

## Better Off Living—The Ethics of the New UNOS Proposal for Allocating Kidneys for Transplantation

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*Clin J Am Soc Nephrol* 6: 2310–2312, 2011. doi: 10.2215/CJN.03310411

In February 2011, the United Network for Organ Sharing (UNOS) issued a new policy proposal to change how deceased donor kidneys are allocated to adults in the United States (1). The proposal comes at a crucial juncture in the field of kidney transplantation. Stagnation in kidney donation rates, ever-rising waiting times, and a greater reliance on “marginal” organs reveal an area of medicine that is struggling to cope with organ shortages and concerned about a future where greater demand awaits. The main aim of the new policy is to make allocation more efficient by achieving greater survival for kidney transplant recipients. This aim would be accomplished by age matching of recipients to donors and by allocating the highest quality kidneys to recipients with the longest projected survival. To date, the main ethical objections have focused on the consequence of diminished transplant access for older patients, the challenge of accurately forecasting recipient survival after transplant, and the possible negative effect on kidney donation by living donors (2). We believe these objections are not sufficient to outweigh the powerful moral claims of saving more lives and extending patients’ lives in a meaningful way. If the new proposal has an ethical failing, it is that UNOS does not go far enough to redress obvious sources of inequity in access to kidney transplants.

The UNOS proposal’s development was driven by widespread concerns that the existing system of allocation is inefficient and not optimally designed to meet the needs of current transplant candidates. Each year, thousands of patients waiting for a kidney transplant die or are removed from the waiting list. For candidates >60 years (a rapidly growing group), 46% will die before receiving a deceased donor kidney transplant (3). Furthermore, current kidney allocation to adults makes no attempt to get the greatest survival benefit from each transplant. Instead, the system relies heavily on geography and waiting time (once blood group compatibility is established) to determine priority for a kidney. Although some patients have misunderstandings about how the transplant system works, current allocation policy does have the virtue of simplicity. On its face, the current system seems fair in that candidates are rank-ordered by priority for each kidney allograft and that this order is

determined in large part by when each person joined the list (4,5).

Two decades ago, when waiting times were far shorter, these advantages outweighed concerns about whether kidney transplantation was missing an opportunity to maximize survival for the greatest number of recipients. But if nothing is done to revise the existing allocation policy, the prognosis for many wait-listed patients will remain bleak. Death counts will rise, years of high-quality life will be forfeited, and transplant access will worsen.

We should also acknowledge that the degree of fairness embodied in waiting time has serious imperfections. “First come, first served” to the waiting list has driven major disparities in access. Savvier, richer, more educated, and better socially supported patients get wait-listed sooner. White people make it to the list more often than blacks; men are more likely to be listed than women (6–8).

The proposed policy would use a kidney quality score (the Kidney Donor Profile Index, which relies on factors such as donor age and creatinine in generating a score) to divide allografts into two groups: the best 20% of kidneys, and the rest. The best 20% of kidneys would first be offered to the 20% of wait-listed patients with the longest projected survival. Projected recipient survival would be calculated from a formula consisting of age, diabetes, prior transplant, and dialysis vintage. When a “best quality” kidney was offered to the 20% of “best surviving” patients, rank ordering of those eligible patients would be driven by geography and waiting time (as it is now). Thus, the “best quality” 20% of kidneys would be allocated in part by survival-matching of kidney and recipient. Meanwhile, the other 80% of kidneys (“lower quality”) would be allocated to patients whose age was within 15 years of the donor’s age. In this larger group of potential recipients of “lower quality” organs, rank ordering of eligibility would also be driven by geography and waiting time. Thus, the “lower quality” 80% of kidneys would be allocated in part by age matching of kidney and recipient. This change in policy will produce more life-years from the scarce supply of kidneys (1).

