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# What is the system failure?

FL Delmonico[1]

**As a result of the increasing use of live organ donors, international conferences have been held in Amsterdam and Vancouver to address the transplant community's concern for the well-being of such donors. Congress has considered arguments to permit a regulated market of organ sales but has rejected such a proposal, in part because of a fundamental ethical principle: selling one's kidney or any other part of one's body violates the dignity of the human person. The "system failure" is not only at the doorstep of organ donation. The expansion of the waiting list for kidney transplants is heavily composed of the elderly who could have benefited by preventive medical care.**

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The shortage of organs for transplantation is widely known and is affecting the practice of transplantation around the world. The demand for organs has propelled an international use of live organ donors that only a few years ago would have been considered an alarming development by the World Health Organization, which, in a resolution in 1991, called for the preferential transplantation of organs from deceased donors.[1] As a result of the increasing use of live donors, international conferences have been held in Amsterdam and Vancouver to address the transplant community's concern for the well-being of such donors.[2,3] Ethics statements have emphasized the necessity of informed consent and the proper care of an organ donor, whether the donation is altruistic (without monetary compensation) or is as a vendor of an organ sale.[4] (We should be clear that there is no international objection to the reimbursement of donors' expenses; it is the sole motivation of monetary gain that brings controversy.) In each of these conferences, however, the participants did not resolve the most contentious issue: the ethical propriety of buying and selling organs.

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In "Payment for donor kidneys: pros and cons"[5] (this issue), Drs. Eli and Amy Friedman present a perspective that, given the stature of the authors, necessitates commentary. The paper's title cites "pros and cons"; however, its content is clearly weighted toward an advocacy for the government to pay vendors for their kidneys.

Several years ago, I had the honor to debate Dr. Eli Friedman (in his home territory in Brooklyn, New York) regarding the use of monetary compensation for organs. As Dr. Friedman has been widely known as a proponent of organ sales, the debate offered an anticipated exchange of opinion, with my presenting an opposing view. The arguments that Dr. Friedman made in that debate years ago and those used in the current reflection in *Kidney International* are the same; there is nothing new. So why has the United States Congress not adopted the recommendations of the Friedmans to "establish a federal agency to manage the marketing and purchase of donor kidneys in collaboration with the United Network for Organ Sharing"?

As the current president of the United Network for Organ Sharing (UNOS), permit me to make clear that there is no resolution before the UNOS Board of Trustees to consider such a proposal — nor will there be a recommendation to do so. Second, also perhaps to the authors' dismay, Congress did not accept those debate arguments made years ago by Dr. E. Friedman, in the drafting of the 2004 legislation by Senator William Frist. Unequivocally, Congress rejected them. The Frist legislation had no provision that would postulate a federal government program to petition the poor to sell their kidneys. The reasons for that congressional opposition were not detailed in the report language associated with the legislation, but my personal conversation with congressional staff brought forth a fundamental ethical principle: selling one's kidney, selling a part of one's liver, or selling any other part of one's body violates the dignity of the human person. If this were not true, then Congress might be obliged to consider a parallel public policy that would permit its citizens to sell more than just their body parts. The key contention of the authors that one can dispose of one's body as one sees fit did not overcome what otherwise would have been a contentious battle of society before Congress to the contrary. Further, the notion that society's acceptance of other high-risk activities is a basis to endorse kidney selling was not found by congressional staff to be realistic. There are high-risk activities, but military service or coal mining is not perceived as prostitution.

Notwithstanding the writings of Drs. Friedman and Friedman and others cited in their commentary, Congress is well aware that the current opposition to a regulated market of organ sales in the United States remains formidable. This opposition includes the National Kidney Foundation, the American Society of Transplant Surgeons, and The Transplantation Society (international). Thus, unless Congress were to be apprised of an overwhelming consensus of the public and the transplant community to change the current federal law, the authors may have to acknowledge that their arguments are not sufficiently compelling to do so. The 1984 National Organ Transplant Act that prohibits organ sales imposes the burden on those who would change the law to muster the forces, but those concerted forces plainly do not exist.

