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COMMENT

An Ethical Analysis of Allocating Organs Out of Sequence

Sanjay Kulkarni[1,2] · Oluwafisayo Adebiyi[1,3] · Sheila Bullock[1,4] · Gloria Chen[1,5] · Jennifer Dillon[1,6] · Laura Jokimaki[1,7] · Grace Lee-Riddle[1,8] · Laura Madigan-McCown[1,9] · Lisa Paolillo[1,10] · Sena Wilson-Sheehan[1,11] · Lois Shepherd[1,12] · Erica Stohs[1,13] · Robert Truog[1,14] · Megan Urbanski[1,15] · Matthew Wilkinson[1,16] · Felicia Wells-Williams[1,17] · Joel Wu[1,18] · Andrew Flescher[19]

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Abstract

Purpose of Review Recently, in response to the problem of underutilization of organs available for transplant, there has been an increase in organs allocated out of sequence (AOOS). AOOS occurs when Organ Procurement Organizations and/or transplant programs deviate from the calculated rank-order list of potential recipients on the national organ waiting list. While AOOS attempts to decrease organ nonuse and improve organ placement efficiency, this practice raises questions about fairness and public trust. To address these concerns, the Organ Procurement and Transplant Network Ethics Committee undertook an ethical analysis of AOOS, a condensed version of which we present here.

Recent Findings While AOOS represents a tempting solution to nonuse, we argue it is not fully justified by utility, as the data remain unclear whether AOOS has a significant positive impact on organ nonuse. There are further concerns regarding the ethical principles of respect for persons, transparency, and equity.

Summary We conclude that AOOS should not come to be regarded as the prevailing solution to mounting pressure placed on the transplant community precipitated by nonuse, and that the transplant community should strive to develop system-wide solutions to organ waste though the development of a more transparent and comprehensive policy framework.

Keywords Organs allocated out of sequence · Organs allocated in sequence · Utility · Respect for persons · Transparency · Equity

Abbreviations

AIS	Allocated in sequence
AOOS	Allocation out of sequence
HRSA	Health resources and services administration
KDPI	Kidney donor profile index
OPOs	Organ procurement organizations
OPTN	Organ procurement and transplant network

Introduction

Over the last five years, there has been an observed increase in organs allocated out of sequence (AOOS) [1]. Specifically, AOOS occurs when Organ Procurement Organizations (OPOs) and/or transplant programs deviate from the carefully calculated rank-order list of potential recipients on the national organ waiting list. In an era of increased instances of organ nonuse, this practice has arguably been in response to system-wide concerns about ensuring maximum organ utilization [2]. The practice may directly, if partially, support the principle of utility, and it endeavors to maintain allocation efficiency. Moreover, AOOS is undertaken for the purpose of making sure to respect the altruistic intentions of donors who give the gift of life. Until large system-level concerns within the allocation system are able to be addressed, AOOS may persist in an effort to improve timely organ placement [3]. However, as AOOS continues to occupy a greater percentage of overall transplants in this country—at least

Sanjay Kulkarni and Andrew Flescher contributed equally to this manuscript as lead authors.

Extended author information available on the last page of the article

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20% of kidneys in the year 2023 and on the rise—there is a pressing need for an ethical analysis of the practice [1]. How can the Organ Procurement and Transplantation Network (OPTN) preserve a system of organ allocation that is *fair*, while, at the same time, reducing nonuse? How can the OPTN make sure that the utility of a robust organ allocation system is balanced with the principles of transparency, autonomy, and equity? Furthermore, the benefits of AOOS have recently come into doubt, as Adler et al. concluded that even "with substantial increases in OOS allocation, the impact on nonuse rates is minimal" [4]. Therefore, we provide an ethical analysis of AOOS with particular attention to the principles of utility, respect for persons, transparency, and equity.

Utility and Potential Benefits of AOOS

The central ethical justification for AOOS is rooted in utility, citing two intended benefits: (1) decreased organ nonuse, resulting in more transplants, and (2) improved efficiency of organ placement, independent of nonuse. The Final Rule supports pursuing both aims, as the OPTN is directed to "avoid wasting organs… [and to] promote the efficient management of organ placement" [5].

