

**LIVING ORGAN DONATIONS:
HOW CAN SOCIETY ETHICALLY INCREASE
THE SUPPLY OF ORGANS?**

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I. Introduction

As demand increases, medical professionals, potential recipients, and researchers urge the government to implement innovative ways to increase the supply of viable organs. The supply of organs currently does not meet the demand needed for human transplantation.¹ While the number of potential recipients grows at a rate of 20% per year, potential donors only grow at a rate of 10% per

* J.D., Seton Hall University School of Law (2006).

¹ United Network for Organ Sharing, at <http://www.unos.org>.

year.² In April 2005, United Network for Organ Sharing's ("UNOS") waiting list had 88,193 individuals in need of organs, and with only 27,029 donations in 2004, many people die while awaiting organs.³ As society attempts to end this shortage, it struggles with the ethical and legal implications of some of the more innovative solutions being proposed.

Advocates of a robust transplantation system perceive the law as a particular barrier to a more successful organ retrieval system.⁴ While medical technology enables physicians to retrieve viable organs from non-heart-beating cadaver donors,⁵ living organ donors, anencephalic infants,⁶ and patients in a persistent vegetative state,⁷ the law continues to rely primarily upon a "dead donor rule," which until recently has limited organ retrieval to cadavers.⁸ The law only recently and cautiously has allowed organ removal from living donors.⁹ Further limiting potential donor opportunities, the law prohibits compensation to donors beyond reimbursement for travel, lost wages, and medical expenses.¹⁰

² UNITED NETWORK FOR ORGAN SHARING, FINANCIAL INCENTIVES FOR ORGAN DONATION: A REPORT OF THE PAYMENT SUBCOMMITTEE (1993) [hereinafter UNOS FINANCIAL INCENTIVES REPORT], <http://www.unos.org/resources/bioethics.asp?index=3>.

³ United Network for Organ Sharing, U.S. Transplantation Data (2006), [at http://www.unos.org/data/default.asp?displayType=usData](http://www.unos.org/data/default.asp?displayType=usData).

⁴ See *infra* Part II.

⁵ ROBERT M. VEATCH, TRANSPLANTATION ETHICS 207 (2000). Non-heart-beating cadaver donors are pronounced dead based on irreversible cession of heart/lung functioning without any tests being performed to determine brain function. *Id.* Two categories of patients fit within this definition. *Id.* The first group includes heart attack and accident victims, who are pronounced dead on arrival based on irreversible loss of heart function. *Id.* The other group is critically ill patients who refuse any further life support. *Id.* These people can volunteer to be taken off life-support while in the operating room so that as soon as they are pronounced dead based on cession of heartbeat, organs will be procured. *Id.* This is known as the Pittsburgh Protocol because the University of Pittsburgh Medical Center developed this protocol. *Id.*

⁶ An anencephalic infant is born alive but with only a portion of the lower brain or brain stem. *In re Baby K*, 16 F.3d 590, 592 (4th Cir. 1994). This means that while the infant is permanently unconscious the brain stem is able to support automatic functions and reflex activities. *Id.* The infant has no cognitive awareness, and cannot see, hear, or interact with his environment. *Id.*

⁷ Persistent vegetative state is a condition where a patient sustains total loss of consciousness due to non-functioning of the cerebral hemispheres. MARK HALL, ET AL., HEALTH CARE LAW AND ETHICS 503-04 (6th Edition, 2003). The brainstem still functions properly, allowing the patient, in most cases, to breathe without the help of a respirator and digest food. *Id.*

⁸ See *infra* Part II.

⁹ *Id.*

¹⁰ *Id.*

Due to the need to balance legal and ethical considerations with the pressure to increase the supply of organ donations in the United States, the law has too slowly adapted to changing technology and cultural beliefs. At this time, laws governing the organ transplantation system must change to better reflect both ethical and scarcity considerations. The current system does not supply enough organs to meet demand, and change is essential.

This paper examines the possibility of a more permissive organ donation system designed to garner more organs. It focuses on how a more flexible system that better encourages living organ donations holds the greatest potential for increasing the supply of organs. The paper then proposes legal reforms to encourage expanded live organ donation.¹¹ To accomplish this, UNOS must play an active role in encouraging and facilitating living organ donations. For example, it must create a national register that includes individuals who are willing to participate in paired organ exchanges.¹² Also, UNOS should continue to permit patients in need of organs to use the internet to solicit organs from willing potential donors, just as it has allowed direct contact solicitation from family, friends, and religious affiliates.¹³ The paper does propose limits: it acknowledges the importance of the current prohibition on paying for organs and concludes that the organ donation system must remain a voluntary, altruistic system at this time.¹⁴

Part I of the paper will explain how organ donations are regulated on federal and state levels in the United States. Part II will describe the persistent shortage of organs for transplantation. Part III will propose and analyze solutions to this shortage using living organ donations. This section will examine who can donate, what organs can be donated, and what the concerns are for living donations. Also, it will analyze the procedures currently in place to harvest organs and will propose additional procedures lawmakers and medical professionals may consider if the currently implemented strategies prove inadequate to increase the organ supply. Finally, it will examine the methods that the law should prohibit due to adverse effects resulting from their implementation. Part IV will conclude

¹¹ See discussion, *infra* Parts IV-V.

¹² Brian Vastag, *Living-Donors Transplants Reexamined: Experts Cite Growing Concerns About Safety of Donors*, 290 JAMA 181-82 (2003); see also discussion *infra* Part IV.D.3.

¹³ See discussion *infra* Part IV.D.2

¹⁴ Gloria J. Banks, *Legal & Ethical Safeguards: Protection of Society's Most Vulnerable Participants in a Commercialized Organ Transplantation System*, 21 AM. J.L. & MED. 45, 47 (1995).

that the best solution at this time is to continue to allow living organ donations through various methods, including donations from related and non-related donors, internet solicitation, and paired organ exchanges.

II. *Organ Regulations in the United States*

UNOS, a non-profit organization established by the National Organ Transplant Act of 1984 ("NOTA"), creates and enforces standards without the force and effect of law for organ allocations and donor/recipient matching.¹⁵ UNOS is a member organization whose responsibilities include the regulation of the nation's sixty-nine Organ Procurement and Transplantation Networks ("OPTN"), transplant surgery centers, and medical laboratories performing organ-matching tests.¹⁶ Through OPTN cooperation, UNOS provides guidelines and regulations for the distribution of cadaver organs,¹⁷ collects and deciphers data about cadaver donations in the United States, assists in the proper matching and allocation of organs through UNOS-developed policies, and facilitates the drafting of transplantation policies.¹⁸ OPTN participants are responsible for acquiring organs within their geographic region and allocating

¹⁵ 42 U.S.C. §§ 273, 274(g) (2000).

¹⁶ United Network for Organ Sharing, What We Do [hereinafter "UNOS, What We Do"], <http://www.unos.org/whatwedo> (last visited Apr. 5, 2006).

¹⁷ UNOS, What We Do, *supra* note 16.

¹⁸ United Network for Organ Sharing, What We Do: Organ Center, <http://www.unos.org/whatwedo/organcenter.asp> (last visited Apr. 5, 2006). The following describes the organ donation process:

The procuring organization accesses the national transplant computer system, UNetsm, through the Internet, or contacts the UNOS Organ Center directly. In either situation, information about the donor is entered into UNetsm and a donor/recipient match is run for each donated organ. The resulting match list of potential recipients is ranked according to objective medical criteria (i.e. blood type, tissue type, size of the organ, medical urgency of the patient as well as time already spent on the waiting list and distance between donor and recipient). Each organ has its own specific criteria. Using the match of potential recipients, the local organ procurement coordinator or an organ placement specialist contacts the transplant center of the highest ranked patient, based on policy criteria, and offers the organ. If the organ is turned down, the next potential recipient's transplant center on the match list is contacted. Calls are made to multiple recipients' transplant centers in succession to expedite the organ placement process until the organ is placed. Once the organ is accepted for a patient, transportation arrangements are made and the transplant surgery is scheduled.

organs according to UNOS guidelines.¹⁹

Individual transplant centers establish the criteria by which potential recipients may secure a place on the UNOS waiting list.²⁰ In determining a potential recipient's placement on the list, transplant centers typically consider the likelihood of a successful transplant, the length of time that the recipient can benefit, and the quality of life that the recipient can gain from the surgery.²¹ In addition, transplant centers may also consider the cause of the potential recipient's organ failure, other illnesses involved, the recipient's age, psychosocial factors including alcoholism, drug addiction, mental retardation, or the failure to comply with past treatment requirements.²²

Transplant centers may not compensate donors or their families for an organ under NOTA, which prohibits the transfer through interstate commerce of any "human organ for valuable consideration for the use in human transplantation."²³ In passing NOTA, Congress adopted the philosophy that people should neither profit from selling organs²⁴ nor view organs as commodities available for sale.²⁵ Federal law encourages voluntary donations by requiring hospitals to inform families of potential donors about their option to donate or decline to donate in order for the hospital to retain Medicare and Medicaid reimbursements.²⁶

In addition to federally mandated law, states regulate organ donations through laws that are generally modeled after the Uniform Anatomical Gift Act of 1968²⁷ ("UAGA") or the amended UAGA of

¹⁹ HALL, *supra* note 7, at 647.

