

The prohibition of kidney sales and organ markets should remain

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Current Opinion in Organ Transplantation 2008, 13:386–394

Purpose of review

There is an ongoing vigorous debate regarding the wisdom of the current prohibition of organ sales in the United States. We argue that this prohibition must remain in place. We discuss the current international realities regarding organ vending in order to show that even a so-called 'regulated' market brings with it danger to the welfare of transplant donors, their recipients, and potential recipients of nonrenal organs. We counter the specific arguments made in favor of organ sales while recommending multiple measures that can serve to remove disincentives to noncommercial organ donation. We encourage the investment in innovative healthy transplant practice for the benefit of all.

Recent findings

In 'natural experiments' performed in developing countries the outcome for kidney vendors, in terms of both their medical and psychosocial health, has been shown to be poor. A high incidence of serious infections has been reported in recipients of vended organs.

Summary

Commercialization of living kidney donation does not serve the interests of the donors, endangers the health of recipients, and undermines the healthy development of the international transplant endeavor.

Keywords

living kidney donation, organ vending, transplant ethics, transplant infections

Curr Opin Organ Transplant 13:386–394
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1087-2418

Introduction

The idea that a commercialized system of organ sales can supplement or even replace the noncommercial donation system that has been the core of transplant practice since its inception is not new. Kidneys and livers are bought and sold in several regions of the world, and though it might be tempting to think that the evils that are associated with such commercialization will necessarily escape a 'regulated' market in the United States, we will show that such an intention is not attainable. The market experiments done in other countries that have attempted to 'regulate' the market for organs have been unsuccessful in fixing prices, excluding the activities of brokers or addressing the health of paid donors. We will review the current international reality of organ sales both of the proposed 'regulated' and existing 'unregulated' variety and consider how a commercialized system would impact solid organ transplantation in the United States. The commercialization of organ donation is fraught with danger: danger to paid donors; danger to their recipients; danger to patients in need of nonrenal transplants from deceased donors; and danger to the role of transplant professionals as stewards of the whole organ transplant endeavor. The trust of the public and the legacy of transplantation are at risk if organ

markets are sanctioned in the United States or the rest of the world.

The current state of commercial organ donation and the reality of organ sales in the world

The extent of organ sales from commercial living donors or vendors has now become evident. The World Health Organization (WHO) estimates that organ trafficking accounts for 10% of the approximately 60 000 kidney transplants performed annually throughout the world [1]. Patients with sufficient resources in need of organs may travel from one country to another to purchase a kidney (or liver) mainly from a poor person. Transplant centers in 'destination' countries encourage the sale of organs to 'tourist' recipients from the 'client' countries [1]. Evidence of the demand for purchased kidneys has also been revealed in data from the People's Republic of China (PRC) which recorded 11 000 organ transplants from executed prisoners in 2006. Eight thousand of these transplants were performed in kidney recipients. Since the PRC legislation reduced the number of foreign patients traveling to China to undergo organ transplantation in 2007, countries such as Pakistan and the Philippines have

supplanted the PRC as the go-to destination [2[•]]. In these two countries donors targeted to provide kidneys for rest of the world have been alive and poor.

An Administrative Order had been drafted by the Secretary of Health of the Philippines that was originally intended to convey official governmental sanction for transplant tourism of foreign patients that would overcome what was an illegal practice of organ sales in the Philippines. The market in Manila had been previously considered an 'unregulated' market in organ sales because it lacked transparency, was conducted by brokers, and used the Filipinos of slums as the source of the donor kidneys. Fortunately, the Administrative Order has since been revoked but if it had been officially promulgated by the Philippine Secretary of Health, would this have transformed the Filipino market from an unregulated market to a regulated market? If the price for organs is (intended to be) fixed and a government agency administers the sales for a list of patients awaiting transplants (including those from all around the world), does this satisfy the definition of 'regulated'? Are these stipulations sufficient to make the market a reputable practice to inexorably receive international sanction? These are rhetorical questions that demand a negative reply.

'Regulated' remains unethical because fixed prices without brokers are not attainable and because the poor are the donor source of the organs. The Filipino market that was initially proposed by the Administrative Order (that has no limit of foreign rich patients) entailed the use of a class of poor and disadvantaged people, who happen to reside in the Philippines, as the targeted group from whom kidneys and other organs would be obtained. The revocation of the Administrative Order reflects the realization by Filipino authorities of the inevitable exploitation of their vulnerable underclass.