The first ethical objection to the UNOS proposal is that it is unfair to older adults to use age as a tool in allocating health care. It is true that this policy, if

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enacted, would likely lead to modest decreases in the proportion of kidneys given to patients over the age of 50 years. For example, the UNOS Kidney Committee performed computer simulations suggesting that the proportion of kidneys transplanted into recipients aged 50 to 64 years would drop from 41% to 35% under the new policy. Is it unfair that older adults (who certainly derive benefit from a kidney transplant) have less access to transplants because of their age? Is it analogous to using race or gender to predict survival and use these qualities as tools to choose who gets a kidney?

We believe that the use of age does not violate equity (9). In fact, using age to allocate kidneys enhances the fairness present in the current system. To paraphrase the gist of what is known as the “fair innings” argument, everyone old on the waiting list had a chance to be young, but the young patients on the waiting list deserve every chance to become old (10,11). If the new policy can enable kidney transplant recipients to live longer, then it is hard to see the injustice in trying to use age as a factor to guide allocation.

The second objection to this proposal is that the formula to estimate recipient survival has limited accuracy (2). It is true that predicting survival after kidney transplantation is difficult. Precise prediction poses challenges because the majority of transplant recipients live many years after transplant (over 80% of deceased donor recipients are alive at 5 years), whereas the prediction equations developed by UNOS are based only on pre-transplant attributes (12). Furthermore, transplant recipients are typically selected for their lack of major comorbidities (such as metastatic cancer, advanced heart failure, or dementia) that would help to predict future death. But perfect prognostication should not be the enemy of the good. Predicting survival with limited accuracy on the individual level does not preclude major gains in survival on the population level. Furthermore, in the case of other scarce resources (like intensive care unit [ICU] beds or lung transplants), we have allowed physician judgment or other outcome-prediction equations with limited accuracy to be implemented for the greater good (13). As a specific example, when more than one patient in a hospital would benefit from the last unoccupied ICU bed, the director of that ICU is often asked to exercise medical judgment to decide which patient shall receive it, despite evidence that the prognostic abilities of ICU staff have limitations (14).

The prediction equations advanced by UNOS are not so deficient that they should not be employed to guide the more effective use of deceased donor kidneys (1). That is precisely the situation now with respect to the use of waiting time, which has permitted substantial inequity in access to develop (6). More to the point, objections about the limited ability of current variables such as age to predict survival after transplant do not address the criticism that the current allocation policy gives insufficient weight to efficacy. It is instead an argument for more research to achieve greater prognostic sophistication about identifying which kidney transplant recipients will live longest.

Last, concerns have been raised that directing deceased donor kidneys to young adults will lead to lower rates of kidney donation by live donors to this group. Such decreases in live donation would be a major problem because

this unintended effect of the proposed policy would place an additional burden on the kidney transplant waiting list. Hippen et al. have pointed to pediatric transplantation where, after the institution of a policy change (called “Share-35”), children experienced very short waits for deceased donor kidneys. This enhanced access seems to have led to lower live donation rates to children. The authors worry that the new UNOS policy will now adversely affect live donation rates to young adults (2). However, it is unclear that such decreases in live donation would occur.

In considering the potential effect of this proposed policy on live donation, it is important to understand that under the proposed policy, most young adult patients would still endure waits of multiple months to years before getting offers of a kidney transplant. Those patients with blood types (such as type O) that are incompatible with organs from many donors would still face the problem of a lack of compatible kidney allografts. These patients and their families will still have good reason to see the benefits of live donor transplantation, even if they do have better access to the “best quality” deceased donor kidneys. Certainly, if the new policy is implemented, rates of living kidney donation merit monitoring. But concerns about living donor availability are not an argument in favor of the current flawed allocation policy such that change ought to be held hostage to hypothetical worries.

The case for moving toward more efficiency in rationing kidneys makes ethical sense. What is morally troublesome is why the UNOS proposal, which aims at efficacy and fairness, stops where it does. Major gains in fairness and efficiency in kidney transplantation could also be obtained by any of the following ideas: eliminating geographic priority for kidneys, limiting the access of non-resident/non-U.S. citizens to our waiting lists, abolishing multiple listing for transplants, or diminishing the priority for kidneys given to candidates who need a kidney as well as another organ.