²⁰ United Network for Organ Sharing, Transplant Living: Getting on the List [hereinafter "UNOS, Transplant Living"], <http://www.transplantliving.org/beforethetransplant/list/list.aspx> (last visited Apr. 5, 2006). UNOS does not regulate the criteria that centers may apply in determining a potential recipient's placement. *Id.*

²¹ HALL, *supra* note 7, at 647.

²² *Id.*

²³ 42 U.S.C. § 273.

²⁴ S. REP. NO. 98-382, at 17 (1984).

²⁵ *Id.* at 16. Lawmakers "feared that a for-profit system would prey upon the indigent members of our society or the Third World as a source for organs." *Id.*

²⁶ 42 U.S.C. § 1320b-8(a)(1)(A)(i) (2000).

²⁷ UNIF ANATOMICAL GIFT ACT §§ 1(b); 2(3) (1968), 8A U.L.A. 94, 99 (1993). The Uniform Anatomical Gift Act ("UAGA") addresses twelve questions:

1. Who may, during his lifetime, make legally effective gifts of his body or a part thereof?;
2. What is the right of the next of kin, either to set aside the decedent's expressed wishes, or themselves to make the anatomical gifts from the dead body?;
3. Who may legally become donees of the anatomical gift?;
4. For what purposes may such gifts be made?;
5. How may gifts be made, such as by will, by writing, by a card carried on the person, or by the telegraphic or recorded telephonic

1987.²⁸ The National Conference of Commissioners on Uniform State Laws proposed the UAGA to encourage organ gifts, facilitate donations among states,²⁹ educate health care professionals and the public, and prohibit the sale of most organs.³⁰ The UAGA regulates all postmortem gifts of organs.³¹ The amended version attempts to encourage more donations by requiring medical professionals to inquire into a patient's wish to donate upon his or her admission to an emergency room or hospital.³²

In addition to the UAGA and NOTA, the government continues to encourage organ donation, as evidenced by the April 2004 signing of the Organ Donation and Recovery Improvement Act by President George W. Bush.³³ The law authorizes grants for reimbursement of travel and incidental expenses incurred by donors in furtherance of their gift.³⁴ This measure is evidence that policymakers are shifting

communication?; 6. How may a gift be revoked by the donor during his lifetime?; 7. What are the rights of the decedent's estate in the body after removal of the donated parts?; 8. What protection from legal liability should be afforded to surgeons and others involved in carrying out anatomical gifts?; 9. Should such protection be afforded regardless of the state in which the document of gift is executed?; 10. What should the effect of an anatomical gift be in case of conflict with laws concerning autopsies?; 11. Should time of death be defined by law in any way?; 12. Should the interest in preserving life by the physician in charge of the patient preclude him from participating in the transplant procedures by which the donated tissue or organ is transferred from the now deceased patient to a new host?

Lisa Douglass, Comment, *Organ Donation, Procurement and Transplantation: The Process, The Problems, The Law*, 65 UMKC L. REV. 201, 206 (1996).

²⁸ UAGA §§ 1(2), 3(a)(3) (1987), 8A U.L.A. 30, 40 (1993); see also Douglass, *supra* note 27, at 210 ("Congress amended the 1968 Uniform Anatomical Gift Act to require all public and private hospitals to inquire into the donor status of every patient at the time of admission. If the patient was not a donor, a hospital designee was to discuss the option of organ donation with the patient and to record the patient's response in the medical record."). All fifty states have enacted either the original UAGA or the amended UAGA. *Id.*

²⁹ Ania M. Frankowska, *Fetal Tissue Transplants: A Proposal to Amend the Uniform Anatomical Gift Act*, U. ILL. L. REV. 1095, 1106 (1989).

³⁰ UAGA, *supra* note 27. The UAGA does not prohibit individuals from selling blood, sperm, or ova. *Id.*

³¹ *Id.*

³² *Id.* Hospitals must ask patients upon admittance if they would like to become organ or tissue donors. Banks, *supra* note 14, at 68.

³³ 42 U.S.C. § 274f (Supp. 2005); Liz Szabo, *Simple Acts of Sharing are Changing More Lives*, USA TODAY, Apr. 14, 2004, at 5D.

³⁴ *Id.* In addition to reimbursement for travel, the bill includes the following incentives: grants with the purpose of increasing organ donations and cadaver recovery rates; grants for public awareness with organ donations; and matching grants to qualified organ procurement organizations and hospitals to create programs designed to garner more organs within the hospital. *Id.*

focus from cadaver organ donations to live organ donations as a means to increase the supply of viable organs.

Despite the lack of any law comparable to the UAGA regulating living organ donations, standard practices of the National Kidney Foundation and declarations by the UNOS ethics committee provide a framework that provides guidance to medical professionals who perform living donations.³⁵ These guiding principles have been summarized as follows: “(1) [the] donor has a right to take reasonable risks to achieve substantial benefit for the recipient; (2) [a] competent adult donor should not be prohibited from fulfilling sense of altruism, doing all that is possible for a loved one, or restoring the recipient to a healthy and simpler life; (3) [a] donor must be informed of the proposed use of the tissue; (4) [a] donor must be informed of the risks and benefits; (5) [a] donor’s written consent is required; and (6) procedures to ensure the rights of the donor should be studied and developed further.”³⁶ No lawmaking body has to date legislated any of these principles, and the medical profession follows them to unknown degrees, because detailed studies on living organ donations is lacking.³⁷

The current system of organ donation still rests on altruism and depends on the willingness of individuals to donate organs without compensation.³⁸ The UAGA, the amended UAGA, and NOTA focus on altruistic means to increase the supply of viable organs,³⁹ but these efforts have failed to increase the supply sufficiently to meet the demand for transplantable organs.⁴⁰

III. Organ Scarcity

Despite continuing efforts to increase the supply of organs in the United States, the shortage remains acute. Every thirteen minutes, a potential organ recipient is added to the UNOS national waiting

³⁵ DOROTHY VAWTER, ORGAN AND TISSUE DONATION: ETHICAL, LEGAL, AND POLICY ISSUES 54 (2001). Living Organ Donation occurs “[w]hen a living person gives an organ or a portion of an organ for use in a transplant.” United Network for Organ Sharing, glossary at <http://www.unos.org/resources/glossary.asp#L> (last visited Sept. 28, 2006).

³⁶ *Id.* at 56.

³⁷ Vastag, *supra* note 12, at 181-82.

³⁸ See Curtis Harris & Stephen Alcon, *To Solve a Deadly Shortage: Economic Incentives for Human Organ Donation*, 16 ISSUES L. & MED. 213, 227 (2001) (“The United States has always relied on altruism for organ procurement.”).

³⁹ UAGA, *supra* note 27, 28.

⁴⁰ See *supra* note 3 and accompanying text.

list.⁴¹ In 2004, 29,029 people received organ transplants,⁴² but as of April 2004, 51,721 male and 38,384 female candidates in the United States remained on the waiting list.⁴³ In comparison, in 1988, 13,000 people received organ transplants and only 16,000 people remained on the national waiting list.⁴⁴ There may be a two-fold explanation for the increased number of people on waiting lists for organ transplants. Improvements in medical technology have increased the number of people eligible for transplants while effective public health policies have discouraged certain risky behaviors. The combination of factors has increased the number of potential recipients of transplants while also decreasing the number of donors.⁴⁵

Shortages may also stem from the failure of hospitals to follow state laws requiring employees to approach either the patient or the families of potential donors about the possibility of donating.⁴⁶ Health care professionals are understandably reluctant to raise this subject with grieving families.⁴⁷ Interestingly, when asked, families decline to donate organs almost fifty percent of the time.⁴⁸

In addition to these failures, the number of people with end stage renal disease and the number of kidney transplants has increased in the past twenty years causing the need for more organ procurement.⁴⁹ Failure of traditional cadaver organ procurement has led policymakers and medical professionals to deviate from the dead

⁴¹ UNITED NETWORK FOR ORGAN SHARING, 2003 ANNUAL REPORT, at <http://www.unos.org/resources/publications.asp> (last visited Feb. 11, 2005) [hereinafter UNOS ANNUAL REPORT].

⁴² United Network for Organ Sharing, Financial Incentives Report, *supra* note 2.

⁴³ UNOS, Transplant Living, *supra* note 20 (based on current OPTN data as of Apr. 6, 2004).

⁴⁴ HALL, *supra* note 7, at 609.

⁴⁵ *Id.* The supply of suitable organs decreased due to fewer deaths achieved by new laws requiring seat belts, controlling access to guns, and enforcement of Driving Under the Influence laws. *Id.* “The need for organ donors is acute and growing rapidly. While medical advances have made transplantation a viable treatment option for many patients suffering from end-stage organ failure, the supply of organs has not kept pace with the number of patients who need them.” Medicare and Medicaid Programs; Conditions for Coverage for Organ Procurement Organizations (OPOs), 70 Fed. Reg. 6087 (proposed Feb. 4, 2005) (to be codified at various pts. of 42 C.F.R.).

