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Letter to the Editor

Organ Shortage Crisis Demands Revisiting Compensated Kidney Donation

Bahar Bastani*

Department of Internal Medicine, Saint Louis University School of Medicine, USA

***Corresponding author**

Bahar Bastani, Saint Louis University Hospital, 3635 Vista Avenue, Saint Louis, MO 63110, USA Tel: 314-577-8765, Fax: 314-771-0784, Email: bastanib@slu.edu

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DEAR EDITOR,

The number of Americans waiting for a kidney transplant has exceeded 100,000, with an average wait time to receive a kidney of five years. For those who are on the wait list, the chance of getting a transplant is around 16%. Every year around 15% of the patients on the waiting list are removed because they are too sick to transplant or have died [1].

Currently around 600,000 patients in the USA suffer from end stage renal disease (ESRD), around 400,000 of those are on maintenance dialysis, and around 200,000 have received a transplant [2]. While we should work on preventing kidney diseases, particularly from hypertension and diabetes, we need to save the lives of more than 100,000 Americans who need transplants now.

There are two sources for kidneys: a) cadaver organ donation, b) altruistic live kidney donation. Ever since the United Network for Organ Sharing (UNOS) was created in 1986, it has struggled to increase the supply of transplantable cadaver organs. However, most people who die are either too old, too sick, too damaged by accident, or die too far from the hospital to provide organs viable for transplant. Thus, less than 1% of those who die in the United States can provide a kidney for transplantation.

Not only is live donation feasible and safe [3], the outcomes for recipients are significantly better than with cadaver kidneys. First, a patient who receives a living donor kidney has a greater chance of reaching the five years survival mark than a patient who receives a cadaveric kidney (80% versus 67%, respectively) [1]. Second, in general, living donor transplants can be arranged more quickly, allowing patients to spend less time on dialysis. Dialysis only cleans approximately 10% of the toxins from the blood when compared to a healthy kidney. This means that dialysis does not cure kidney failure, it only slows the dying process caused by kidney disease. Patients on dialysis continue to deteriorate physically, making them weaker and less capable of surviving a transplant operation the longer they are on dialysis. The long-term mortality is 50-80% lower in transplanted patients than in those remaining on dialysis [4]. Moreover, the shorter the duration of dialysis before receiving a transplant, the better chance of graft and patient survival. Patients who have been on dialysis for less than 6 months before transplantation have twice the chance of living with a functioning kidney at 10 years than those who have been on dialysis for more than 2 years before receiving a transplant [5]. After Congress banned compensating donors in 1984, our best efforts have brought the annual average of kidney donations from cadavers to between 10,000 and 11,000 and those from living donors to about 6,000. However, these numbers have remained stagnant since 2005, while the number of people in need of a kidney has exponentially increased. So now only around 16% of our demand for kidneys is met, cadaver and living donation combined.

In order to solve the kidney shortage crisis and avoid unnecessary suffering on dialysis and needless deaths among transplant candidates we need to find ways beyond what we've been trying for the past 30 years. We could start by breaking the live-donor glass ceiling created by the legal requirement that all living kidney donations be altruistic. There won't ever be enough living kidney donors under the existing system because there aren't enough altruistic donors (friends and relatives) who qualify as living donors. By mandating altruistic donation, Congress has done far worse than just limiting the potential availability of kidneys. It has created a system where the socioeconomically advantaged have a much better chance of getting a kidney, while the poor and blue-collar workers suffer and die on dialysis. To donate a kidney takes time and money, a luxury the family and friends of the underprivileged don't have. Health insurance is a prerequisite for living kidney donation, so the unemployed can't donate. Kidney donors have to take time off from their family obligations as well as their jobs. Most poor families can't afford to have mom or dad out of commission for months or even just several weeks because of their daily responsibilities. Unlike more privileged families, they can't afford to pay someone to help with housework, childcare, or eldercare. To make things worse, restrictions on heavy lifting for months after surgery disproportionately disadvantage blue-collar workers. While a white-collar worker can usually safely return to a desk job two to six weeks after surgery, a blue-collar worker may have to

wait several months. It is hard to imagine a blue-collar worker who could afford several months without pay, let alone the risk that an employer may need to hire someone to take the absent worker's place. As a result only well-to-do white-collar workers or the leisure class have the time and money to consider donating a kidney.

