procurement process, which allows for efficient assessment of and control of costs related to procurement and transportation.

The Centers for Medicare and Medicaid Services (CMS) recently provided interim guidance regarding “Living Donor Services Occurring in Transplant Programs Other than that of the Organ Recipient” (8). This guidance seems to assume that the donor and recipient centers are attempting to coordinate and validate their activities in a fragmented “system”. It seems to us that many of these functions can be assumed by a single national organization that takes advantage of a well-established system, the OPOs,
for coordinating organ procurement and distribution. We believe that the model we propose will facilitate achieving the goals of the CMS guidance.

Importantly, from the perspective of payers, standardization of the costs attributable to the evaluation and management of the potential donors is critical to the success of the expansion of KPD. But, costs cannot be standardized until the donor evaluation process has been standardized. The importance of standardization of the donor evaluation process has been recognized by the OPTN/UNOS Joint Society Policy Steering Group that is sponsoring an initiative to standardize donor evaluation. The Steering Group has created the first Joint Societies Working Group (JSWG) of the North American Transplant Coordinators Organization, the American Society of Transplant Surgeons, the American Society of Transplantation and OPTN/UNOS to consider this issue and to develop a consensus statement. A meeting of the JSWG was held in July 2011. A national system for KPD can facilitate standardization of donor evaluation to a single national standard similar to that achieved by the NMDP.

We propose that all financial transactions between the donor and recipient centers be channeled through the OPOs as is the case today for deceased donor transplants. The OPOs would bill the recipient center for the costs of organ procurement, which would include donor evaluation, procurement, transportation and overhead. The donor center would be reimbursed by the OPO according to an established fee schedule with that reimbursement becoming a component of the SAC. Coordinating these activities at a national level using the current OPO structure will permit calculation of standard donor acquisition costs and provide a mechanism for coordination of payments to the facility that manages the ultimate recipient of the specific paired-donor organ transplant. This administrative detail is a critical element to the success of the expansion of KPD. We have seen several transplants delayed as a result of non-standardized donor evaluations and varying organ acquisition charges. How a SAC would be created is beyond the scope of this proposal and is best addressed by a consensus of the stakeholders in this process that would include providers, private payers and the United States federal government through HRSA and CMS.

Donor safety must be addressed by any successful system of KPD. The importance of this was highlighted at a meeting chaired by Leichtman and Matas in Washington, DC in September 2010 (9). Since that meeting, there have been two donor deaths in Texas (10,11). Concerns about long-term donor safety have been addressed in a July 31, 2011 article in The Los Angeles Times (12). These are important issues that are best addressed through a single national program of KPD. A single national program under the auspices of HRSA can be held accountable to managing to a uniform set of standards determined by the transplant community in consultation with representatives of all process stakeholders.

Conclusion

We propose this perspective with the most fervent and sincere hope that the health care service organizations and commercial payers can aid in the development of a system of KPD that has the potential of ensuring greater access to kidney transplantation for more Americans and that ensures equitable distribution of this precious resource while providing maximum safeguards to protect the donors.

We are committed to continuing discussions with the other stakeholders in this process with the ultimate goal of achieving a workable solution for the advancement of KPD.

Disclosure

The authors of this manuscript have no conflicts of interest to disclose as described by the American Journal of Transplantation.

References