The Friedmans have presented their thoughts not just from a United States perspective but to an international readership

via *Kidney International*. There is indeed an international concern that the poor of several countries are selling kidneys to affluent individuals who have the resources to make that purchase. These sales are inherently coercive. What evidence do the authors have that enables the conclusion that the "sale of purchased donor kidneys [that] now accounts for thousands of black market transplants" is "voluntary"?

The World Health Organization has recently conducted regional meetings in Manila and Karachi to obtain the insights of health officials about the transplant tourism that is occurring. Regional officials agree that the black markets must be eliminated by a concerted effort of the United Nations, just as the black markets for the sale of women and children must be addressed.

The Friedmans seem out of touch when they suggest that "the number of deceased donor kidney transplants performed in the United States has been relatively static over the past decade." As a result of the Organ Donation Collaborative, the United States is in the midst of unprecedented increases in the number of deceased organ donors.

Finally, the Friedmans pose this question, seemingly the ultimate one for them: "What then is to be done to ease the shortage of kidney donors?" Well, the authors might be just as fervent in recommending national policy that brings preventive medicine to improve public health. Obesity, hypertension, adult-onset diabetes, and atherosclerotic disease are major components of the increasing necessity for kidney transplants. Preventive medicine is omitted from the table of the authors' solutions.

The "system failure" that the authors decry is not only at the doorstep of organ donation when the expansion of the waiting list for kidney transplants is heavily composed of the elderly whose poor medical care has resulted in end-stage renal disease.

The frequency with which patients die with a functioning graft in the immediate post-transplantation period may be reflective of the medical unsuitability of some patients to undergo renal transplantation.[6] If so, then perhaps the authors would consider that the true system failure may be the expectation that the central solution resides in a limitless number of human organs. Unless and until an organ supply is derived from genetically manipulated pigs, some patients may die when the omission of preventive medical care has resulted in end-stage organ failure.


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**see mini review on page 960**

# Rewards for organ donation: the time has come

AP Monaco[1]

**Strategies to expand the pool of solid organs for transplantation have had only limited success. Waiting times exceeding 5 years and/or waiting mortality are not uncommon. A system of financial rewards for living and deceased organ donation is proposed. The reward program would be administered by the federal government. Donors or beneficiaries would receive a fixed financial reward, similar to the payout of an insurance policy, from a federal agency. Such a system would be consistent with similar financial rewards given in our society to recognize instances of personal self-sacrifice and risk taking performed for the benefit of others.**

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In their article "Payment for donor kidneys: Pros and cons,"[1] in this issue (p 960), the very distinguished transplantation experts Eli and Amy Friedman present a thoughtful, well-organized, balanced analysis of the reasons to consider establishment of a "federal agency to manage the marketing and purchase of donor kidneys in collaboration with the United Network for Organ Sharing." I agree with the concepts and direction of their arguments to consider some type of compensation or financial reward for organ donation. I do differ in the details of how such a policy should be implemented. Also, I do not think that the function of such an agency should be described as the management of the marketing and purchase of donor kidneys — but more about that later.

The facts as presented are irrefutable: the number of people sustaining end-stage renal failure annually continues to grow, the number of available kidneys (from living and deceased donors) that are successfully transplanted remains below the number required to keep up with this growth, and the time on the waiting list continues to increase (more than 5 years in many regions). A substantial number of people (7%) waiting on the list die each