Decreased Organ Nonuse

AOOS of organs that would have not been transplanted during the standard match run potentially boasts utility benefits. However, there are several flaws with how we currently measure and understand organ nonuse which affect the stated utility benefits of AOOS. For example, if AOOS is aimed at reducing nonuse, there should be an increase in the total number of transplants. However, data are not captured for instances where AOOS was attempted but was not successful, thereby inflating the notion that organs AOOS results in more transplants versus those allocated in sequence (AIS). Second, if utilizing organs that would not have been transplanted via the standard match run are transplanted through AOOS, this may reduce overall candidate wait time. Although less well studied, faster time to transplant may reduce the likelihood of waitlist death or delisting [6]. Faster time to transplant may also reduce the accumulation of medical comorbidities, resulting in healthier candidates with improved post-transplant outcomes, including survival [7]. However, essential to this analysis is the inclusion of waitlist outcomes, including mortality, for those that were bypassed in favor of AOOS, which are data not readily available.

If AOOS results in decreased organ nonuse, thereby optimizing utility, there should be an inverse association between AOOS and organ nonuse. Although the question of whether nonuse would have increased further if AOOS had not become more common has yet to be analyzed, the fact that nonuse has actually climbed alongside AOOS suggests that other factors drive nonuse beyond the limitations of the standard match run [8]. Reinforcing this observation, OPOs that have demonstrated the largest rise in kidney AOOS have not seen a decline in nonuse rates [9]. While kidney AOOS may result in a net gain in the total number of transplants performed—given the high percentages of AOOS kidneys that are utilized—a robust utilitarian argument that AOOS substantially decreases organ nonuse is difficult to sustain given available data.

There are at least two reasons which possibly explain the discordant relationship between the increase in AOOS and the continued high rate of kidney nonuse. One is that AOOS kidneys could have been transplanted successfully using AIS, hence the lack of impact on nonuse. This suggests that a reasonable proportion of AOOS may not be driven by accurate predictions of potential nonuse but are motivated by other concerns, such as efficiencies in organ placement. A second factor that could explain the upward trend in the nonuse rate even as AOOS is increasing is that OPOs are pursuing organ donors that previously would have been screened out as medically unsuitable under prior OPTN guidelines. Donors up to the age of 75 are now routinely being pursued for organ recovery. Given the known association between age and declining renal function, this presents a considerable challenge for OPOs to place recovered aged kidneys with transplant programs [10].

Although AOOS is intended to maximize utility, recent available data do not fully support a strictly utilitarian justification for AOOS, although there are certainly grounds for such a justification. It is plausible that without the resort to AOOS, nonuse rates would have further accelerated, but this is a counterfactual that remains untested. Though the current data are insufficient to fully sustain a utilitarian justification for AOOS, this analysis recognizes that despite this limitation, the potential for AOOS to reduce nonuse should be acknowledged.

Improved Efficiency of Organ Placement

In addition to a potential reduction in nonuse, AOOS may offer several potential benefits related to organ placement efficiency. Acting in good faith, OPOs may identify organs that are at high risk for nonuse and late decline after initial acceptance and work with transplant programs to find appropriate candidates for these organs [11]. This is particularly relevant for medically complex organs that, through a lengthy standard match run process, may accumulate enough ischemic time or other physiologic disturbances that make the organ prohibitively high risk for transplant [12].

Increased placement efficiency through AOOS may reduce "match-related" ischemic time with its attendant complications, including delayed graft function [13, 14]. Alternatively, some transplant programs may request an open offer from an OPO because they intend to utilize the organ for a specific candidate on their list. In either case, removing inefficiencies related to the standard match run for these organs reduces the resources (financial, logistical, personnel) that OPO, third party vendors, and transplant programs dedicate to late declines of offers, including scrambling to place organs [15].

Does AOOS streamline allocation of hard-to-match organs, thereby increasing allocation efficiency? In kidney transplant, AOOS rates do increase as Kidney Donor Profile Index (KDPI) rises, with KDPI 60–85% kidneys representing the most common group transplanted through AOOS. However, in 2023, 4% of 0–9% KDPI kidneys, 10% of 10–19% KDPI kidneys, and 8% of 20–29% KDPI kidneys were AOOS (Table 1) [9]. This means that for 2023, almost one quarter of kidneys with a KDPI of less than 30% were transplanted out of sequence. At the same time, AOOS has been happening earlier in the match run, especially for 0–20% KDPI kidneys [1, 9]. There is perhaps not sufficient data to explain why these low KDPI kidneys would be so difficult to place through the standard match run to justify AOOS, particularly at a low sequence number.