⁴⁶ UNOS ANNUAL REPORT OF THE U.S. SCIENTIFIC REGISTRY FOR ORGAN TRANSPLANTATION AND THE ORGAN PROCUREMENT AND TRANSPLANTATION NETWORK, CHAPTER IV-8 to IV-10 (1990).

⁴⁷ *Id.*

⁴⁸ *Id.*

⁴⁹ Joel D. Kallich & Jon F. Merz, *The Transplant Imperative: Protecting Living Donors From The Pressure to Donate*, 20 IOWA J. CORP. L. 139, 142 (1994).

donor rule in specific circumstances with the hope that this departure will bridge the gap between the number of organs available and number of people waiting for these organs.⁵⁰ Living donations are one such departure from this rule.⁵¹

IV. Solutions via Living Organ Donations

A. Why Living Organ Donations?

As an aggressive response to the growing demand for organs in the United States, living organ transplants are increasing in frequency.⁵² For example, “[l]iving donation is up by more than 150 percent in the last decade. Living donors now outnumber dead ones: 6,210 to 5,923 in the first 11 months of last year.”⁵³ These increases are due to technological advances in transplantation, heightened demand for organs, and the willingness of medical professionals to circumvent the dead donor rule in certain situations.⁵⁴ With increasing frequency, potential recipients are employing several novel practices to match themselves with both related and non-related living donors.⁵⁵ These potential recipients solicit donors from traditional sources, such as family, social and religious affiliations. They also employ emerging approaches such as internet solicitations and paired organ exchanges.⁵⁶ These new solutions are important because they legally increase the supply of organ transplants by facilitating communication between potential donors and recipients.⁵⁷

⁵⁰ See discussion, *infra* Part IV.

⁵¹ *Id.*

⁵² Stacey Burling, *Increase in Living Organ Donations Raises Medical, Ethical Questions*, PHILA. INQUIRER, Apr. 15, 2004, at K4480.

⁵³ *Id.*; see also UNOS, *Transplant Living*, *supra* note 20. As of April 6, 2004, 311,422 total organ transplants were performed in the United States. *Id.* “Approximately 20% of these were living donation. In 2003, however, approximately 43% of kidney transplants came from living donors.” *Id.*

⁵⁴ *Id.*

⁵⁵ Live Organ Donor Consensus Group, *Consensus Statement on the Live Organ Donor*, 284 JAMA 2919-26 (2000) [hereinafter *Consensus Statement*]; see also discussion *infra* Part IV.D.

⁵⁶ *Consensus Statement*, *supra* note 55; see also WILLIAMS MULLEN, *INTENDED RECIPIENT EXCHANGES, PAIRED EXCHANGES AND NOTA § 301* (2003), available at <http://www.unos.org/downloadables/NOTASection301PDF.pdf>; discussion *infra* Part IV.D.

⁵⁷ See discussion *infra* Part IV.D.

Living organ donations are possible for a single kidney,⁵⁸ partial liver, lung, intestine, pancreas, and heart.⁵⁹ Currently, the law does not prohibit living organ donations as long as the donor can survive with the remaining organs.⁶⁰ UNOS and the National Kidney Foundation standards governing transplant procedures require doctors to ensure that the benefits of transplantation to the recipient will outweigh the risks to the donor.⁶¹ In addition, doctors may not transplant an organ if the recipient faces a “clinically hopeless situation.”⁶²

New technology and changing public attitudes partially account for the rise in living organ donations, which now outnumber cadaver donations.⁶³ Technology now permits donations by non-related organ donors that were impossible just ten years ago due to the high risk that the recipient’s immune system would reject the organ.⁶⁴

⁵⁸ Kidney donation is the most common living organ donation. United Network for Organ Sharing, Living Organ Donation [hereinafter “UNOS, Living Organ Donation”], <http://www.unos.org/resources/factsheets.asp?fs=2> (last visited Apr. 8, 2006).

⁵⁹ UNOS, Transplant Living, *supra* note 20.

[K]idney-This is the most frequent type of living organ donation. For the donor, there is little risk in living with one kidney because the remaining kidney compensates to do the work of both kidneys. [L]iver-Individuals can donate segments of the liver, which has the ability to regenerate the segment that was donated and regain full function. [L]ung- Although lung lobes do not regenerate, individuals can donate lobes of the lung. [I]ntestine- Although very rare, it is possible to donate a portion of your intestine. [P]ancreas- Individuals can also donate a portion of the pancreas. Like the lung, the pancreas does not regenerate, but donors usually have no problems with reduced function. [H]eart-A domino transplant makes some heart-lung recipients living heart donors. When a patient receives a heart-lung “bloc” from a deceased donor, his or her healthy heart may be given to an individual waiting for a heart transplant. This procedure is used when physicians determine that the deceased donor lungs will function best if they are used in conjunction with the deceased donor heart.

Id.

⁶⁰ VEATCH, *supra* note 5, at 185.

⁶¹ *Consensus Statement*, *supra* note 55 at 2919-26.

⁶² *Id.* There is no definition of “clinically hopeless situation” in this statement.

See id.

⁶³ UNOS, Transplant Living, *supra* note 20. “Living donation takes place when a living person donates an organ or part of an organ to someone in need of a transplant. The donor is most often a close family member, such as a parent, child, brother or sister. A donor can also be a more distant family member, spouse, friend or co-worker. Non-directed donors - those who donate anonymously and do not know their recipients - are becoming more common.” Nat’l Kidney Found., Living Donors (2006), at <http://www.kidney.org/transplantation/livingDonors/index.cfm>.

⁶⁴ Bob Calandra, *Between Friends Living Donors*, WEBMD, Sept. 22, 2000, <http://my.webmd.com/content/article/82/97240.htm> (last visited Apr. 8, 2006).

UNOS believes that living donations are more successful because of better tissue matching between the donor and recipient.⁶⁵ The better the tissue match, the less likely the recipient will reject the organ and the more likely the organ will properly function.⁶⁶ Although non-related donors have increased the supply of organs, today most living organs still come from related donors.⁶⁷

In addition, at least with respect to kidney donations, there has been a change in society's attitudes toward living organ donations.⁶⁸ For example, in 2002, a random-sample survey by the National Kidney Foundation showed that 90% of respondents said they would consider being a live organ donor; "90% of this group said they would be likely to donate the organ to a family member. 53% . . . [said] they would be likely to donate to a friend, and 26% to a 'stranger.'"⁶⁹

Technological developments have also lead to the necessity for transplant surgeons to participate in both dead donor and living organ donations. This benefit is the unintended consequence of the UNOS requirement that renal transplants surgeon perform at least ten transplants per year in order to remain qualified to perform transplants.⁷⁰ This requirement could force transplant centers to encourage living organ donations without more fully exploring other treatment options. In addition, this UNOS condition conflicts with the physician's duty to do no harm to the donor patient.⁷¹

The increased need for organs has forced alternative approaches to cadaver donations through the UNOS national waiting list.⁷²

⁶⁵ UNOS, Living Organ Donation, *supra* note 58.

⁶⁶ Mark F. Anderson, *The Future of Organ Transplantation: From Where Will New Donors Come, To Whom Will Their Organs Go?*, 5 HEALTH MATRIX 249, 284 (1995).

⁶⁷ UNOS, Living Organ Donation, *supra* note 58.

⁶⁸ Nat'l Kidney Found., *supra* note 63.

⁶⁹ Press Release, Nat'l Kidney Found., Survey Shows Public Says (May 25, 2002), at <http://www.kidney.org/news/newsroom/newsitem.cfm?id=29>. This data did not yield specific findings regarding age, ethnic group, or socio-economic class. Nat'l Kidney Found., *supra* note 63. However, all survey participants were over the age of eighteen. *Id.*

⁷⁰ Kallich & Merz, *supra* note 49, at 142. "Another potential contribution to the pressure to use living donors is the United Network for Organ Sharing (UNOS) requirement that a renal transplant surgeon perform a minimum of ten renal transplants a year to remain UNOS qualified for renal transplantation. Thus, the situation with cadaveric renal donors is almost a zero sum game, and established programs will rely increasingly on living donors to maintain their current number of transplant surgeries. Further, new programs must rely on living donors to start their transplant programs." *Id.*

⁷¹ *Id.*

⁷² UNOS, Living Organ Donation, *supra* note 58. "In order to qualify as a living

Living donation is an example of an additional alternative to pursue to secure an organ.⁷³ Since an individual can pursue a living organ donation while remaining on the national waiting list for a cadaver organ,⁷⁴ an increased number of living organ donations increases the patient's chances of obtaining an organ and getting off of the national waiting list.⁷⁵ Once a living donation occurs, UNOS removes the recipient from the national waiting list, thus allowing the people who remain to move higher on the list and closer to a transplant.⁷⁶ The conclusion to be drawn from UNOS's encouragement of living organ donations is that UNOS is actively encouraging individuals on the national waiting list to pursue living donations in order to decrease the number of patients waiting for cadaver organs. This support is problematic because UNOS guidelines and regulations only apply to dead donor procurement and are not applicable to the largely unregulated area of living organ donations.

