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Ethical Issues in Organ Allocation for Transplantation – Whose Life Is Worth Saving More?

Trevor W. Reichman MD, PhD

Multi-Organ Transplant Institute, Ochsner Clinic Foundation, New Orleans, LA

Currently in the United States, more than 100,000 people are awaiting organ transplantation. In contrast, in 2013, fewer than 10,000 patients underwent transplantation. Despite attempts to increase donation rates and the organs recovered for transplantation, there continues to be a huge discrepancy between the number of patients in need of transplantation and the number of organs to be transplanted. For all organ recipients, transplant represents a significant improvement in quality of life, but also, in most cases, an organ transplant is life saving. The allocation of a scarce, life-saving resource is controversial and begs the question, "Whose life is worth saving more?" Perhaps the more appropriate question to ask is, "Who will benefit the most from a transplant?"

In 2013, the ethics of organ allocation took center stage in the national press when the allocation system for lung transplantation was questioned. In Pennsylvania, an 11-year-old girl with cystic fibrosis was at serious risk of dying on the transplant list, but despite her declining health, she was not eligible to receive lungs from an adult. According to the United Network for Organ Sharing (UNOS) policy at the time, a person had to be 12 years or older to be eligible for adult lungs. Although several other factors come into play when selecting a suitable donor for a particular recipient, this child was simply not eligible for suitable life-saving lungs from an adult. Her parents successfully challenged the policy, and the resulting federal court order prevented the imposition of an age restriction for the girl. She was later transplanted—not once, but twice—with adult lungs and is alive and well today. In June 2014, UNOS permanently changed its policy and now allows some children to receive adult lungs. Although this case highlighted lung allocation, the allocation of other organs is also hotly debated.

In the spirit of "who will benefit the most from an organ transplant," legislation was recently passed that will completely overhaul how kidneys are allocated. Under the current rules, wait time is the major factor in determining which patient receives the next available kidney for transplant. Theoretically, a 70-year-old patient could be transplanted with an 18-year-old kidney while an 18-year-old who had waited almost as long continued on dialysis. The new law taking effect in 2015 uses the Kidney Donor Profile Index (KDPI) as an allocation factor. The KDPI assigns a score of 0%-100% to a kidney donor based on 10 donor factors. Donors with low KDPI scores are typically young and healthy, and their kidneys are associated with better posttransplant survival. The new law will allocate kidneys from donors with KDPI scores $\leq$20% to candidates in the top 20th percentile of estimated posttransplant survival. Additional factors—such as wait time from dialysis initiation and broader sharing of kidneys for highly sensitized candidates for whom it is difficult to find a suitable kidney for transplant—will also be taken into consideration. This new allocation policy will eliminate the theoretical scenario of an elderly patient receiving a young kidney and will match the next available kidney with the next most suitable candidate.

In liver transplantation, a similar push is underway to change the algorithm for available livers. Currently, livers are allocated based on the Model for End-Stage Liver Disease (MELD) score derived from a patient's current laboratory values. The higher the MELD score, presumably, the sicker the patient is. This scoring system was put into place in 2004, replacing an old system that had the potential to be *gamed* by programs listing patients. Under the

current system, potential donor organs are allocated within a particular local area or organ procurement organization and are offered out to a region only when the region has a patient on the waiting list who has a high chance of dying soon (MELD >35). Recent articles have highlighted the discrepancy of MELD scores at the time of transplant among different regions in the United States. What these articles failed to mention, however, is that the regions where the patients receiving transplants have lower MELD scores are also the most aggressive—with higher donor rates and greater usage of organs from available donors. Despite the differences among regions, in the next few years, liver allocation will likely change significantly, although the proposed changes remain highly controversial.

As we go forward, UNOS will continue to readdress the algorithms that dictate organ allocation in an attempt to determine the fairest way to allocate a scarce resource with the goal of helping the recipient who will derive the most benefit from a particular organ. These algorithms, however, must factor in travel costs to programs, travel safety, and the impact of national sharing on a particular region's willingness to donate. Regions where donor rates are high should not be forced to ship organs to other regions where donor rates are low. Donors should be allowed to help their local communities.

Ultimately, the best way to solve the problem of organ allocation is to increase the donor pool. Continued outreach and education are critically important to make society aware not only of the current need for organ donors but also of the impact donation has on a recipient's life. For so many individuals, transplantation is truly the gift of life.

SELECTED READINGS

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