Organ sales entail organ trafficking

The following definition of organ trafficking is derived from the United Nations Trafficking in Persons (http://www.unodc.org/unodc/en/trafficking_human_beings.html). Organ trafficking entails the recruitment, transport, transfer, harboring or receipt of persons, by means of the threat or use of force or other forms of coercion, of abduction, of fraud, of deception, of the abuse of power or of a position of vulnerability or of the giving or receiving of payments or benefits to achieve the consent of a person having control over another person, for the purpose of exploitation by the removal of organs, tissues or cells for transplantation.

The above-mentioned United Nations definition of organ trafficking captures the various exploitative measures used in the processes of soliciting a donor in

a commercial transplant. The reason to oppose organ trafficking internationally is the global injustice of using a vulnerable segment of a country or population as a targeted source of organs (vulnerable defined by social status, ethnicity, sex or age). In Pakistan, bonded laborers are used as the source of kidneys [3]. Exploitation is at the core of organ sales whether it is intended to be 'regulated', (or as has been the Iranian experience) or not [4]. The proponents of organ sales in the United States are not obviously advocating the use of a bonded laborer as a donor source. However, they acknowledge that the poor person will be the likely target for appeals to sell a kidney. The views of proponents of organ sales in the United States have been a reference for other countries such as Pakistan and the Philippines to propel those unethical programs that use the bonded laborers and slum victims as the vendor sources.

The myth of 'choice': the false premise that a vendor is autonomous

In the 'case for allowing kidney sales', Radcliffe-Richards [5] proposed the use of direct payments to a vendor as a remedy for the poor to lift themselves out of destitution ('at least temporarily'). Indeed, the Radcliffe-Richard's position has been known by the international community for nearly a decade and yet her proposal has been repeatedly rejected, for example, by several ethicists. For example, Epstein [6[•]] has written that claiming 'selling organs to be the epitome of liberty and autonomy is a particularly ingenious way of concealing the potential coercion underlying such choice'. 'It overlooks the simple empirical fact that people free from poverty do not face the prospect of having to choose, autonomously or nonautonomously, between selling their body parts and letting their children starve'. As Hughes [7] has noted, if 'the economic circumstances of poor people are the consequences of economic injustice, then commercial markets in human kidneys rely on economic injustice to provide kidney vendors'.

There is no autonomy in being poor and using any means to resolve destitution. Thus, our perspective is not an indictment of the poor but the rich who use them and the physicians and hospitals who are complicit in the secondary gain of organ markets. Perhaps some individuals can indeed make that decision voluntarily but that debatable contention is not a sufficient reason to accept the fundamental exploitation of poor people by the rich to get at their kidneys. There are those who, out of desperation, voluntarily accept indentured servitude but that station in life is also unethical and in many places illegal, again because of the inherent victimization and exploitation of the individual.

Impact of commercialization on the care of kidney donors and the role of trust in living organ donation

The commercial transaction is, by definition, a central aspect of organ sales. The organ becomes a commodity and financial considerations a priority for the involved parties rather than the health and welfare of recipients and donors. Trust is at the core of healthy transplant practice [8^{*}]. The decision to progress with donation requires refined clinical judgment by the medical team and critical thinking by the donor. The medical evaluation of overtly healthy donors is not merely a matter of completing a health questionnaire, getting some laboratory tests, and radiographs. Two recent reviews of the donor evaluation process attest to its complex and nuanced nature [9,10]. The process also includes a psychosocial and/or psychiatric evaluation to assess, among other things, for the presence or extent of coercion, overt or covert depression, and unrealistic expectations [11^{**}]. The psychosocial evaluation is particularly important when the prospective donor has neither a biological or strong emotional relationship to the recipient and specific guideless have been developed for this circumstance. Critical information regarding the risks of donation for both the donor and the recipient cannot be obtained by medical testing alone. Some examples of critical donor information not available by medical testing alone are as follows [12]:

- (1) Family history of kidney disease
- (2) Use of blood pressure medications
- (3) History of kidney stones
- (4) Family history of diabetes
- (5) History of gestational diabetes
- (6) Exposure to infectious agents
- (7) Distant history of malignancy
- (8) High risk sexual activity
- (9) Recreational drug abuse
- (10) History of psychiatric illness.