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year without transplantation. All of our imaginative and well-intentioned efforts to increase the donor pool have had only a minimal impact on the number of donor kidneys available for transplantation. Use of so-called 'marginal' or 'expanded donor' kidneys has increased the available donor pool, but only modestly, and it could be argued that many of these kidneys fail earlier than living-donor or standard deceased-donor kidneys, thereby increasing the number of people returning to the wait list and reducing the long-term overall beneficial effect. Similarly, the superior results achieved with living kidney donors, even with non-related, non-consanguineous donors, have been an unexpected impetus to use less-than-ideal living donors. Use of donors with two-drug-controlled hypertension is not unusual, let alone single-drug-controlled hypertension. My impression is that we have lowered the bar in a dangerous way in the selection of kidney donors, both deceased and living — a possibility that has drawn increasing attention in the lay press.[2] Furthermore, a number of thoughtful, well-intentioned strategies — exchanges (swaps) between one or more ABO-incompatible living-donor recipient–donor pairs or cross-match-incompatible pairs (or even combinations thereof) — have been implemented.[3] These maneuvers add a few additional transplants to all programs, but their overall effect in expanding the donor pool, in my experience, is negligible. Advances in basic science research that would facilitate generation and growth of human solid organs (kidneys) *in vitro* and/or permit transplantation of xenogeneic organs are no doubt years away. We need a bold, new approach to increase the available kidney donor pool.

The extraordinary effectiveness of kidney transplantation, especially living-donor kidney transplantation, to essentially cure, for a very long time, end-stage renal disease has brought into prime focus the urgent need to consider possible alternatives in the form of rewards and/or financial compensation to expand the donor pool. Finally, this concept is beginning to get the attention it merits. Eli and Amy Friedman present a concise and effective analysis of the arguments for and against a formal federally regulated system to encourage living-donor kidney donation by financial compensation.[1] They explain that financial compensation for organ donation (as opposed to reimbursement for expenses incurred or loss of income) has been strictly prohibited in the United States by the National Organ Transplant Act, which makes the acquisition of any human organ for valuable consideration (money) for use in human transplantation punishable by fines and imprisonment. This legislation was well intentioned and basically was designed to protect the poor and disenfranchised from potentially dangerous and unhealthy exploitation by unscrupulous middlemen and avaricious brokers. Such legislation has been quite effective in the United States, but an extensive black market in living-donor kidneys — many of marginal quality and transplanted under less than optimal conditions, frequently by surgeons of limited quality and experience — has flourished in a number of countries around the world.[4] The number of American patients who use these organ black markets has grown; the presence of such patients seeking post-transplantation care is now commonplace in most American programs.

Government prohibition of the unregulated sale of kidneys to protect the poor from exploitation is appropriate and certainly justified. Similarly, government influence on, and management and regulation of, the way organs are obtained, processed, and distributed to ensure organ quality, safety, and fair access is also a proper, desirable, and critical role for government. On the other hand, the idea that any type of gain, reward, or compensation — financial or otherwise — for organ donation is unethical and inherently undesirable does not necessarily follow. Rewards for doing good, for making self-sacrifices, for taking personal risks to help others in one's family, community, or country are evident in every fabric of modern Western society. Numerous examples can be given, but perhaps the most obvious in the United States is voluntary military service. The overwhelming majority of volunteers for the United States Military are motivated by idealism and patriotism, but they are also encouraged to volunteer with inducements of paid college educations, enlistment bonuses, reenlistment bonuses, and substantial financial recovery for injury or mortality.[5] It is not surprising that minority-group members with limited financial resources are numerically disproportionately represented in the military. Likewise, significant numbers of noncitizen immigrants volunteer for military service and are eventually rewarded for their service by American citizenship (a route taken by my own father in World War I). Thus, the concept of encouraging and rewarding acts of self-sacrifice and personal risk taking to help others — acts essentially motivated by love, altruism, idealism, patriotism, or the like — with valuable considerations (including money) is unequivocally established and considered ethically acceptable, even with the realization that more poorer people will undertake self-sacrifice and personal risk in part to gain the financial rewards.

Another interesting aspect of the debate on financial rewards for kidney donation has been raised by the rapid acceptance of totally altruistic kidney donors[6], so-called Good Samaritan donors. These are people who present themselves as kidney donors to anyone on a transplant program's waiting list. Their motivation is total, unadulterated altruism. They have not met and have no emotional or social connection to the recipient prior to the transplant. Whereas use of such donors was initially considered inappropriate, they are now accepted in a majority of American programs. My own experience with such donors[7] is that they are the most selfless, committed, sacrificing people. A significant number of these individuals are of limited financial means. They certainly do not seek financial gain in their donation. Nevertheless, if a financial reward for kidney donation existed, would it be inappropriate to provide it to them? Would it make them less altruistic? Would their gift and sacrifice be less meaningful and meritorious? I think not.