Does kidney AOOS improve placement efficiency, thereby reducing ischemic time and the logistical and financial efforts needed for organ placement? Kidneys AOOS generally have *longer*, not shorter, ischemic time (median of 4 h longer) when compared to transplants that follow the standard match-run [1]. While this may reflect the additional time needed to match late decline offers, AOOS recipients are also generally farther from donor hospitals [9]. High utilizers of AOOS tend to be at a significant geographic distance from donor hospitals, resulting in extensive travel and logistical chains for these organs [15]. Thus, to date there is insufficient evidence to suggest that AOOS significantly improves organ placement efficiency.

Table 1 Number of kidneys AOOS by kidney donor profile index (KDPI) in 2023

KDPI	*N* (% of total within KDPI range)
0–9%	163 (4%)
10–19%	259 (10%)
20–29%	349 (8%)
30–39%	402 (9%)
40–49%	504 (12%)
50–59%	528 (12%)
60–69%	607 (14%)
70–79%	611 (14%)
80–89%	516 (12%)
90–100%	358 (8%)

Respect for Persons: Donors

From the perspective of a donor, respect for persons involves the moral obligation to respect the intention to donate. This requires that a system of allocation is in place to assure that organs are procured in ways that optimize their functional potential and then distributed in a manner that is fair via policies that avoid nonuse of organs where possible. Organ donation is a gift, and comes with societal and moral obligations that reinforce the public's confidence in the organ transplant system.

Respecting a deceased donor's wishes is an important tenet and a reason that OPOs and transplant programs may justify using AOOS. From the OPO perspective, attempting to be good stewards of the gift of an organ helps assure that no transplantable organ goes unused. Transplant programs also try to avoid nonuse by agreeing to transplant an organ that other transplant programs may have declined, but which is suitable for a patient at their program. It is worth noting that although there is language in the National Organ Transplant Act suggesting support for methods to optimize donor utilization, a recent Health Resources and Services Administration (HRSA) response to a critical comment on the issue states that AOOS is arguably not considered one of the acceptable methods to address donor autonomy concerns [16].

Respect for Persons: Recipients

Individuals listed for transplant undergo a medical evaluation that ideally includes substantial education about the listing process, OPTN allocation policies, and decisions regarding organ acceptance, such as opting in for high KDPI kidneys. A key aspect of individual autonomy in healthcare is access to information relevant to clinical decision-making. Patients have a right to the information that is necessary to understand their condition and to have the opportunity of aligning their choices about treatment options with their goals and values. The absence or incompleteness of information about the expected benefits and burdens of a treatment, or in this case, the participation in the allocation system, can become a constraint on patient autonomy when the patient does not have enough information to effectively work with providers to align their choices with their personal values and objectives.

What respect for persons precisely warrants in terms of addressing the needs of potential transplant recipients is far from clear, but at minimum it entails endeavoring to answer the question of what potential recipients should know about AOOS, and how this notification should take place. The principle of respect for persons supports informing the public, and specifically potential transplant recipients, about AOOS

Table 2 Comparison of recipients of kidneys AOOS versus AIS by characteristic

Age	• Recipients of AOOS kidneys were more likely to be significantly older than recipients of AIS kidneys [20]. • Recipients of AOOS kidneys were also more likely to be older than the last higher-ranked candidate who was skipped on the waiting list [20].
Birth sex of AOOS recipients	• Recipients of kidneys AOOS were more often male than recipients of kidneys AIS [9].
Birth sex of candidates bypassed in AOOS	• Candidates bypassed during AOOS were more often male than recipients of kidneys AIS [20].
Race and ethnicity	• AOOS kidney recipients were more likely than AIS kidney recipients to be white, non-Hispanic, or Asian and less likely to be Black or Hispanic [9, 20]. • Within the individual transplant program transplanting the AOOS kidney, "recipients were more likely to be Hispanic and Asian and less likely to be white" than those bypassed within the waiting list at that one program [20].
Education level	• Education levels of recipients of AOOS kidneys were on average higher than recipients of AIS kidneys. • This may be explained by the fact that waitlists from the transplant programs that perform the most AOOS kidney transplants tend to have more highly educated patients than programs that perform fewer or none [20].
Insurance status	• Recipients of AOOS kidneys were more likely to have private health insurance than recipients of AIS kidneys [3, 5, 9].
Time on dialysis	• Recipients of AOOS kidneys spent less time on dialysis as compared to recipients of AIS kidneys (average difference is approximately 1 ½ years) [9].
Sensitization	• Recipients of AOOS kidneys were less sensitized than recipients of AIS kidneys [9, 20].
Time on waitlist	• AOOS kidney recipients spent less time on the waitlist than recipients of AIS kidneys [20].