A thorough and satisfactory donor evaluation, therefore, requires honesty, goodwill, trust, and transparency between the potential donor and the physician performing the evaluation. In traditional noncommercial donation, these positive attributes can generally be presumed because of the mutual interest for a favorable outcome for the donor, the recipient, and their respective physicians. In this respect the donor evaluation process is no different from any other physician/patient interaction. Noncommercial living donor transplantation is indeed associated with very low medical risk for the donor, with excellent outcome for the recipient, and with measurable gains in terms of the psychosocial health of the donor. A systematic review of the psychosocial health of over 5000 donors revealed that the great majority reported

stable or improved relationship, improved self-esteem, and high quality of life. Anxiety and depression were uncommon [13]. These gains are most gratifying, though they should not be taken for granted.

What effect might commercialization of living donation have on the process just outlined? Not surprisingly, reliable outcome data for both the donors and the recipients of commercialized donation are sparse and fragmentary. Unethical and even criminal exploitation of vulnerable donors is well documented and it is unlikely that these unfortunates ever had the benefit of a recognizable doctor/patient relationship. Recipients of vended kidneys suffer a high rate of infectious complications not all of which could have been easily prevented by routine evaluation. Reports from Canada, Australia, and the United States have documented an approximately 50% rate of serious and life-threatening complications in recipients of vended kidneys [14]. A noteworthy report from Pakistan comparing the health of vended donors to a control population of noncommercial donors revealed a high incidence of both hepatitis C and B in the vended donors who also had evidence of compromised renal function [15^{**}]. These findings suggest that financial incentives have resulted in a systematic breach of trust by the donor to the physician, the physician to the donor, and both or either toward the unwitting recipient.

Can the overall positive balance between the psychosocial benefits for the altruistic donor and the intrinsic risks of donation be maintained in a commercialized environment? Available evidence suggests that it cannot [1,3,15^{**},16,17]. Available studies from countries where kidney selling is permitted or uncontrolled suggest that the lump sum that the paid donors receive has little impact on their long-term financial security and that many end up worse-off, financially and otherwise [1]. Iran is the only country where paid donation is officially sanctioned and encouraged. A report of the Iranian program commented little on the fate of the donors themselves but indicated that 84% of over 15 000 paid donors were poor and that the program ‘...neither has enough life-changing potential nor has enough long-term compensatory effect, resulting in long-term dissatisfaction of some donors’ [18]. More detailed reports on the quality of life of paid kidney donors in Iran reveal a highly negative effect on psychosocial health [19,20^{**}]. Family conflict, isolation, and depression were described by 70% of paid donors, many of whom had actually concealed their donation. Deterioration in employment status and overall financial status was reported by 65% of donors. Similar data are available from outcome studies of paid donors in India and Pakistan [3,13]. These data are in stark comparison to similar data obtained from noncommercial donors. There is no reason to believe that kidney vendors

in the western world would be protected from this or a similar outcome.

The doctor/patient relationship in living-donor transplantation

Living-donor transplantation, by its very nature, stresses the physician/patient relationship [8^{*},21]. The physician is responsible for the assessment of the appropriateness of a potentially morbid, surgical procedure, with both short-term and long-term consequences, that individuals do not themselves need. *Primum non nocere* ('first, do no harm'), a core value of medical practice, is at stake each and every time living donation is considered. The physicians must be constantly aware that the moment the donors' evaluation process commences the donors become their patients and, by definition, the physicians become the patients' health advocates. With these constraints in mind, the physician evaluating an informed and educated potential living donor must assess both the risk of the procedure and its benefits. However, in non-commercial donation, there are indeed benefits, as will be discussed below. It is this balance between risk to the donor and benefit to the donor that makes noncommercial living donation ethically acceptable. To quote from guidelines that have been developed for the psychosocial evaluation of living unrelated donors in the United States: 'At all stages of the evaluation and transplant process, the donor is as legitimately considered to be a patient as the transplant recipient. . .' [22].

With this experience in mind, paid donation can hardly be considered to be an example of *primum non nocere*. As the physicians evaluating donors who are expecting to be paid are their doctors and not merely technicians, it is inappropriate to be recommending a procedure that is potentially harmful, albeit from a psychosocial standpoint. In a legal defense by a physician evaluating a donor (in a case in which the donation was deemed unnecessary) a claim that there was no physician-patient relationship between them was declined [23]. The role of a physician is to be an advocate for a patient's health and not a facilitator of short-lived financial gain.