B. *Who Can Be a Donor?*

The history of living organ donations progressed from allowing only related individuals to participate as donors to allowing total strangers to donate. Technology once restricted living organ

donor, an individual must be physically fit, in good general health, and free from high blood pressure, diabetes, cancer, kidney disease, and heart disease. Individuals considered for living donations are usually between 18-60 years of age. Gender and race are not factors in determining a successful match." *Id.* Although race is not a consideration for obtaining an organ, African Americans obtain fewer organs due to the difficulty finding compatible donors and they donate only 4.6% of living donations. MILLIMAN USA, RESEARCH REPORT: 2002 ORGAN AND TISSUE TRANSPLANT COSTS AND DISCUSSION (2002), available at http://www.transplantliving.org/Content/Documents/2002_Milliman_Report.pdf.

⁷³ UNOS, Living Organ Donation, *supra* note 58.

⁷⁴ *Id.* "In part, the growth in the use of living donors appears to follow the growth in the size of the waiting list. This correlation has been confirmed by interviews with transplant surgeons who state that they inform transplant candidates of the potentially long wait for a cadaveric organ, the benefits of a living organ transplant, and that a donor need not be biologically related to donate an organ for transplantation. Transplant candidates thus are encouraged by the medical profession to request kidney donations from others more aggressively." Kallich & Merz, *supra* note 49, at 142.

⁷⁵ UNOS, Living Organ Donation, *supra* note 58. In addition to reducing the number of people on the national waiting list, UNOS cites other advantages including the transplant can be more comfortable, because the surgery can be planned several days ahead rather than in the emergency situation that occurs with cadaver donations, the recipient can take immunosuppressant drugs before the surgery to reduce rejection, and the donor and/or recipient can choose the transplant center. *Id.*

⁷⁶ *Id.*

donations to direct blood relatives, known as “living related” organ donors.⁷⁷ Such donations are now universally accepted as long as they are free from coercion and conform to the informed consent requirements.⁷⁸ Before the development of the first anti-rejection drug, cyclosporine, in 1983,⁷⁹ transplants from related donors had the highest organ compatibility and acceptance rates.⁸⁰ As success rates increased and scientists developed additional anti-rejection drugs, doctors began permitting more donations from non-related individuals such as spouses and friends.⁸¹ The propriety of these so-called “living unrelated”⁸² or “non-related” donations is a more controversial topic among doctors and ethicists.⁸³ The law, however, has not prohibited non-related living organ donations.

As transplants from non-related donors such as spouses, friends, or mere acquaintances became more acceptable, the prospect of transplanting organs from strangers did, as well.⁸⁴ As time passed, physicians began accepting donations from individuals from the same religious organization or affiliation or those who saw a news story about an individual in need of an organ.⁸⁵ Eventually, physicians began accepting non-directed donations.⁸⁶ In these situations, an individual gives an organ to a transplant center, which then gives the organ to a stranger based on his or her placement on the waiting list.⁸⁷ Donations by strangers account for less than one percent of live kidney donations in the United States.⁸⁸ The dearth of non-directed

⁷⁷ VEATCH, *supra* note 5, at 186. Related means genetically related and does not include spouses or stepchildren. *Id.*

⁷⁸ *Id.* at 185; see also discussion *infra* Part IV.C.2.

⁷⁹ UNOS, What We Do, *supra* note 16. “Cyclosporine was the first of a number of drugs that effectively treat organ rejection by suppressing the human immune system.” *Id.*

⁸⁰ VEATCH, *supra* note 5, at 186.

⁸¹ Brian Kladko, *Kidney Donations Raise Ethical Questions; Online Sites Worrisome to Physicians*, THE RECORD (Bergen County, N.J.), Nov. 7, 2004, at A01 (citing Dr. David Cohen, medical director of the renal transplant program at New York-Presbyterian Hospital).

⁸² Unrelated individuals include spouses, stepchildren, genetically distant relatives, close friends and strangers. VEATCH, *supra* note 5, at 186.

⁸³ *Id.*

⁸⁴ *Consensus Statement*, *supra* note 55, 2919-26.

⁸⁵ Kladko, *supra* note 81, at A01.

⁸⁶ Harris & Alcon, *supra* note 38, at 230; see also *Consensus Statement*, *supra* note 55, at 2919-26 (stating that non-directed donations are also called “Good Samaritan” donations).

⁸⁷ Harris & Alcon, *supra* note 38, at 230. There are very few of these cases reported. For example in 1999, two cases of non-directed donations of kidneys were reported. *Id.*

⁸⁸ David Steinberg, *Kidneys and the Kindness of Strangers*, HEALTH AFFAIRS, Jul.-Aug.

donations has ignited skepticism among medical professionals who speculate whether these donations are truly gratuitous and whether the donors are mentally competent.⁸⁹

C. *What Are the Concerns?*

As a result of the need to protect the donor and the recipient, living organ donations raise concerns not present with cadaver donations.⁹⁰ Unless transplant teams take the proper precautions, the risks of living organ donations could outweigh the benefits. Ethicists and physicians challenge living organ donations for three main reasons: the known and unknown physical and emotional risks to the donor and recipient, the possible lack of informed consent from the donor, and physicians' concerns about violating the Hippocratic oath – to first do no harm.⁹¹

1. Physical and Emotional Risks Involved

The donor can face substantial short-term and long-term risks.⁹² For example, removing a kidney is a major surgery that brings about “all of the usual complications, some serious, such as infection, blood clots in the lungs, or injury to other organs, and some not so serious, such as incisional pain or excessive scarring.”⁹³ The donor risks infections and future complications due to a removed or partially removed organ.⁹⁴ Other recognized risks include “side effects

2003, at 246.

⁸⁹ Anderson, *supra* note 66, at 285. A study of unrelated organ donors yielded the following results:

Of the [donor] candidates, 80% were stable, self-supporting, middle-class citizens [and] . . . 75% were well educated . . . The overwhelming reason for wanting to give an organ was to help someone in distress . . . [this was a group] of remarkable social and personal stability.

WAYNE SHELTON & JOHN BALINT, THE ETHICS OF ORGAN TRANSPLANTATION 95 (2001) (quoting H. Sadler et al., *The Living, Genetically Unrelated, Kidney Donors*, SEMINARS PSYCHIATRY 3, 86 (1971)).

⁹⁰ VAWTER, *supra* note 35, at 57.

⁹¹ *Consensus Statement*, *supra* note 55.

⁹² Vastag, *supra* note 12, at 181-82. Short-term risks are risks that exist before the patient leaves the hospital, and long-term risks are those that exist after the patient leaves. *Id.*; see also UNOS, *What We Do*, *supra* note 16 (describing the short-term and long-term risks associated with living organ donations).

⁹³ Anderson, *supra* note 66, at 280.

⁹⁴ A. Matas, et al., *Nondirected Living Kidney Donation*, 343 N. ENG. J. MED. 433-36 (2000).

associated with allergic reactions to the anesthesia, pneumonia, blood clots, hemorrhaging, the need for blood transfusions, infection of the wound or urinary tract, graft failure [for the recipient, and] death."⁹⁵ According to the director of the OPTN, the occurrences of short-term risks are "very low."⁹⁶ Serious short-term complications from kidney removal happen only in a reported 2.5% of cases.⁹⁷ However, between 1999 and 2003, at least six kidney donors died a short time after having the surgery in a hospital.⁹⁸ The typical recovery time for donations is two to six weeks before a donor may return to normal activity, but the recovery time could potentially be longer.⁹⁹ Reverting to normal activities is considered an accomplishment for some donors.¹⁰⁰

In addition to short-term risks, there are long-term risks to the donor's health that could surface after the surgery."¹⁰¹ Long-term risks for kidney donors may include "increased risk of high blood pressure, increased incidence of kidney failure, possibility of injuring the remaining kidney, risk of developing a disease of the remaining kidney, [and death]."¹⁰² Consistent medical findings show that uninephrectomy¹⁰³ correlates to occurrences of hypertension and proteinuria.¹⁰⁴ One major risk of kidney donation is that the donor's

⁹⁵ United Network for Organ Donation, *Transplant Living: Outcomes: Risks and Potential Complications*, at <http://www.transplantliving.org/livingdonation/outcomes/risks.aspx> (last visited Apr. 9, 2006).

⁹⁶ Vastag, *supra* note 12, at 181-82 (quoting Mary Ellison, Ph.D., director of the Organ Procurement and Transplantation Network); see also Michael Morley, *Increasing the Supply of Organs for Transplantation through Paired Organ Exchanges*, 21 YALE L. & POL'Y REV. 221, 224 (2003). "Perioperative mortality for nephrectomy [kidney removal] is very low, approximately 0.03%, with other major complications occurring in less than 2% of cases." *Id.*

⁹⁷ Irwin Kleinmen & Frederick H. Lowy, *Ethical Considerations in Living Organ Donation and a New Approach: An Advance-Directive Organ Registry*, 152 ARCHIVES INTERNAL MED. 1484, 1485 (1992). This risk is low compared to the 20% or more of patients who die while waiting on dialysis for a kidney. William F. Owen, Jr. et al., *The Urea Reduction Ratio and Serum Albumin Concentration as Predictors of Mortality in Patients Undergoing Hemodialysis*, 329 NEW ENG. J. MED. 1001 (1993).

⁹⁸ Vastag, *supra* note 12, at 181-82.