These neglected ideas deserve the same scrutiny as the current UNOS proposal. The lack of attention to them shows how kidney allocation, like politics, seems to be the “art of the possible,” or what UNOS policy makers think is possible. As an example, the fact that a kidney transplant candidate in Albany waits a fraction of the time that an identical patient in New York City does is not redressed in the current proposal. This unfair—and inefficient—*status quo* in transplantation has been acknowledged yet ignored for decades. Perhaps nothing more ambitious can be done to improve allocation policy because of entrenched interest groups in transplantation—the minority of centers, practitioners, and patients who currently benefit from enhanced access to kidneys. Additionally, efforts to reform allocation should not distract attention from the need to commit resources and creativity to increasing organ donation.

Dealing with these neglected ideas, however, might save more lives and be fairer than our current system or the new proposal from UNOS. From an ethical perspective, the best way to improve the lot of those in need is to think broadly about current allocation policy while considering every option on the table.

**Disclosure**

Dr. Reese discloses that in July 2011, he joined the UNOS Kidney Transplantation Committee as an At-Large Member. He had no role in developing the policy proposal discussed in the article.

**References**

1. Organ Procurement and Transplantation Network. Concepts for Kidney Allocation. Release Date: February 16, 2011. Available at: <http://optn.transplant.hrsa.gov/SharedContent/Documents/KidneyConceptDocument.PDF>. Accessed: June 8, 2011
2. Hippen BE, Thistlethwaite JR, Ross LF: Risk, prognosis, and unintended consequences in kidney allocation. *N Engl J Med* 364: 1285–1287, 2011
3. Schold J, Srinivas TR, Sehgal AR, Meier-Kriesche HU: Half of kidney transplant candidates who are older than 60 years now placed on the waiting list will die before receiving a deceased-donor transplant. *Clin J Am Soc Nephrol* 4: 1239–1245, 2009
4. Klassen AC, Hall AG, Saksvig B, Curbow B, Klassen DK: Relationship between patients' perceptions of disadvantage and discrimination and listing for kidney transplantation. *Am J Public Health* 92: 811–817, 2002
5. Louis ON, Sankar P, Ubel PA: Kidney transplant candidates' views of the transplant allocation system. *J Gen Intern Med* 12: 478–484, 1997
6. Alexander GC, Sehgal AR: Barriers to cadaveric renal transplantation among blacks, women, and the poor. *JAMA* 280: 1148–1152, 1998
7. Hall YN, Choi AI, Xu P, O'Hare AM, Chertow GM: Racial ethnic differences in rates and determinants of deceased donor kidney transplantation. *J Am Soc Nephrol* 22: 743–751, 2011
8. Segev DL, Kucirka LM, Oberai PC, Parekh RS, Boulware LE, Powe NR, Montgomery RA: Age and comorbidities are effect modifiers of gender disparities in renal transplantation. *J Am Soc Nephrol* 20: 621–628, 2009
9. Reese PP, Caplan AL, Bloom RD, Abt PL, Karlawish JH: How should we use age to ration health care? Lessons from the case of kidney transplantation. *J Am Geriatr Soc* 58: 1980–1986, 2010
10. Persad G, Wertheimer A, Emanuel EJ: Principles for allocation of scarce medical interventions. *Lancet* 373: 423–431, 2009
11. Williams A: Intergenerational equity: An exploration of the 'fair innings' argument. *Health Econ* 6: 117–132, 1997
12. Organ Procurement and Transplantation Network. Kidney Kaplan-Meier Patient Survival Rates For Transplants Performed: 1997–2004. Available at: <http://optn.transplant.hrsa.gov/latestData/rptStrat.asp>. Last accessed 7/1/2011.
13. Fair allocation of intensive care unit resources. American Thoracic Society. *Am J Respir Crit Care Med* 156: 1282–1301, 1997
14. Ward NS, Teno JM, Curtis JR, Rubenfeld GD, Levy MM: Perceptions of cost constraints, resource limitations, and rationing in United States intensive care units: Results of a national survey. *Crit Care Med* 36: 471–476, 2008

Published online ahead of print. Publication date available at [www.cjasn.org](http://www.cjasn.org).