What would 'regulation' entail in the United States?

It is true that much of the available data on exploitive commercialized donation come from countries where the process is unregulated [24^{**}]. Surely, in the United States, regulation of the process would prevent such abuse. But what kind of regulation would be required? Even if the destitute, who donate in developing countries, were somehow excluded from the process (and it is not clear how this could be legally achieved), the donors would still be those who are in dire need of money and perhaps desperate to receive it. Consider, for

example, a potential paid donor requested to repeat a urinalysis because of the finding of proteinuria or microscopic hematuria or borderline low renal function: a common request. Would the passage of the urine sample need to be monitored to ensure that the donor is indeed the source of the sample? Whose responsibility will it be to ensure that the factors listed above are not applicable to the donor and that the information that is provided is accurate? After all, large amounts of money are at play and the major incentive for the donor is financial? It has been suggested that abuse could be minimized by ensuring that paid donation will be regulated within geopolitical borders [24^{**}]. Whose responsibility will it be to check on citizenship or naturalization documents and establish identity theft?

These examples (it would not be difficult to come up with more) are quite plausible, they belong to our 'real' world. The blithe contention [24^{**}] that a regulated system could be tacked on to our current United Network for Organ Sharing (UNOS) directed system is unrealistic. Physicians are not trained to be policemen or private detectives or agents of the US Immigration and Naturalization Service and they should not take this role upon themselves. If kidney vending were to be permitted, it would seem that specially trained investigators would need to be included in the transplant team to ensure the accuracy of the paid donor's history and to ensure public safety. A medical process would perforce become a legal one. The assertion with respect to a 'regulated' market in organ sales in the United States that 'the procedural framework would be virtually identical to the system currently used to evaluate altruistic living donors' is both misleading and unrealistic [24^{**}].

The presumption that the existing organ banks will administer the market system

Many organ banks will not willingly participate in a commercial system of organ sales. An algorithm of alternatives arises by that decision. The 'regulated' system could attempt to force organ banks to comply by making this a requirement as a governmental condition of participation. The proponents of the market system should anticipate a bitter and protracted legal battle in the unlikely event that this was the government's decision. Once several of the nearly 60 organ banks in the United States refuse to participate, chaos is set into motion. What if the patients of Massachusetts go to New York to be on the list and the patients on the New York list complain that they are being disadvantaged by patients of Massachusetts swelling the ranks of the list? Not all transplant centers will comply with organ sales because not all transplant surgeons and physicians will participate as enablers of the transaction. The government does not tell physicians how to practice medicine.

Subscribing to organ sales will not be a condition of licensure. What happens next?

The presumption that the ‘regulated’ system will enforce a prohibition of matching donor Internet sites

UNOS has been confronted with billboards, flyers, and the development of Internet sites soliciting live donors and deceased donor families for organs [25]. Notwithstanding the 1984 National Organ Transplant Act (NOTA), Organ Procurement and Transplantation Network (OPTN)/UNOS could not prohibit MatchingDonors.com from Internet activity because it is not for the government to tell people how they make relationships. If there were to be a market of organ sales in the United States, what would be the basis for this precedent to be overturned? Internet sites would surely challenge that ‘regulatory’ prohibition with litigation.

The presumption that patients will only wait on a regulated list for the kidney sale

If a market is developed in the United States, Internet sites will deal competitively in young donors. They already do that in other countries such as China, the Philippines, and Pakistan. If a potential recipient can shop for a kidney via an Internet site with the market rules of engagement, then why cannot the 70-year-old purchase a donor kidney from a 20-year-old in a ‘matchingdonors.com’ type circumstance? Why would supporters of organ vending restrict such a transaction to a governmental market when they bring forth the blessings of a market as the underbelly of free choice?

The United States is moving to an allocation system for kidneys that addresses the waste involved in transplanting a kidney of 20-year-old deceased donor to a 70-year-old recipient who may be the next person on the list. Why, because the life years of benefit that can be achieved by a kidney transplant from that 20-year-old donor for a 35–50-year-old recipient far exceeds the foreshortened benefit that might be achieved in doing that transplant to the 70-year-old. What then is the medical (or ethical) justification that would enable a sale of a live donor kidney from a 20-year-old Filipino to an American of 70 years of age who prefers that purchase to receiving a deceased donor kidney with a donor profile index akin to an expanded criteria donor in the United States?