as a possibility. Logistical barriers to providing transparency are real, but they should not serve as an excuse to relieve the system of the burden of thinking about how best to keep potential recipients fully informed. What "transparency" means in organ allocation is not always obvious. Informing a potential recipient that they were "passed over" as a result of AOOS may not be feasible, and possibly not even a fully correct characterization of what is taking place in AOOS. There is nevertheless a larger societal duty to alert the public proactively about what is happening when we deviate from the waitlist, particularly with regard to "open offers," where organ procurement providers and transplant centers avail themselves of the most leeway in placing an organ [17]. That such deviation from AIS occurs, and is occurring more frequently, is something the public, particularly potential recipients, have a right to know and understand.

Equity in AOOS

Equity in the allocation of human organs for transplant requires fairness in the pattern of distribution of the benefits (successful organ transplants) and burdens (such as placement efficiency challenges) of the system [18]. This includes the concept of distributive justice, which requires that scarce resources be distributed fairly, and that patients with similar medical needs have a similar opportunity to benefit from transplantation [19]. Patients must be provided both *formal* equality of opportunity, such that policies apply equally to all patients, as well as *fair* equality of opportunity, which requires that policies be developed such that each individual has a reasonable chance to equally exercise opportunity within those policies. Procedural justice stipulates that the developed policies demonstrate a commitment to treating like cases similarly and predictably, and that these policies are transparent.

KDPI of AOOS Kidneys

Kidneys in every KDPI "bucket" have been AOOS. In 2023, 14% of AOOS kidneys had a KDPI lower than 20%; 20% of AOOS kidneys had a KDPI higher than 80% [9]. If one is considering donor characteristics only, the kidneys that were AOOS should not automatically be assumed to be "medically complex." 43% of kidneys AOOS in 2023 had a KDPI of less than 50% [9]. Of note, KDPI does not include biopsy results or cold ischemic time, which may be contributing factors to a "medically complex" kidney. One recent analysis of current practices of AOOS concluded that "the distribution of donor KDPI overlaps substantially between OOS and standard allocation which indicates that factors besides KDPI drive OOS placement [20]". An earlier analysis of data prior to 2019 similarly concluded that "the majority of AOOS kidney donors did not meet the traditional threshold for medically complex kidneys" [3].

Comparison of Donor Characteristics of Kidneys AOOS and AIS

A recent study compared the waitlists at programs performing the most AOOS transplants to those which performed zero AOOS transplants, which may explain some of the noted differences between candidates of AOOS kidneys versus AIS kidneys (Table 2) [20]. These authors found that "waitlists at programs performing the most OOS transplants tended to comprise more highly educated and privately insured patients, but fewer Hispanic patients, compared

with waitlists at programs that performed zero OOS transplants." [20] If the patient populations of programs that receive a disproportionately large share of AOOS organs differ from those of programs that receive few or none, then those differences will consequently be seen as differences between AOOS candidates and AIS candidates. Currently, it is unclear how and why transplant centers are chosen to receive AOOS offers. As King and colleagues note, "whenever a process relies on informal relationships between organizations, there is potential for exacerbating existing inequity in access to transplantation by excluding some candidates from equal access to organs when certain transplant programs are favored over others. For true equity, all transplant programs should have the opportunity to demonstrate willingness to accept expedited placement attempts for more challenging kidneys so their candidates are not disadvantaged, or to opt out of these offers in a manner consistent with the system design." [20] That AOOS is more likely taking place with private insurance and more educated candidates calls this principle into even bolder relief [20].

As with any deviation from policy, there will always be a lingering concern that AOOS will impact those already at a disadvantage. This means, if nothing else, the transplant community should adopt a vigilant disposition to ensure there are no unexpected equity offsets that occur with AOOS. The strongest case for ensuring that equity and distributive justice are upheld might be to include all programs in any open offer call, even if doing so might undo the efficiency (and thereby an aspect of utility) that is the root of AOOS. Giving the best access to AOOS offers to the most prominently known programs with medically complex offers may prevent other programs from becoming more willing to accept them, further exacerbating disparities between patients listed at programs who frequently receive organs AOOS versus those listed at programs which do not.