I think the biggest problem in initiating a system of financial rewards for kidney donation is the fact that both opponents and proponents (see Friedman and Friedman[1] in this issue) refer to the activity exclusively as buying and selling organs.

Buying and selling implies financial negotiation between recipient (buyer) and donor (seller), suggests higher or lower prices in the face of variations in value and quality, may involve brokers and middlemen, and so on. Certainly this is not desirable. We need a government-regulated, scrupulously supervised program in which a person or his or her estate receives a fixed valuable enhancement or reward for organ donation. No less a personage than Paul Terasaki suggested that donors be rewarded with a valuable gold medal — the implication being that it could be kept or sold according to the donor's wishes.[8] I envision a scheme in which a government insurance trust fund is established and administered by a federal agency or commission. A fixed-amount specific reward or honorarium for organ donation would be provided to living organ donors or to beneficiaries of estates of deceased donors. The reward would be disbursed by the federal agency in essentially the same manner as the payment of an insurance policy. Payment would be implemented after notification and certification of the donation by accredited transplant programs, and confirmation of the donation by the United Network for Organ Sharing or government health agencies. Again it must be emphasized that this would not be the buying or selling of organs; it would be a specific, fixed-amount reward for organ donation. Interestingly, a reward of $40,000 to $80,000 has been suggested as financially feasible,[9,10] with enough savings possibly generated by reduced dialysis costs to make the system self-sustaining. Obviously, this very limited description of this concept is an extreme simplification of what would be a complex system necessary to assure accurate and honest implementation of rewards that should encourage both living-donor and deceased-donor organ donation.

One final note: There is concern in both major American political parties that any government effort to pay rewards for organ donation could be interpreted as advocating a policy that is directly exploitive of the poor. There is obvious reluctance to take a strong leadership role in this effort on the part of both parties. The government should establish a nonpartisan federal commission to study all aspects of the organ shortage and recommend ways to remedy it, with particular emphasis on a system to provide financial and/or other types of valuable rewards for organ donation. Establishment of such a nonpartisan commission would be a critically important initial step in seeking a solution to this vexing problem of shortage of solid organs for transplantation.

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# Voluntary reciprocal altruism: a novel strategy to encourage deceased organ donation

DW Landry[1]

**New strategies are needed to encourage organ donation. Altruism, the impulse that underlies our present system, is undermined by proposals that provide tangible inducements to improve donation which are, in their own subtle ways, coercive. I propose a new strategy based on implementing an option to donate that reinforces the strong reciprocity which drives anonymous altruism.**

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The Friedmans' proposal[1] (this issue) to pay for deceased organs underscores the failure of the current system to provide adequate numbers of donations.

Delmonico's critique[2] (this issue) concludes with an argument for public health initiatives to reduce the demand for donations, but he too seeks new strategies to increase supply and favors incentives as long as they are ethical.[3] The ethics and effectiveness of incentives to next of kin, such as priority points should any need a transplant, are subject to debate. The most benign of the ethical incentives — a gold medal commemorating the donation — is unobjectionable, but this inducement is also unlikely to be compelling for many. Another approach would increase the donor pool by presuming consent unless it is actively revoked by the prospective donor, but this is vastly unpopular, because it is seen as coercive and failing to respect the individual.[4]

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Clearly, we need to develop a new strategy to encourage the donation of deceased organs. Many factors must be considered in the design of such a strategy, but I would emphasize the following few.

**Donor over next of kin**

The prospective donor must be the focus of the strategy, not the next of kin. Although donation must be assented to by the next of kin, whether they do assent depends critically on whether the donor ever expressed the preference to donate.[5] Thus, the successful strategy must persuade potential donors to state a preference for donation. Effective implementation requires public policy consideration of donor awareness and recognition of donor status. A national campaign to publicize the problem of inadequate organ donation and to promulgate the details of a new system would promote donor participation and assent of next of kin. A uniform standard for recognizing donor status could be achieved through a federal standard for the current declaration on the driver's licenses of some states.