⁹⁹ Nat'l Kidney Found., Q&A on Living Donation: What to Expect After Donation (2006), available at <http://www.kidney.org/transplantation/livingDonors/infoQA.cfm?id=6> (last visited October 16, 2006).

¹⁰⁰ See, e.g., Living Donors Online, Message Board, *I worked out this morning!!!*, at <http://www.livingdonorsonline.org> (last visited Apr. 18, 2005).

¹⁰¹ UNOS, WHAT WE DO, *supra* note 16.

¹⁰² UNOS, Transplant Living, *supra* note 20.

¹⁰³ Uninephrectomy is surgery to remove one kidney. Kallich & Merz, *supra* note 49, at 147.

¹⁰⁴ Raymond Hakim et al., *Hypertension and Proteinuria: Long-Term Sequelas of Uninephrectomy in Humans*, 25 KIDNEY INT'L 930 (1984).

remaining organ will not compensate for the removed kidney; similarly, those who donate part of their liver risk the failure of their liver to regenerate.¹⁰⁵ Limited studies show, however, that people with one kidney experience good long-term renal function.¹⁰⁶ This results from "the donor's remaining kidney enlarg[ing] until it can perform the necessary blood filtering function on its own."¹⁰⁷ The risk of a donor's remaining organ failing is a potential danger that could leave the donor in a situation where they will need to be placed on the UNOS waiting list. At this time, they are not given any priority on the list to get a replacement organ.

More detailed and accurate descriptions and analysis of long-term risks are not possible because of the lack of reporting requirements on donor follow-up care and treatment.¹⁰⁸ Reporting to UNOS regarding follow-up care is voluntary and under-reporting is prevalent.¹⁰⁹ The major problem with the lack of a mandatory reporting and tracking system of living organ donations is the insufficiency of information available to make educated determinations about the risks involved.¹¹⁰ Many transplant surgeons and other specialists acknowledge that underreporting of the long-term risks of living donations deprives doctors of data they can use to improve their techniques.¹¹¹

Another issue that living organ donors must address is financial responsibility for their health care costs. Private insurance from the recipient usually covers 100% of the costs of the donor's medical bills; the same is true if the recipient is part of Medicare.¹¹² The recipient's insurance is charged an "acquisition fee" when he or she receives a transplant, which covers the costs associated with the

¹⁰⁵ Banks, *supra* note 14, at 57.

¹⁰⁶ Leon G. Fine, *How Little Kidney Tissue Is Enough?*, 325 NEW ENG. J. MED. 1097 (1991).

¹⁰⁷ *Id.*

¹⁰⁸ Vastag, *supra* note 12, at 181-82.

¹⁰⁹ *Id.*

¹¹⁰ *Id.*

¹¹¹ *Id.*

¹¹² UNOS, *What We Do*, *supra* note 16.

Health insurance coverage varies for living donation. If the recipient is covered by a private insurance plan, most insurance companies pay 100 percent of the donor's expenses. If the recipient is covered by Medicare's end-stage renal disease program, Medicare Part A pays all of the donor's medical expenses, including preliminary testing, the transplant operation, and post-operative recovery costs. Medicare Part B pays for physician services during the hospital stay. Medicare covers follow-up care if complications arise following the donation.

donor's medical evaluation, transplant procedure and postoperative care. However, this fee does not include annual physicals for the patient, travel or lodging expenses, or lost wages.¹¹³ Further, the organ recipient may, reimburse these costs to the donor without violating the law prohibiting the sale of organs.¹¹⁴

In addition to physical and financial risks, living organ donors are also subject to emotional risks.¹¹⁵ Living organ donors may face depression, resentment, and guilt.¹¹⁶ Feelings of resentment enter the equation when a donor experiences a greater amount of pain and a lesser amount of appreciation than anticipated. Guilt may occur if the organ recipient rejects the donor's organ and the donor feels as if he or she should have been able to do more for the patient.¹¹⁷

Ethicists justify the risks to the donor by arguing that the benefits to society are greater than the risks to the donor or by arguing that donors actually benefit from the act of donation.¹¹⁸ According to UNOS, the most important consequence of living organ donations is the psychological benefits to both the donor for being able to donate the gift of health and the recipient because of the precious gift that someone gave to them.¹¹⁹ For recipients, living organ donations provide better tissue match to the recipient and give them a greater chance of survival.¹²⁰ The chance that the recipient can have a long and rewarding life is a benefit to both the donor and recipient.¹²¹ Extensive evidence shows that living donors benefit

¹¹³ United Network for Organ Sharing, *Transplant Living: Financial Aspects, Living Donation Costs* (2006), at <http://www.transplantliving.org/livingdonation/financialaspects/costs.aspx>.

¹¹⁴ *Id.*

¹¹⁵ UNOS, *What We Do*, *supra* note 16. See also Kallich & Merz, *supra* note 49, at 147.

¹¹⁶ UNOS, *What We Do*, *supra* note 16.

For example, one study of bone marrow donors (a relatively low risk medical donation procedure) reported that ten to twenty percent of donors had negative feelings regarding the donation experience. Renal donation is associated with sixteen percent of the donors having an extremely negative reaction to the experience of donation, twenty-five percent of the donors suffering from depression, and at the extreme, reports of donor suicides as a result of the donation exacerbating family pressures.

Kallich & Merz, *supra* note 49, at 147.

¹¹⁷ Robin Spital et al., *The Donor's Decision in Renal Transplantation: A Cost Benefit Analysis*, 9 AM. J. KIDNEY DISEASES 396, 396-402 (1987).

¹¹⁸ *Id.*

¹¹⁹ UNOS, *Living Organ Donation*, *supra* note 58.

¹²⁰ SHELTON & BALINT, *supra* note 89, at 105.

¹²¹ VEATCH, *supra* note 5, at 189.

“through an improved quality of life and lasting increases in self-esteem resulting from knowledge that they have made a major sacrifice to help save a life.”¹²² In addition, even if the recipient’s body rejects the organ, some studies show that donors derive comfort from the fact that they did all they could do for a loved one.¹²³ The studies show that a majority of donors said that they were not only pleased that they donated but also that they would do it again.¹²⁴ A Swedish study found that the survival rate of people who donated a kidney was better than that of the general population.¹²⁵

Even donors to strangers may experience benefits as substantial as those experienced by related and non-related donors.¹²⁶ One study involving non-related and non-directed donations showed that “these volunteers shared many features with living related donors: the decision to give was almost immediate, none of them felt coerced by physicians or recipients, there were no regrets or psychological complication after donating, and all experienced lasting increases in self esteem.”¹²⁷ Overall, it is clear that living organ donors could greatly benefit from their donation, and the possibility of such a positive outcome may outweigh any physical or emotional risks attendant to the transplant

2. Informed consent

In order for physicians to help donors properly balance the risks and benefits of surgery, they must adequately inform donors about the specific details of the transplantation.¹²⁸ The current regulatory structure does not clearly require physicians to provide donors with sufficient information to make an informed decision regarding organ transplantation.¹²⁹ A donor can give the proper informed consent¹³⁰ to undergo a treatment only if a physician provides information in

¹²² SHELTON & BALINT, *supra* note 89, at 106.

¹²³ L.F. Ross et al., *Ethics of a Paired-Kidney-Exchange Program*, 336 NEW ENG. J. MED. 1752-55 (1997).

¹²⁴ SHELTON & BALINT, *supra* note 89, at 101.

¹²⁵ *Id.* at 104.

¹²⁶ *Id.* at 101.

¹²⁷ *Id.* at 110.

¹²⁸ *Consensus Statement*, *supra* note 55, 2919-26.

¹²⁹ Kallich & Merz, *supra* note 49, at 144.

¹³⁰ Informed consent has been succinctly described as follows: “when information is disclosed by a physician to a competent person, that person will understand the information and voluntarily make a decision to accept or refuse the recommended medical procedure.” *Id.* at 147 (quoting Alan Meisel & Loren H. Roth, *What We Do and Do Not Know About Informed Consent*, 246 JAMA 2473, 2473 (1981)).

such a way that is clear, detailed, and easy to understand.¹³¹ Donations in theory cannot proceed without the appropriate informed consent, which must be given by both the recipient and the donor.¹³² Informed consent contains five requirements: competence,¹³³ disclosure of risks and benefits of the procedure, appreciation of these benefits and risks,¹³⁴ voluntariness, and actual consent.¹³⁵ The informed consent requirement acknowledges the importance of individual autonomy in making important decisions, something that America as a society greatly values.¹³⁶

With living organ donations as with any medical procedure, most adults are competent to give their informed consent to undergo a medical procedure.¹³⁷ However, prison inmates cannot be living organ donors because of fears of coercion from individuals who believe that the value of organ donations will outweigh the rights of prisoners, fear that prisoners will not be informed properly about risks associated with transplantation, and the negative public perception associated with compelling any individual to donate.¹³⁸ Children and mentally incompetent individuals can be living donors with judicial oversight and a surrogate decision-maker's consent.¹³⁹

After a person is determined by the transplant team or judicial process to be competent, the physician must inform the donor of the

¹³¹ See *id.*

¹³² RACHEL ANKENY MAJESKE ET AL., ORGAN AND TISSUE DONATION: ETHICAL, LEGAL, AND POLICY ISSUES 89 (2001); see also Banks, *supra* note 14, at 57.