Conclusions

The US organ allocation system is based on the principle that organ offers are made to patients in the prioritized order of the match run, according to established OPTN policy. This ethical analysis has outlined concerns with how AOOS may complicate the existing landscape of patient understanding and notification of how organ allocation works. It is important to acknowledge the logistical complexity and impracticality of notifying patients when an individual organ is turned down on their behalf, AOOS or AIS. This analysis does not conclude that individual potential recipients be informed on discrete occasions in which AOOS took place, but does find that knowing about the possibility of AOOS as a condition of participation in the transplantation system is ethically relevant information about which the public, including waitlisted individuals, should be made aware.

We explicitly acknowledge the potential for AOOS to address concerns over organ nonuse, undoubtedly a justifiable priority for the OPTN while the number of people waiting for organs continues to persist at 100,000 or greater. This analysis has focused mainly on AOOS occurring in kidney, but it acknowledges that other organs can be and are affected by AOOS, including liver and heart where skipped candidates are at an even higher risk of mortality while awaiting transplant. The transplant community must always think hard about ways to avoid the nonuse of precious, non-replenishable, and life-saving resources. **This noted, AOOS should not come to be regarded as the prevailing solution to mounting pressure placed on the transplant community precipitated by nonuse**. From these conclusions, the recommendation follows that the rapid rise in AOOS should create a sense of urgency whereby stakeholders in the transplant community are now motivated to arrive at newer and more contemporary definitions of "hard-to-place" in order to assure that the organs currently being transplanted through AOOS can be accounted for through development of a more comprehensive policy framework. Critical to this recommendation is to bring the public more directly into the wider debate about how to address nonuse of organs.

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Data Availability Data present in tables one and two provided in the manuscript are publicly available on the OPTN website and refer to a Data Request Analysis-AOOS, which was presented to the OPTN Ethics Committee, June 20,2024. See: https://optn.transplant.hrsa.gov/data/.

Declarations

Human and Animal Rights This article does not contain any studies with human or animal subjects performed by any of the authors.

Competing Interests The authors declare no competing interests.

References

1. King KL, Husain SA, Perotte A, Adler JT, Schold JD, Mohan S. Deceased donor kidneys allocated out of sequence by organ procurement organizations. Am J Transpl May. 2022;22(5):1372–81. https://doi.org/10.1111/ajt.16951.
2. Stewart D, Hasz R, Lonze B. Beyond donation to organ utilization in the USA. Curr Opin Organ Transpl Jun. 2023;1(3):197–206. https://doi.org/10.1097/mot.0000000000001060.
3. King KL, Husain SA, Yu M, Adler JT, Schold J, Mohan S. Characterization of transplant center decisions to allocate kidneys to candidates with lower waiting list priority. JAMA Netw Open Jun. 2023;1(6):e2316936. https://doi.org/10.1001/jamanetworkopen.2023.16936.
4. Adler JT, Cron DC, Kuk AE, et al. Association between out-of-sequence allocation and deceased donor kidney nonuse across organ procurement organizations. Am J Transpl Feb. 2025;17. https://doi.org/10.1016/j.ajt.2025.02.005.
5. 121.4 OPTN policies. Secretarial review and appeals. National Archives. https://www.ecfr.gov/current/title-42/chapter-I/subchapter-K/part-121/section-121.4
6. Husain SA, King KL, Pastan S, et al. Association between declined offers of deceased donor kidney allograft and outcomes in kidney transplant candidates. JAMA Netw Open Aug. 2019;2(8):e1910312. https://doi.org/10.1001/jamanetworkopen.2019.10312.
7. Goldfarb-Rumyantzev A, Hurdle JF, Scandling J, et al. Duration of end-stage renal disease and kidney transplant outcome. Nephrol Dial Transpl Jan. 2005;20(1):167–75. https://doi.org/10.1093/ndt/gfh541.
8. Stewart DE, Garcia VC, Rosendale JD, Klassen DK, Carrico BJ. Diagnosing the Decades-Long rise in the deceased donor kidney discard rate in the united States. Transplantation Mar. 2017;101(3):575–87. https://doi.org/10.1097/tp.0000000000001539.
9. OPTN Data Request Analysis-AOOS. Presented to the OPTN Ethics Committee, June 20,2024.
10. Dayoub JC, Cortese F, Anžič A, Grum T, de Magalhães JP. The effects of donor age on organ transplants: A review and implications for aging research. Exp Gerontol Sep. 2018;110:230–40. https://doi.org/10.1016/j.exger.2018.06.019.
11. Adler JT, Husain SA, King KL, Mohan S. Greater complexity and monitoring of the new kidney allocation system: implications and unintended consequences of concentric circle kidney allocation on network complexity. Am J Transpl Jun. 2021;21(6):2007–13. https://doi.org/10.1111/ajt.16441.
12. Cohen JB, Shults J, Goldberg DS, Abt PL, Sawinski DL, Reese PP. Kidney allograft offers: predictors of turndown and the impact of late organ acceptance on allograft survival. Am J Transpl Feb. 2018;18(2):391–401. https://doi.org/10.1111/ajt.14449.
13. White AD, Roberts H, Ecuyer C, et al. Impact of the new fast track kidney allocation scheme for declined kidneys in the united Kingdom. Clin Transpl Oct. 2015;29(10):872–81. https://doi.org/10.1111/ctr.12576.
14. Wood N, Lyden GR, Synder JJ. Deviating from the match run to save a kidney. 2023:SRTR.
15. Turgeon N. New approaches to allocation: open offers. Philadelphia, PA: American Transplant Congress; 2023.
16. HRSA's response on February 21. 2025 to a critical comment regarding out of sequence allocation. https://optn.transplant.hrsa.gov/media/km3fskz1/hrsa-directive-to-optn-on-aoos-022125.pdf
17. Flescher A, Kulkarni S. Now is the time for ethical analysis in organ transplantation. Curr Transplantation Rep. 2025;12(1):8. https://doi.org/10.1007/s40472-025-00464-w. /04/01/2025.
18. OPTN Ethics Committee. Ethical principles in the allocation of human organs. June 2015. https://optn.transplant.hrsa.gov/professionals/by-topic/ethical-considerations/ethical-principles-in-the-allocation-of-humanorgans/
19. OPTN Ethics Committee. Manipulation of the organ allocation system waitlist priority through the escalation of medical therapies. June 2018. https://optn.transplant.hrsa.gov/media/2500/ethics_whitepaper_201806.pdf
20. Liyanage LN, Akizhanov D, Patel SS, et al. Contemporary prevalence and practice patterns of out-of-sequence kidney allocation. Am J Transpl Feb. 2025;25(2):343–54. https://doi.org/10.1016/j.ajt.2024.08.016.