**Self-interest over disinterest**

The strategy must engage the self-interest of the prospective donor in order to overcome the natural reluctance to face one's mortality. A significant effort may be required to overcome paranoia about the possibility of a premature harvesting of organs or to transcend squeamishness at the thought of personal dissection. Even altruistic decisions, which by definition are without direct reward, must be reinforced by some personal utility — a subjective preference shaped by the possibility of reward or the risk of punishment — if they are to reoccur reproducibly in large populations. But, beyond the absence of tangible consequence, organ donation provides scant psychological or spiritual reward for most, and the utility curves are skewed far from donation. An effective system must engage self-interest to create a new bias in favor of donation.

**Virtue from self-interest**

The strategy must yield a structure in which the pursuit of self-interest leads to just results. The obvious injustice in the current system falls on recipients who languish on waiting lists while organs are discarded that could have been donated, and this will be redressed if the strategy effectively increases donation. Another is embodied in the lack of fairness of the many recipients who at one time refused to agree to donate but now receive organs ahead of those who bore the burden of agreeing. John Rawls's *A Theory of Justice* provides criteria for evaluating institutions and social structures for the extent to which they promote justice as fairness.[6] His simple exposition on "perfect procedural justice" illustrates how an ideal system reinforces justice: If two people agree to divide a pie evenly and the one who cuts chooses his or her piece, fairness will depend on good will overcoming self-interest; in contrast, the system in which one cuts and the other chooses will always give a just result, because self-interest is aligned with a fair outcome. The result is just, not despite but especially because of each party's pursuit of his or her own self-interest. The strategy for promoting donations must align the self-interest of the prospective donor with the fair and just decision to agree to donate.

**Reciprocity despite anonymity**

The possibility of reciprocity must be emphasized despite the anonymous relationship of donor and recipient. Organ donation is the quintessential charitable act, a literal 'gift of self'. The altruistic impulse must be reinforced not undermined by compensation. But what then can be given? EO Wilson's *Sociobiology* provides an insight.[7] Altruism can be conceived as an adaptive strategy that is reinforced the greater the possibility of reciprocity. Altruism, if supported by "strong reciprocity" that incorporates a propensity to reward altruists and punish the violators of altruistic norms,[8] can operate anonymously in social structures to favor cooperation. Reciprocity must be highlighted in the strategy and an element of strong reciprocity incorporated.

**Flexibility over efficiency**

A strategy involving persons that regards efficiency as the sole good to be optimized devalues the individual and affronts human dignity. The strategy should not be coercive or exclusive. It must incorporate flexibility. For example, participation in any novel element must be voluntary. Participants must be able to change their minds without undue penalty.

But can these sometimes conflicting considerations be harmonized on the back of a driver's license? I propose a synthesis based on providing an option that reinforces the strong reciprocity that bolsters anonymous altruism. The resulting strategy, *voluntary reciprocal altruism*, is embodied in two questions:

(1) I would want an organ transplant to save my life. Check one:

- ☐ yes
- ☐ no

(2) In the event of my death, I agree to the donation of my organs. Check one:

- ☐ yes
- ☐ no
- ☐ yes, with a preference to donate to those who agree to donate their organs

The first resolution in one stroke moves the issue of reciprocity front and center: to do unto others as you would have them do unto you. This resolution is non-binding but is designed to arouse the conscience.