¹³³ "Psychosocial evaluation . . . offers an opportunity to evaluate the competence of the donor to give informed consent for donation. Discovery of psychosocial problems, including psychiatric illness, should not automatically exclude persons who wish to donate. Rather, such findings signal the need for more intense evaluation, discussion, and possible intervention to optimize donation." *Consensus Statement, supra* note 55.

¹³⁴ "Donors must be able to assimilate accurate information regarding the risks and benefits to themselves. They must understand the benefits to the recipient, but also the alternative treatments available to the recipient." *Consensus Statement, supra* note 55.

¹³⁵ MAJESKE ET AL., *supra* note 132, at 91.

¹³⁶ SHELTON, *supra* note 89, at 95.

¹³⁷ Whitney Hinkle, Note, *Giving Until It Hurts: Prisoners are Not the Answer to the National Organ Shortage*, 35 IND. L. REV. 593, 610-15 (2002).

¹³⁸ Hinkle, *supra* note 137 at 610-15. UNOS "opposes any strategy or proposed statute regarding organ donation from condemned prisoners." *Id.* at 596.

¹³⁹ Kallich & Merz, *supra* note 49, at 150. Similar to the lack of living organ donations statutes, "no state has passed legislation broadly regulating living tissue donation by minors." Bryan Shartle, *Proposed Legislation for Safely Regulating the Increasing Number of Living Organ and Tissue Donations by Minors*, 61 LA. L. REV. 433, 444 (2001). For example of a court permitting organ donation of a mentally incompetent individual, see *Strunk v. Strunk*, 445 S.W.2d 145 (Ky. Ct. App. 1969).

risks and benefits of the procedure.¹⁴⁰ Potential donors must also appreciate these risks and benefits; if they cannot understand and assimilate this information, they lack the capacity to give informed consent.¹⁴¹

The most critical component of informed consent is voluntariness.¹⁴² To make a truly voluntary decision, self-imposed internal pressures or external familiar pressures must not control an individual's decision making.¹⁴³ The physician must be aware of the potential for coercion of both familial and stranger donations since concerns may differ, depending upon whether the donor is related, non-related, or stranger.¹⁴⁴ The danger of coercion is particularly high when donations occur within the family.¹⁴⁵ This coercion results from family mores that all but force a family member to sacrifice anything, even an organ, for another member of the family.¹⁴⁶ Failure to oblige these requests could result in excommunication from the family.¹⁴⁷ Research has shown that when a family member is in need of an organ, the situation "virtually obligates every family member . . . [to] make an immediate decision to offer their [organ] 'upon hearing of the need, without rumination or further investigation.'"¹⁴⁸ Alternatively, when an individual outside the family makes a donation, others suspect hidden payments, mental illness, external pressure to donate, and lack of proper informed consent of the actual risks involved.¹⁴⁹

Evidence exists demonstrating that most related donors decide to donate even before they are told about the risks involved.¹⁵⁰ This shows that the risks of living organ donation do not concern many related donors preoccupied with satisfying the needs of their loved

¹⁴⁰ Hall, *supra* note 7, at 607-617.

¹⁴¹ *Id.*

¹⁴² MAJESKE ET AL., *supra* note 132, at 91.

¹⁴³ *Id.*

¹⁴⁴ Hall, *supra* note 7, at 610.

¹⁴⁵ PAUL MICHIELSEN, MORE OR LESS LIVING DONATIONS, IN CLINICAL TRANSPLANTS 344-45 (Paul I. Terasaki & J.M. Cecka eds, 1995).

¹⁴⁶ Kallich & Merz, *supra* note 49, at 146.

¹⁴⁷ *Id.*

¹⁴⁸ RENEE FOX & JUDITH SWAZEY, SPARE PARTS: ORGAN REPLACEMENT IN AMERICAN SOCIETY 33 (1992).

¹⁴⁹ MICHIELSEN, *supra* note 145, at 344-45; *see also* Kallich & Merz, *supra* note 49, at 153 (citing the need to recognize the pressures associated with living organ donations).

¹⁵⁰ Kallich & Merz, *supra* note 49, at 144 (citing Carl H. Fellner & John R. Marshall, *Twelve Kidney Donors*, 206 JAMA 2703, 2704 (1968)).

ones.¹⁵¹ From a policy perspective, this should not be troublesome because “[d]espite incomplete understanding and the possibility of internal pressure, consent which emanated from deep affection should be looked upon as an expression of autonomy and considered just as valid as consent which is fully informed.”¹⁵² Also, it is not thought to be particularly troublesome for a mother to donate a kidney to her child or a husband to his wife, regardless of the potential risks.¹⁵³

One way to ensure informed consent is to properly screen potential donors.¹⁵⁴ Proper screening requires the transplant team to present the information in an unbiased and accurate manner, but this is often difficult where the physician counseling the potential donor is also the physician treating the patient in need of the transplant.¹⁵⁵ To properly screen potential donors, a professional who is not involved in the care of the potential recipient must perform screening.¹⁵⁶ This screening must include potential risks and benefits. Legislatures should consider passing a living donor statute detailing who may or who may not determine a patient emotionally fit to undergo an organ donation.

3. Physicians’ concerns

Physicians have conflicting views about living organ donations.¹⁵⁷ Since harm to the donor is inescapable, some physicians view living organ donations as a violation of the Hippocratic Oath that they have pledged to keep—first to do no harm.¹⁵⁸ The nature of using living donors requires physicians on one hand to cause harm to one patient for no therapeutic benefit in order to benefit another.¹⁵⁹ On the other hand, living donations allow doctors to save one person’s life, reduce the number of individuals waiting for cadaver organs, and arguably cause little risk to the donor.¹⁶⁰ Thus, some physicians dismiss concerns that these procedures violate the Hippocratic Oath,

¹⁵¹ SHELTON & BALINT, *supra* note 89, at 101.

¹⁵² *Id.*

¹⁵³ *Id.*

¹⁵⁴ *Id.* at 106 (citing UNOS Ethics Committee, 1992).

¹⁵⁵ Betsy Bates, *Ethical Concerns Surround Living Organ Donations: Informed—or Coerced—Consent?*, FAM. PRAC. NEWS, Feb. 1, 2004, at 123.

¹⁵⁶ SHELTON & BALINT, *supra* note 89, at 96.

¹⁵⁷ Kallich & Merz, *supra* note 49, at 139.

¹⁵⁸ SHELTON & BALINT, *supra* note 89, at 102; Anderson, *supra* note 66, at 280.

¹⁵⁹ Kallich & Merz, *supra* note 49, at 139.

¹⁶⁰ *Id.*

arguing that the “ancient dogma of ‘first, do no harm’ appears simple and obvious. But on closer examination, it seems to have been mere window dressing for necessary hurt that has accompanied much of medical practice over the centuries.”¹⁶¹

The Hippocratic Oath presents the sentiment that “[i]t is as if in all the world there was only one physician and one patient.”¹⁶² Following this rationale, inherent conflicts arise because of the need to balance the benefits to the recipient and the obligations to society against the harm to the donor.¹⁶³ Ethicists typically cite three main principles that doctors must incorporate when dealing with living organ donations: “(1) respect donors and their families, (2) protect prospective donors, and (3) encourage donation and increase the numbers of transplantable organs.”¹⁶⁴ These goals may conflict, for example, without proper regulations, individual transplant centers may determine the goal that they value most and exploit it without proper balancing of the other factors.¹⁶⁵

The primary goal of the physician must be to determine if the transplant is justified based on balancing the risk to the donor against the likelihood of the recipient’s recovery.¹⁶⁶ To accomplish this, physicians must give proper information to obtain informed consent, thus allowing the patient to have autonomy to make their own medical decisions.¹⁶⁷ Physicians should not deny individuals the chance to live and to give life to another; rather they should allow patient autonomy to dictate transplantation choices after the completion of a full and proper medical suitability analysis. The Hippocratic Oath must be considered in the light of doing harm to society by withholding transplants from living donors.

D. *Emerging Solicitation Approaches for Living Donations*

1. Pittsburgh Protocol

The issue of transplantation from non-heart-beating donors is a controversial topic that some would categorize as living organ

¹⁶¹ SHELTON & BALINT, *supra* note 89, at 102.

¹⁶² ARTHUR CAPLAN & DANIEL COELHO, *THE ETHICS OF ORGAN TRANSPLANTS: THE CURRENT DEBATE* 42 (1998).

¹⁶³ *Id.*

¹⁶⁴ VAWTER, *supra* note 35, at 54.

¹⁶⁵ CAPLAN & COELHO, *supra* note 162, at 42.