The market in Manila was not a black market and Americans were solicited to come to Manila to purchase kidneys. How effective can a ‘regulated’ system be that does not contend with global markets? What is the market justification of an American system that would exclude Americans going to Manila or more likely, Filipinos coming to California to sell kidneys? Is it rational to suggest, in the current international political

environment, that there would be some overarching international agreement that would fix the price of vending to prevent donors from ‘shopping around’?

Rescinding the 1984 National Organ Transplant Act

Proponents of organ markets have a formidable task to accomplish: revision of the 1984 NOTA that prohibits the buying and selling of organs. To do so, these proponents will have to contend with formal opposition from such organizations as the Institute of Medicine, the World Health Organization, the Transplantation Society, the National Kidney Foundation of the United States, the European Union, and the Governments of Canada and Mexico [26]. Some religious organizations are unequivocally opposed to the sale of organs because it violates the dignity of the human person.

All of these forces will be mustered, if Congressional hearings are called. Congress currently knowing of this opposition has shown no interest in taking up this issue. On the contrary, at the time of the amendment to the legislation regarding paired donation, the congressional staffs of Senator Kennedy and Dodd (Democrats) and Senator Judd Gregg (Republican), expressed their bipartisan and unequivocal opposition to organ sales [27].

The impact of commercialization on noncommercial living and deceased donation

A core contention made by supporters of organ vending is that ‘...it is clear that the benefits of a regulated system of compensated donation (chiefly, increasing the number of donated kidneys) outweighs any risks’, and ‘Allowing the sale of kidneys from living donors would greatly increase the supply of kidneys and thereby save lives’, from whence comes forth such confidence [24**]? It is now widely known by a current experience in Hong Kong and Israel that markets have negatively impacted noncommercial living and deceased donation [28]. The notion that organ market would do otherwise defies sensibility and this experience. No country that openly or tacitly permits organ sales also has robust programs in deceased renal and nonrenal organ donation. On the contrary, it is those countries that have invested the most in noncommercial donation while prohibiting commercial donation that have the best developed programs. Why should someone donate in the United States when you could buy a kidney in Manila? We are now in a global market for medical care. If a patient can undergo a surgical procedure that is less costly in a foreign country that still provides excellent care, insurance companies are finding this opportunity very appealing for their patients. However, transplant tourism is different from medical tourism because it involves the use of another person in that surgical procedure as the donor source of an organ. The individuals who provide a kidney for the transplant

tourist are virtually always poor persons who have no alternative to provide resources for themselves or their family but to sell a kidney. Recent media stories regarding the illegal trafficking in India have made that evident once again.

There are serious international consequences to permitting commercial organ donation in the United States. Respect for the law and for governmental institutions, that can fortunately be taken for granted in developed countries, often cannot be taken for granted in developing countries. The capacity of governments in developing countries to control exploitation of the poor and vulnerable in their countries would be greatly undermined by change in the law in this country to permit organ vending in the United States. If both the developed and developing countries around the globe are to build organ transplant programs, not just for those in need of kidney transplants but for those in need of nonrenal organs, they must develop programs in deceased donation to provide deceased donor livers, hearts, lungs, and pancreata. The availability of vended kidneys acts as disincentive to such development. Organ vending, irrespective of its controversial ethical underpinnings, does not cohabit well with either noncommercial living donation or robust systems of deceased donation [29*].

Nontransplant comparisons to commercial kidney donation

Some frequently discussed nontransplant comparisons to commercial kidney donation are considered below.

Life insurance

Matas [24**] has contended that life insurance was previously considered repugnant and now it is no longer objectionable as if to suggest that the initial reaction and repugnance to organ sales will eventually be overcome in time. The response to that contention is to display the extent of opposition that exists because of a principle that is at the core of a common humanity not to victimize those who are vulnerable by social status, sex, ethnicity, and age. Of course, society in its wisdom can take its public policy in a different direction because of that fundamental societal framework that does not permit its vulnerable to be victimized. Indentured servitude used not to be repugnant, and now it is (and outlawed by the 13th Amendment to the Constitution, along with slavery, which also used not to be so repugnant in certain states of the country) [30].