The second resolution raises a doubt in the mind of the respondent: Is there a penalty for choosing "no" (selfishness) rather than the unqualified "yes" (altruism) or the qualified "yes, but reciprocally" (strong reciprocity)? And there is a penalty for a negative response: in the event that the "no" responder needs an organ, perhaps the strong reciprocators will have restricted enough of their organs to affect adversely the possibility of transplantation. Conversely, the unqualified affirmative response obtains a reward in the form of access to a new pool of organs created by the strong reciprocators. The drive found in many for strong reciprocity may by itself increase the numbers of donors, because "yes, but reciprocally" now becomes a mechanism to reward social cooperation and punish the violator of norms. Game theory allows us to sketch utility curves, but a quantitative analysis is not needed to appreciate how self-interest biases the decision and shifts the preferences toward donation. The

novel element in the system, the third choice, is voluntary, and those who aspire to pure altruism can shun it.

Note that the preference accorded the recipient who is also an avowed donor need only tip the scales if the clinical priority for competing recipients is balanced. The subtlety of the preference is important because giving an organ to a non-critically ill avowed donor rather than a critically ill non-donor would offend the conscience as a violation of mercy. Also, generosity would extend the priority to all individuals without driver's licenses, thereby covering minors, the elderly, and the profoundly impoverished.

Finally, the ill could participate in the program even if the likelihood that their organs would be accepted for transplant were vanishingly small. In fact, initially everyone on the recipient list would be eligible to simply declare themselves donors to avoid exclusion. No one would want to be on the waiting list and not be eligible for additional organs. Someone who initially chose "no" for the second question could reconsider at any time and move to a "yes" category but with the stipulation that priority status would lag 5 years to avoid 'sickbed conversions'. Those who fail to choose would be classified, as now, as a "no," and thus the 5-year lag in changing status would penalize procrastinators and encourage a timely decision.

Could such a simple paradigm really succeed?

An unscientific survey argues yes.

A sample of 115 first-year medical students were told that a new strategy to encourage donations was under consideration. When question 1 as above ("I would want an organ transplant to save my life") was presented, 100% responded yes; no one would decline transplantation in this population. When question 1 was followed by question 2 as above ("In the event of my death, I agree to the donation of my organs," the total yes votes for question 2 rose to 94% (74% unqualified yes, 20% yes but reciprocally, 2% no, 4% no decision). The baseline agreement to donate by this group was 59%. The increase in both unqualified and qualified affirmative responses suggests that voluntary reciprocal altruism could be a robust strategy to increase donations.

A pilot study is needed.

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http://www.kidney-international.org



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# Payment for donor kidneys: Pros and cons

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**Continuous growth of the end stage renal disease population treated by dialysis, outpaces deceased donor kidneys available, lengthens the waiting time for a deceased donor transplant. As estimated by the United States Department of Health & Human Services: '17 people die each day waiting for transplants that can't take place because of the shortage of donated organs.' Strategies to expand the donor pool – public relations campaigns and Drivers' license designation – have been mainly unsuccessful. Although illegal in most nations, and viewed as unethical by professional medical organizations, the voluntary sale of purchased donor kidneys now accounts for thousands of black market transplants. The case for legalizing kidney purchase hinges on the key premise that individuals are entitled to control of their body parts even to the point of inducing risk of life. One approach to expanding the pool of kidney donors is to legalize payment of a fair market price of about $40 000 to donors. Establishing a federal agency to manage marketing and purchase of donor kidneys in collaboration with the United Network for Organ Sharing might be financially self-sustaining as reduction in costs of dialysis balances the expense of payment to donors.**

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In early September, 2005, 65 000 candidates were listed in the United States by the Organ Procurement and Transplant Network as waiting for a deceased donor kidney (http://www.optn.org/latestData/rptData.asp).[1] At least 3000, of those on the wait list who will die each year might have survived had a suitable donor kidney been available.[2] The United States Department of Health and Human Services advises: 'Each day, about 74 people receive an organ transplant. However, 17 people die each day waiting for transplants that cannot take place because of the shortage of donated organs.'

Intensive public relations efforts, celebrity endorsements, National Kidney Foundation efforts and State Drivers License advance permission have not increased the number of deceased donor kidney transplants in the United States over the past decade. As listed by the United Network for Organ Sharing,[3] while kidney transplants performed between 1988 (8873) and 2004 (16 004) increased by 80.3%, deceased organ transplants in the same interval increased only 32.5% from 7061 to 9357).