¹⁶⁶ *Id.*

¹⁶⁷ *Id.*

donation.¹⁶⁸ A University of Pittsburgh protocol allows critically ill patients to forgo life support while in the operating room, have a physician declare the patient dead based on cessation heart functioning, and then have their organs harvested.¹⁶⁹ Opponents argue that this practice is illegal and against the dead donor rule because organs are being taken before the actual moment of death, and organ retrieval causes the patient to die.¹⁷⁰ They argue that these patients are essentially killed for their organs and should qualify as a result as a separate class of living organ donors rather than cadaver donors as they are currently classified.¹⁷¹ Like typical living organ donations, the treatment of non-heart-beating donors, including “the attention to donor consent, the voluntariness of that decision, and the restrictions on incentives and encouragement,”¹⁷² indicate this procedure is more akin to living organ donations than cadaver donations.¹⁷³

Since organs are most valuable for transplantation after a short time without oxygen, health professionals only wait two minutes after respiration ends before beginning the preparation for organ procurement.¹⁷⁴ The “dead donor” rule requires that the donor to be dead by irreversible heart/lung functioning or brain functioning before doctors may harvest any organs,¹⁷⁵ and the non-heart-beating donor might not be dead according to this definition. The argument is that “[d]eath requires irreversible stoppage [of the heart], yet it is unclear whether that means the heart could not be started again or merely will not be.”¹⁷⁶ Others argue that since current law defines death as either irreversible cessation of brain function or heart functioning, the procedure is not illegal even though there are concerns that the donor’s brain is still functioning.¹⁷⁷ Yet others argue that removing organs after only two minutes before brain death and irreversible cessation of circulatory function might make

¹⁶⁸ VEATCH, *supra* note 5, at 184.

¹⁶⁹ *Id.*

¹⁷⁰ VAWTER, *supra* note 35, at 60; *see also* VEATCH, *supra* note 5, at 184.

¹⁷¹ VAWTER, *supra* note 35, at 60; *see also* VEATCH, *supra* note 5, at 184.

¹⁷² *Id.* at 62.

¹⁷³ *Id.*

¹⁷⁴ VEATCH, *supra* note 5, at 208-09.

¹⁷⁵ UAGA § 3(a)(3) (1987), 8a U.L.A. 2 (Supp. 1990). For example, the UAGA provides: “[i]f there has been an anatomical gift, a technician may remove any donated parts . . . after determination of death by a physician or surgeon.” *Id.* at § 8(c), 8a U.L.A. 15.

¹⁷⁶ VEATCH, *supra* note 5, at 209.

¹⁷⁷ *Id.* at 210.

the transplant team guilty of murder because health professionals cause death by removing the organs and not stopping the respirator.¹⁷⁸ This concern, however, could be overcome by declaring the patient dead after more than two minutes after both brain death and cardiac death.¹⁷⁹ Organs can still be viable for transplantation after five minutes when the individual meets both definitions of death and a true cadaver organ procurement occurs.¹⁸⁰

2. Internet Solicitation

Another emerging approach involves communication between potential donors and recipients through internet-based chat rooms and websites.¹⁸¹ Three documented cases of internet-facilitated organ transplants have occurred as of November 2004.¹⁸² The website MatchingDonors.com and a free message board at livingdonorsonline.org have allowed individuals in need of organs to meet and chat with others who are willing to be living organ donors.¹⁸³ The idea is controversial in the medical world, because it raises questions about potential commercialism and donor compensation.

MatchingDonors.com, created in 2004, is a for-profit internet business that charges \$295 per month for a person in need of an organ.¹⁸⁴ Potential donors can determine who the most deserving person is for their organ based on the information the potential recipients provide.¹⁸⁵ The following is message posted on livingdonorsonline.org describing one family's ad looking for a kidney for their daughter:

Our 19-year-old daughter is waiting for a kidney transplant She was diagnosed with kidney disease in the spring of 2001, at 15 years old. I remember holding her hand when the doctors told her the bad news. They said eventually she was going to lose her kidneys and there was nothing they could do about it She continues on dialysis to this day, and while it has sustained her life, it has also been very tough to endure. She

¹⁷⁸ Anderson, *supra* note 66, at 272.

¹⁷⁹ VAWTER, *supra* note 35, at 63.

¹⁸⁰ *Id.* at 62.

¹⁸¹ Editorial, *Strangers' Organ Donations Concern MDs, L. & HEALTH WKLY*, Nov. 20, 2004, at 6.

¹⁸² Kladko, *supra* note 81, at A01.

¹⁸³ *Id.*

¹⁸⁴ *Id.*

¹⁸⁵ *Id.*

must be treated three hours a day, three days a week. Her life quality remains poor due to fatigue caused by anemia. It is quite a challenge for a teenager to struggle with such demanding medical issues. Our daughter graduated from high school in June and started classes at a local city college in Sept. She loves books, video games, movies, singing and theater arts. She wants to be an actress someday. We hope that she will continue to dream for her future and pray she will be given the opportunity to experience the complete life she deserves to have. She is at the point where we can begin the process to locate a living donor. Her blood type is O-Positive, which means she has still has a 4 to 6 year wait on the nationwide cadaveric organ list. We had hopes that her father would be a match to donate, but due to recent health issues he has been disqualified as a donor. I (her mother) have an incompatible blood type, and her siblings are under 18 years old, too young to be considered. People often ask how they can help. Please consider donating a kidney so she can get off dialysis. If you need to know more about the transplant process itself, we can email you information. Please contact us at¹⁸⁶

Other ads are simpler, stating "Hi, A+ liver Available please contact."¹⁸⁷

The biggest concern about these internet-based matching sites is that they create the potential for donations to become commercial transactions.¹⁸⁸ Some ethicists compare internet-solicitation with paying for organs; according to University of Pennsylvania bioethicist Arthur Caplan, an organ system that is fair cannot allow organs to be sold to the highest bidder or to the one who gets the most publicity.¹⁸⁹ "Experts also are concerned about the open-market nature of the Internet. They say it is unfair to give an edge to people who are simply better at recruiting donors over others who are sicker and ranked higher on the national waiting list."¹⁹⁰

Of the three reported cases of successful internet solicitations, there has been no indication that any money has exchanged hands between the recipient and the donor, despite intense physician and hospital scrutiny regarding this potential practice.¹⁹¹ Although UNOS spoke out against MatchingDonors.com's methods because of the

¹⁸⁶ Living Donors Online, Message Board, from <http://www.livingdonorsonline.org/dcforum/DCForum> (information on file with author).

¹⁸⁷ *Id.*

¹⁸⁸ Kladko, *supra* note 81, at A01.

¹⁸⁹ Judith Graham & Judy Peres, *Web Donor Transplant Called Off; Hospital Questions Ethics of Donation Arranged via Online Ad*, CHI. TRIB., Oct. 19, 2004, at C1.

¹⁹⁰ *Strangers' Organ Donations Concern MDs*, *supra* note 181, at 6.

¹⁹¹ Graham & Peres, *supra* note 189, at C1.

potential for exploitation, UNOS regulations do not directly forbid it and appointed a committee to determine the future of the growing trend of internet solicitation of organs.¹⁹²

¹⁹² Memorandum from Robert A. Metzger, M.D., President, Organ Procurement and Transplantation Network /United Network for Organ Sharing, to Organ Procurement and Transplantation Network /United Network for Organ Sharing Board of Directors (Jan. 12, 2005), *available at* <http://www.unos.org/news/newsDetail.asp?id=391> (last visited October 16, 2006). The following is an excerpt of the memo:

The recent publicity generated by the live donor transplant arranged through a commercial website has called to question the appropriateness of public solicitation for live donor organs for transplantation. The United Network for Organ Sharing (UNOS), which operates the National Organ Procurement and Transplantation Network (OPTN), has formed an ad hoc committee to further study the issues involved in public solicitation for donated organs. That committee will make recommendations to the OPTN/UNOS Board of Directors. It is important to re-examine what types of living donor/candidate relationships are acceptable in our changing society. In asking that committee to consider issues relating to live donor transplantation, the OPTN/UNOS Executive Committee recommends the committee to take the following considerations with respect to Internet solicitations into account.

In today's world, innovative ways of initiating friendships are continuously expanding and the internet is playing a major role in this process. Appropriate transplants have occurred between live donor/recipient pairs who have met online. Free, online chat rooms and forums exist where such donor/recipient relationships have developed. Operation of a commercial website for the purposes of matching potential live donors with potential organ recipients raises the issue of whether potential donors or recipients are being exploited financially, although commercial websites can be effective in bringing the parties together to initiate friendships. Nevertheless, neither the live donor nor the candidate/recipient for organ transplantation should be exploited in the donation and transplantation process.

One might ask if use of the internet for initiating potential donor/recipient relationships is acceptable, since not all potential candidates may have access to the internet. But then again, all potential candidates may not have access to churches, synagogues, other places of worship or of employment, where donor/recipient relationships traditionally viewed as acceptable, might occur. Those organizations which develop organ transplant policies and provide transplant services need to continuously evaluate new developments in communication methods available to those they serve. However, absent a meaningful relationship, prospective living donors are encouraged to allow their organs to be allocated according to the principles of equitable organ allocation developed by the Organ Procurement and Transplantation Network.