The fireman, coal miner, and volunteer service members do risky jobs

Society does indeed secure the services of a segment of its population for risky employment situations intended to benefit the whole of society such as police officers,

firefighters, coal miners and yes, volunteer servicemen. However, the public does not have the perception that firefighters and volunteer servicemen are mercenaries or vendors who have sold themselves.

The response to this candidly disrespectful perspective regarding those who perform risky jobs on behalf of society is given by Nir Eyal (personal communication) of the Division of Medical Ethics at the Harvard Medical School: ‘...we probably view payment to firemen partly as a token of appreciation, or as simply removing a potential disincentive: even admirable altruists need a living salary. We do not see it as trading risk for money. This is partly why firemen and their source populations are usually held at high esteem, and not slighted.’

The coal miner, fireman, and volunteer service members are not considered by society to be vendors. Recall how Senator Kerry was derided when he suggested in effect: ‘that you wind up in Iraq if you don’t have an education’ [31]. The conclusion by some of Senator Kerry’s congressional colleagues was that Senator Kerry was perceived to be denigrating the volunteer serviceman. Coal miners, firemen, and volunteer service men are not stigmatized as kidney vendors are in other countries. They are not considered by society to be selling themselves.

College girls sell their eggs

It has been suggested that if college girls can sell eggs, why not permit the selling of kidneys [24**]? The general picture is that of an unregulated market that seeks egg donors because of their socially idealized genetic traits. We do not see very many infertile couples going to Manila to buy eggs from their poor. The public does not seem to have a heightened concern about egg sellers (although there has been regulatory oversight implemented in states such as Massachusetts and California) likely because the social status of the egg seller is intrinsically different from that of the kidney vendor.

Living kidney donors and clinical research participants

A useful comparison has been made between the ethical and practical aspects of clinical research and living organ donation [32*]. Participants of both endeavors have suffered from unethical practice and abuse. Many of the dilemmas now facing the transplant community are similar to those facing clinical researchers. In June of 1964 The World Medical Association developed the ‘Declaration of Helsinki’ as a statement of ethical principles to provide guidance to investigators and physicians involved in human research. Over 40 years later the declaration remains ‘...a respected institution and one of the most influential documents in clinical research’ [33]. What can the transplant community learn from the experience of the clinical researchers so that we may

protect the rights of living donors while promoting healthy transplant practice?

A core principle of the Helsinki Declaration is that the end does not justify the means. There is an ongoing need for new pharmaceutical agents to treat life-threatening illnesses just as there is a shortage of organ donors for recipients with advanced organ failure. Yet the Declaration includes the following statement: ‘...considerations related to the well being of the human subject should take precedence over the interests of science and society’. With this point, the Declaration is reminding us that the welfare of research subjects should be more important than the success of the project in which they are engaged. Similarly, the welfare of the living donor must not be sacrificed because of the needs of recipients. A core argument made by supporters of organ vending is that commercialization of donation is needed as a response to the need for more kidneys [24**]. A long waiting list for kidney transplants, however, is not an adequate reason to loosen concern for the welfare of donors. On the contrary, it is a cause for even greater vigilance lest the threat to the long-suffering recipients become an alibi to lower the standards for donor protection.

The Helsinki Declaration (available at www.wma.net) makes the following statement that is relevant to living organ donation: ‘Medical research is only justified if there is a reasonable likelihood that the populations in which the research is carried out stand to benefit from the results of the research’. As noted above, available evidence suggests that noncommercial living organ donors, in spite of, or perhaps because of, the absence of financial gain do indeed benefit from donation in terms of self-esteem, psychologic wellbeing, and social status. Such benefits do not appear to accrue to commercialized donors. Even the financial gain from commercial donation appears to be

transitory. But even if it were longlasting, it is not the responsibility of medical practice to resolve personal financial distress.

We have emphasized the danger of large payments to the trust and openness that is critical to the process of evaluating living donors. It is worth noting that similar concerns have been expressed with respect to the payment of large sums of money to potential research subjects.

Dickert and Grady [34] have described the persistent ethical challenge that exists because of the tension between the need to recruit participants for clinical research studies and the obligation to offer them certain types of protection and they make the following critical point: ‘...large total payments and completion bonuses may provide an incentive for the subject not to explore carefully the risks and benefits of the research or to conceal important health information in order to become or remain eligible for the study and thus receive payment’. Evidence also suggests that the higher the payment level, the greater is the propensity to conceal [35**]. There is every reason to believe that these concerns would be relevant to commercialized living kidney donation.