To address this shortage of donor kidneys, acceptance of what previously have been termed 'marginal' kidneys termed 'expanded criteria donors' from geriatric, hypertensive, and even proteinuric donors has increased progressively.[4] Purchasing kidneys from compensated donors, a highly controversial and evocative issue, has gradually evolved from an unmentionable practice performed occultly in developing (poor) countries to be openly debated by the American Society of Nephrology and the American Transplantation Society.

Selling a human organ in the United States is proscribed. The National Organ Transplant Act states: 'It shall be unlawful for any person to knowingly acquire, receive, or otherwise transfer any human organ for valuable consideration for use in human transplantation if the transfer affects interstate commerce'[5] Punishment includes fines up to $50 000 and/or 5 years in prison, but has not been meted out. A year after enactment of National Organ Transplant Act, the Ethics Committee of the Transplantation Society issued a supporting Policy Statement: 'No transplant surgeon/team shall be involved directly or indirectly in the buying or selling of organs/tissues or in any transplant activity aimed at commercial gain to himself/herself or an associated hospital or institute.'[6] Within 5 years, several countries and the World Health Organization issued similar bans.[7]

Medical associations globally decry the sale of human organs, transactions deemed 'morally and ethically irresponsible,' or 'inhumane and unacceptable.' Berkeley anthropology professor Nancy Scheper-Hughes who has studied actual conditions and consequences of kidney sales in Brazil and other countries believes permitting legal solid organ sales would permit 'one relatively privileged population [to] claim property rights over the bodies of the disadvantaged.'[8]

Near universal strong condemnations of selling organs have been issued by voluntary health agencies and religious authorities including Pope John Paul II who wrote that buying and selling organs violates 'the dignity of the human person.'[9] American transplantation associations repeatedly endorsed the stance that paying donors for their organs was not only illegal but unethical. Furthermore, the American Society of Transplant Surgeons expounded the position that solicitation for organ donation is inappropriate, even absent the exchange of 'valuable consideration': The American Society of Transplant Surgeons is opposed solicitation of organs (deceased) or organ donors (live) by recipients or their agents, whether through personal or commercial websites, billboards, media outlets, or any advertising when the intent of such solicitation is to redirect the donation to a specific individual rather than according to the fair policies of allocation (United Network for Organ Sharing policy on organ allocation).[10]

What then might ease the shortage of kidney donors? Congress has been urged to conduct a trial to assess the value of compensating deceased donor families as well as to test some form of payment to live kidney donors. Dr Francis L Delmonico, Director of renal transplantation at Massachusetts General Hospital, speaking on behalf of the National Kidney Foundation, testified to congress: 'Congressional endorsement of a payment for organs … could propel other countries to sanction an unethical and unjust standard of immense proportions, one in which the wealthy readily obtain organs from the poor, justified by the citation of congressional sanction. In that reality, the poor person will remain poor but lose health and maybe more than one organ in the process of a government authorized abuse of the poor for the rich.'[11]

By contrast, some transplant surgeons advocate regulated sale of kidneys to prevent death of as many as 100 000 people annually. At the American Transplantation Congress, Arthur Matas of the University of Minnesota transplant team, noting that a wait time of over 5 years, induces death on the waiting list of 7% annually, called for a regulated system of living kidney sales.[12] The Matas proposal includes careful donor medical and psychosocial evaluations with a fixed tax-free payment to the donor plus an option of short- or long-term health and life insurance. Matas pointed out that surrogate mothers are individuals who benefit others without losing their dignity or becoming victims. Similarly, paid organ donors are not victims who unable to determine what happens to their body.