One possible solution would be to incentivize kidney donation for live kidney donors. We could create a government or non-profit NGO controlled system of living kidney donation where the donors' gift to society is reciprocated by a reward from society in the form of a package of benefits. That package could include health and life insurance, educational benefits, and other monetary and non-monetary benefits. This is not a new idea. Academics in the transplant and medical ethics communities have debated these issues for decades. Would such a system exploit the poor or empower them? Would it save some lives while ruining others? Would it be an overall benefit or detriment to society? These questions are no longer purely academic. There is one country that has experimented with government endorsed incentivized kidney donation for nearly 30 years, but we have ignored its innovations because we tend to think of that country as an enemy, making it hard to accept that that country – Iran – could have managed to solve a problem we haven't been able to solve ourselves.

The choice is not simply one of not paying donors at all or allowing the free-for all chaos of a black market. There is a middle road, and that is the road Iran has taken to solve its kidney shortage. A legal regulated market creates a transparency that does not exist in the rightfully maligned black market [6,7]. Unlike some desperate Americans unwilling to take their chances on the organ waiting list, Iranians don't need to resort to illegal, back-alley transplants abroad. They don't pay middlemen at all, let alone the $100,000 to $200,000 some Americans pay to get a kidney on the black market. Nor do Iranians have to worry, as black market purchasers do, that poorly evaluated kidney sellers will give those HIV or hepatitis, or risk infections or other complications by having their surgery performed in shady foreign hospitals by unqualified transplant teams. What about the kidney sellers (donors)? On the black market there is no informed consent, no adequate pre-op or post-op medical care, and no guarantee that they will even be paid at all. Black market kidney sellers also risk arrest and punishment. In Iran these risks, both those faced by donors and recipients are all but eliminated. And, most remarkable of all, while in the United States we have currently a 100,000 long wait list for kidneys, in many regions of Iran there is a waitlist to be a donor.

We would like to make it clear that we are not suggesting that the U.S. copy the Iranian model. We are clearly different cultures and our organ procurement system has evolved differently. Nonetheless, there are things we can learn from Iran's 30 years of experience with compensated kidney donation. The most important lesson we can learn is that it is possible to make an incentive based approach to kidney procurement work. But, for such a system to be successful, it must provide donors with more than compensation for donation-related expenses. To overcome the organ shortage in the U.S., we need to create a scheme that benefits both recipients and donors. We need an approach that pays well beyond the expenses and the lost wages incurred in the process of donation, otherwise there will be little incentive to donate beyond what currently exists under the altruistic system. In Iran the lure of financial remuneration and health insurance are the strongest motivators for kidney donors. So it would be logical for the United States to start from the premise that the same would be true for U.S. donors.

The system of purely altruistic donation created by the 1984 National Organ Transplant Act is paternalistic and does not protect the poor but denies them the opportunity to help themselves and others. Imagine what it would be like if donors receive not only enough compensation to cover donation related expenses, but enough monetary compensation to prevent foreclosure on the family home, to go to college, to start or expand a business, or climb out of debt – all the while, at the same time, saving someone in their community from suffering and dying on dialysis. Moreover, a system of compensated kidney donation could help contain medical costs. It is much more expensive to keep a patient on dialysis than to do and maintain a transplant. The yearly Medicare spending for a patient on hemodialysis is around $88,000 versus $33,000 if that patient had been transplanted [1]. The government could reward donors by $50,000 and still save money in the long term. Considering that kidney donation has proven safe in long term donor follow up studies [3], and that the transplant community highly recommends altruistic live donations to even strangers, our proposal will be a win-win solution for all parties involved. The recipient would receive a better quality kidney at a much shorter wait time, and will enjoy a healthier, longer, and a better quality of life. The donor would improve his/her financial situation. And the government that has already committed to the cost of caring all patients with end stage kidney failure will be saving every year.

We do not have to do anything as drastic as repealing the ban on organ sales. We can start by implementing a pilot project to test incentivized kidney donation on a regional basis and move on from there, depending on the results of those studies. One proposed model could be that potential donors would donate to a licensed NGO, such as the already existing Organ Procurement Organizations (OPOs), and their gift would be reciprocated by a package reward from society that could include the various benefits described above and a monetary reward of at least $20,000. At present, too many people, both potential kidney recipients and donors are suffering needlessly. It is time to open the door, even if just a crack and try to let people help them by helping others through compensated kidney donation.

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