So what can we do differently together?

Living kidney donation in experienced hands is a very safe procedure, yet all living donors are potentially vulnerable to medical complications that can leave them disabled, unemployed, or even dead. Various forms of care for the live donor can be provided, yet are typically not [36**]. Unmet donor needs are unfair in that the donor assumes the risks of a nontherapeutic intervention—for the good of the recipient and society—and should not have to incur costs for donating. Based on a systematic

Table 1 Elements of improving institutional fairness to live kidney donors

| | |
|---|---|
| Comprehensive reimbursement or replacement of costs ^{a,b} | Providing physical and psychological health for the donor ^c |
| Incurred expenses for arranging and effecting the pre-, peri- and postoperative phases of the donation process (e.g. long-distance telephone calls, travel, accommodation and subsistence expenses) | Perioperative mortality |
| The coverage of wages during the period of absence from work | Temporary life insurance for donation-related death (insurance sum according to local circumstances or national norms). |
| Lost home productivity (e.g. expenses to hire caregivers or domestic help in relation to donation) | Perioperative morbidity |
| Incidental medical expenses (e.g. postdischarge analgesics) | Temporary disability insurance for donation-related disability |
| | Insurance for perioperative follow-up and care for donation-related health problems |
| | Employment security not to be compromised as a consequence of the donation procedure |

Adapted with permission from [36**].

^a This reimbursement should be provided by governmental or other designated authorities independent of the recipient.

^b Potential living donors whose evaluation precludes organ donation because of medical or immunological issues discovered during the evaluation process are entitled to reimbursement of expenses.

^c In the United States, where there is no universal health insurance, the provision of disability, life, and health insurance related to the donation event is a necessary requirement in providing care for the donor.

analysis of unmet donor needs in developed and developing countries, context relative measures to improve institutional fairness to live kidney donors are needed (Table 1).

Response to the organ donor shortage

One of the arguments repeatedly made in favor of commercialized living donation is that the current noncommercial system has stagnated and is impotent to address the organ donor shortage. We most certainly share the legitimate concern for the suffering of those waiting for an organ; we are motivated by it. That concern in itself, however, does not represent an argument in favor of commercialization, because it is quite unclear that a commercial system would be effective and it could well be destructive. It is no longer true that the rates of deceased donor organ donation are static. In the United States, largely through the efforts of so-called 'Organ Donation Breakthrough Collaborative', the 3-month average deceased kidney donation rate has risen approximately 30% since January 2001, and these increases have largely reflected increases in recovery of kidneys from standard criteria donors [28]. Multiple innovative endeavors to increase other sources of donor organs are available. These include living donor exchange, intended candidate donation, desensitization protocols for positive cross-match—and blood group—incompatible pairs, increased use of donors after circulatory determination of death, and increased use of extended-criteria donor kidneys. The kidney transplant waiting list continues to grow but the number of candidates on that list who are deemed 'active' and hence transplantable has been stable over the last several years (www.unos.org accessed 3 April 2008). It is not 'pie in the sky' to look forward to a reduction in the waiting list to acceptable levels if we continue to invest our best efforts, resources, and ingenuity. Progress is also being made in the development of an improved allocation system for deceased donor kidneys that will better exploit the life prolonging benefit of the procedure [37]. All of these new endeavors expand and exploit the noncommercial and altruistic driving force of our success to date. They build on what we know rather than endanger what we have achieved.

Conclusion

We do not doubt that those of our colleagues who support the commercialization of organ sales abhor the venal exploitation of vulnerable populations as a source of organs. We argue, however, that organ sales and markets, 'regulated' or otherwise, will inevitably lead to the furtherance of such exploitation and in the process undermine the considerable gains that have been made in noncommercial organ donation both from the living and the deceased. Our arguments are based not principally on theoretical or abstract ethical grounds but on documented practical experience and lessons learned

from other disciplines. The international transplant community will be best served by investing in public trust and not undermining it.

References and recommended reading

Papers of particular interest, published within the annual period of review, have been highlighted as:

- of special interest
- of outstanding interest

Additional references related to this topic can also be found in the Current World Literature section in this issue (p. 459).

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