In early 2006, the lessons learned from the wild and extensive racketeering spawned by America's 1920s 'Prohibition' of alcoholic beverages are pertinent. Clearly, legislation, *per se*, may not force human behavior compliance.[13] Thus, while the sale of human organs is against existing law, in nearly every country, illegal kidney transplants are widely available through devious and often unsavory vendors in India, Turkey, China, Russia, and South Africa as described in the New York Times.[14] Organs Watch, a non-government transplant monitoring organization, estimates that '…thousands of illegal transplants occur every year bought by patients from the Persian Gulf states, Japan, Italy, Israel, the US and Canada supplied by 'donor' nations, including India, Pakistan, Turkey, Peru, Mexico, Romania, and South Africa.'[15] The late Michael Friedlaender, a transplant nephrologist at Hadassah University Hospital in Israel, remarked: 'What's happening now is absurd. Airplanes are leaving every week. I've seen 300 of my patients go abroad and come back with new kidneys… it's a free-for-all.'[16] Friedlander characterized today's kidney market as forcing potential kidney purchasers to be 'exposed to unscrupulous treatment by uncontrolled free enterprise.'

Voices favoring kidney sales are becoming more evident. For example, a surprisingly positive endorsement for legalizing human organ sales was provided by Robert Berman of the Orthodox Jewish Halachic (*interpreted by orthodox rabbis*) Organ Donor Society writing in the Jerusalem Post of 9 August 2005: 'The choice before us in not between buying or not buying organs. This is happening regardless of the law. The choice is whether transplant operations and the sale of organs will be regulated or not.'[17]

Nobel Laureate (Economics), Gary S Becker and his co-worker Julio J Elias established a 'market price' for a live donor kidney as a commodity.[18] Assuming that an American earning a mean of $40 000 annually has a life valued at $3 million, faces a risk of death from nephrectomy of 1%, a decrease of 5% in quality of life, and will lose $7000 of income due to convalescence from surgery, they calculated a kidney purchase price of $45 000. Using a more probable death risk of one in 300 nephrectomies (the true reported risk is three in 10 000);[19] reduces the kidney price to $20 000. Our current non-system promotes a kidney black market available only to the wealthy who bear the total expense for what may be inadequately screened, suboptimally matched organs inserted by unregulated (inferior?) surgeons. Becker and Elias's proposal would end advantages of wealth in organ acquisition since poorer individuals would obtain their kidneys via Medicaid or Medicare.

Each of us may opt to engage in risky behaviors (e.g. sky diving, volunteering for military service, working on oil rigs, and smoking cigarettes). Lacking wealth does not preempt making a rational decision. Prohibiting the poor from donating organs leaves them still poor; consequently, according to Matas, withholding the ability to be paid for donation eliminates one path to improve a person's financial situation. Just what is so ethically wrong? How is it worse than selling one's sperm or egg cells, actions now legal and widely advertised? Indeed, commercialization of semen and

ova is more morally questionable than organ sale because those cells might create entirely new human beings.

In his 'Advice to the Ethics Committee of the Transplantation Society,' AS Daar, Director of the Program in Applied Ethics and Biotechnology, University of Toronto, writes: 'The position of the Transplantation Society is that the buying and selling of organs is wrong, that we must base transplantation on altruism, that we must encourage legislation to ban commerce, and that any member of the Transplantation Society who participates in the buying and selling of organs will be expelled from the society. Adopting this position on its own has been totally useless in stopping the increase of the buying and selling of organs.'[20] Trong[21] recently thoughtfully reassessed the ethics of accepting living donor organs.

Introducing appropriate legalization to regulate and manage kidney sales through a national regulatory body would be a 'natural' extension of the present end stage renal disease network collaborating with United Network for Organ Sharing and the OPTN. Eliminating black market brokers would divert funds to kidney sellers. Money saved by decreasing the number of dialysis patients might fund additional kidney transplants. Reservations that adoption of a federal organ marketing scheme necessitates further 'socialization' of our health care system are reasonable. Insertion of yet another federal agency to 'supervise' presently over regulated nephrologists and transplant surgeons is a less than attractive proposition. But, the mandate underlying this essay is consideration of endorsement of a strategy for resolution of a problem that has grown into a serious conundrum. At the least, debating the controlled initiation and study of potential regimens that may increase donor kidney supply in the future in a scientifically and ethically responsible manner, is better than doing nothing more productive than complaining about the current system's failure.

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