Authors and Affiliations

Sanjay Kulkarni[1,2] · Oluwafisayo Adebiyi[1,3] · Sheila Bullock[1,4] · Gloria Chen[1,5] · Jennifer Dillon[1,6] · Laura Jokimaki[1,7] · Grace Lee-Riddle[1,8] · Laura Madigan-McCown[1,9] · Lisa Paolillo[1,10] · Sena Wilson-Sheehan[1,11] · Lois Shepherd[1,12] · Erica Stohs[1,13] · Robert Truog[1,14] · Megan Urbanski[1,15] · Matthew Wilkinson[1,16] · Felicia Wells-Williams[1,17] · Joel Wu[1,18] · Andrew Flescher[19]

✉ Sanjay Kulkarni
Sanjay.Kulkarni@Yale.edu

1 Organ Procurement Transplantation Network Ethics Committee, Washington, D.C., USA

2 Department of Surgery, Yale University School of Medicine, New Haven, CT, USA

3 Department of Medicine, Indiana University Health, Indianapolis, IN, USA

4 Hume-Lee Transplant Institute, Virginia Commonwealth University, Richmond, VA, USA

5 Department of Surgery, University of Texas at Austin, Austin, TX, USA

6 Region 9 Representative, OPTN Ethics Committee, New York, USA

7 Henry Ford Health-St. John Hospital, Detroit, MI Region, USA

8 Department of Surgery, Rutgers New Jersey Medical School, Newark, NJ, USA

9 Maine Health, Tufts University School of Medicine, Portland, ME, USA

10 New England Donor Services, Waltham, MA, USA

11 Transplant Center, Mayo Clinic, Phoenix, AZ, USA

12 Center for Health Humanities and Ethics, University of Virginia, Charlottesville, VA, USA

13 Department of Medicine, Creighton University School of Medicine, Omaha, NE, USA

14 Center for Bioethics, Harvard Medical School, Boston, MA, USA

15 Department of Surgery, Emory School of Medicine, Atlanta, GA, USA

16 Department of Surgery, University of Missouri at Kansas City, Kansas City, MO, USA

17 Legacy of Life, Honolulu, HI, USA

18 Center for Bioethics, University of Minnesota, Minneapolis, MN, USA

19 Department of Family, Population, and Preventive Medicine, Department of English, Stony Brook University, Stony Brook, NY, USA