Transplant centers vary in their approach to live donation, and each center has developed acceptance criteria that are reflective of its philosophy for providing live donor transplantation. These criteria may range from accepting only known relatives or those with close emotional ties, to approving transplants from non-directed donors or

Concerns are prevalent that the internet will prevent proper distributions of organs.¹⁹³ UNOS said that MatchingDonors.com “subverts the equitable allocation of organs for transplantation.”¹⁹⁴ Some argue that it is not inequitable or unacceptable to allow such an outlet for organ donors and recipients because some individuals are not fortunate enough to have a large family or a social community where there is a willing donor.¹⁹⁵

Although it is true that internet communication benefits those patients who have access to the internet at the expense of those who do not, this form of solicitation should remain legal. No law exists against solicitation of organs.¹⁹⁶ Moreover, internet communication has the potential to expand the donor pool¹⁹⁷ and to benefit those who do not have the advantage of large families or membership in a closely knit religious group.¹⁹⁸ Nevertheless, individuals engaging in this form of solicitation may not directly compensate donors and must continue to depend on the altruism of others.¹⁹⁹ The concerns regarding internet solicitation are not specific to the communication media used, but relate to living organ donations in general. Internet solicitation has the potential to exasperate the opposition to living organ donations, but internet communication does not change the risks involved, the need for informed consent, and physician concerns.

those with only distant relationships.

Ultimately, the transplant center, utilizing ethical principles that underscore established standards of care for the donor and recipient, must develop the criteria for the medical and psychosocial acceptance for live donor transplantation at that center.

Id.

¹⁹³ Kladko, *supra* note 81, at A01.

¹⁹⁴ *Id.*

¹⁹⁵ *Id.* Dr. Jeremiah Lowney, a Boston doctor who co-founded MatchingDonors.com, questioned whether opponents of internet solicitation actually believe that potential recipients are “supposed to languish on a list because they’re not fortunate enough to have a father or brother who matches.” *Id.*

¹⁹⁶ *Transplant Arranged via the Internet is Completed*, N.Y. TIMES, Oct. 21, 2004, at A21.

¹⁹⁷ For example, “when it comes to donations from living people, the playing field isn’t so level. People with a large network of relatives and friends have clear advantage over people with small families or few friends.” Kladko, *supra* note 81, at A01.

¹⁹⁸ *Id.*

¹⁹⁹ Anderson, *supra* note 66, at 299.

3. Paired organ exchanges

Paired organ donations are an alternative way of increasing the number of available organs.²⁰⁰ They permit live organ donation between two willing donors and two recipients in cases where “there are two willing living donors who each turn out to be incompatible with their desired recipient but compatible with the other donor’s desired recipient.”²⁰¹ Proponents of this plan argue that UNOS should facilitate paired organ exchanges by keeping track not only of the people in need of organ transplants but also of the people who are willing to donate organs on the recipient’s behalf and their tissue compatibility information.²⁰²

Although critics could view paired organ exchanges as violating the altruistic nature of organ donation because people are giving organs in exchange for something of value, this description is not accurate because the donors remain motivated by a desire to help the community and those individuals in need of an organ.²⁰³ Many prominent organizations agree that this type of exchange does not amount to commerce or exchange of financial incentives.²⁰⁴ In March 2003, UNOS determined that paired organ donations do not violate the prohibition against organ selling.²⁰⁵ Paired organ donations do not create any additional risks to organ donors and encourage more donations because the chance of compatibility increases with more willing participants. As long as all parties follow the appropriate procedures for informed consent, paired organ exchanges should be used and encouraged.

E. *Illegal Solicitation Approach- Selling organs*

On September 2, 1999, an individual posted an online auction for his kidney on the internet website eBay.com for a starting bid of \$25,000.²⁰⁶ By the time eBay personnel closed the auction, the kidney

²⁰⁰ VEATCH, *supra* note 5, at 186.

²⁰¹ *Id.*

²⁰² Morley, *supra* note 96, at 224.

²⁰³ *Id.* at 260.

²⁰⁴ *Consensus Statement*, *supra* note 55, 2919-26. This group includes the National Kidney Foundation and the American Societies of Transplantation, Transplant Surgeons, and Nephrology. *Id.*

²⁰⁵ WILLIAMS MULLEN, *supra* note 56.

²⁰⁶ Harris & Alcon, *supra* note 38, at 229.

was selling for \$5,750,100.²⁰⁷ The public condemned this exploitation, but with the tension of balancing need with supply, some have considered selling organs as a possible method to increase organ donation.²⁰⁸ Providing financial incentives²⁰⁹ to donors is currently illegal.²¹⁰

If the law permitted financial incentives, individuals could sell their organs to the highest bidder.²¹¹ The rich would be the only group with the ability to buy organs, and the poor would be left to die or forced to remain on the UNOS national organ waitlist, if this list would continue to exist despite the new market.²¹² There are also concerns that only the financially needy will donate their organs.²¹³ "Opponents perceive sale [of organs] as an egregious exploitation of the poor, a literal pound of flesh, whereby those without resources must sacrifice bodily integrity for those with resources."²¹⁴ In addition, some fear that this will create a worldwide black market for organs.²¹⁵ For example, a German organ broker allegedly purchased kidneys from poverty-stricken Turks for \$3500 and then resold them to people outside Turkey for between \$26,000 and \$52,000.²¹⁶ One solution, offered by those who advocate living organ market systems, is to prohibit sales of organs by the "'financially vulnerable,' that is, persons who only want to sell their organs because they need the money."²¹⁷

Some experts fear that the trading of organs on the open market would displace the altruistic system of donations all together.²¹⁸ They fear that people would not freely give an organ that they could sell.²¹⁹ Also, they surmise that the voluntary nature of donations would be

²⁰⁷ *Id.*

²⁰⁸ Anderson, *supra* note 66, at 294.

²⁰⁹ "Financial incentives will be considered as any material gain or valuable consideration obtained by those directly consenting to the process of organ procurement, whether it be an organ donor himself (in advance of his demise), the donor's estate, or the donor's family." UNOS FINANCIAL INCENTIVES REPORT, *supra* note 2.

²¹⁰ *Id.* See UAGA *supra* note 27.

²¹¹ Anderson, *supra* note 66, at 295.

²¹² *Id.* at 286; see also Shelby Robinson, *Organs for Sale? An Analysis of Proposed Systems for Compensating Organ Providers*, 70 U. COLO. L. REV. 1019, 1041 (1999).

²¹³ Anderson, *supra* note 66, at 298.

²¹⁴ David Rothman, *Ethical and Social Consequences of Selling a Kidney*, 288 JAMA 1640-41 (2002).

²¹⁵ Harris & Alcon, *supra* note 38, at 231.

²¹⁶ J. Harvey, *Paying Organ Donors*, 16 J. MED. ETHICS 117 (1990).

²¹⁷ Anderson, *supra* note 66, at 297.

²¹⁸ *Id.* at 298.

²¹⁹ *Id.*

eliminated and society would be worse off with fewer organs.²²⁰ The basis for this concern is that “donation of an organ as a ‘gift exchange’—that is, one of the most powerful forces which binds a social group together’— . . . this selfless act would be irreparably damaged by compensation of organ providers.”²²¹

Others feel that a system of compensation is morally wrong regardless of the ability to increase the number of willing organ donations.²²² UNOS warns that allowing financial incentives would initiate the slippery slope where the body simply becomes a commodity to be bought, sold, or traded like any other object.²²³ Regulations could avoid the worst abuses, but even with such restrictions, there are concerns that the number of donations will not increase and that altruistic donations will disappear without any perceived benefit.

Similar to the idea that gifts would no longer be altruistic, many feel that money “cheapens” the gift of donated tissue and organs.²²⁴ In such a system, organ donations stop being a special gift, one that money cannot buy, to one that carries a price tag as if the organ is a common commodity.²²⁵ Moreover, commodification of body parts places a monetary value on the entire human body because if one could put a price on all organs then the sum of its parts equals the “value” of the individual.²²⁶ Many ethicists believe certain products are ‘market inalienable’- meaning that they should not be traded or bartered in open markets.²²⁷ Organs, they say, are market inalienable and once permitted to be sold they will lose their value.²²⁸ To allow sale of organs treats humans like property.²²⁹ Therefore, the decision to allow a market system would be morally wrong.²³⁰ Opponents also point to the fact that if recipient and donor exchange money for an organ then it’s more likely that the organ will not be the most suitable match, and the donor was not medically suitable for organ

²²⁰ Anderson, *supra* note 66, at 299; *see also* Robinson, *supra* note 212, at 1019, 1040.

²²¹ Anderson, *supra* note 66, at 299.

²²² *Id.*

²²³ UNOS FINANCIAL INCENTIVES REPORT, *supra* note 2.

²²⁴ Anderson, *supra* note 66, at 299.

²²⁵ *Id.* at 300.

²²⁶ *Id.*

²²⁷ Morley, *supra* note 96, at 257.

²²⁸ *Id.*

²²⁹ Bates, *supra* note 155, at 123.

²³⁰ *Id.*

removal.²³¹

Those favoring financial compensation for organs cite the fact that organs are scarce, and the current system does not and will never supply an adequate number of organs.²³² Also, they point out that since doctors, nurses, hospitals, and others financially gain from performing transplants, donors should also have the same opportunity.²³³ Proponents look to the oocyte donation model as evidence that a system of payment will increase organ donations.²³⁴ It is estimated that in 1999, 5,000 women underwent the invasive procedure to donate an egg.²³⁵ The biggest motivation for these donations was the \$4,000 to \$35,000 they received per donation.²³⁶ Compensation clearly increased the amount of donations.²³⁷

Although some argue that compensating individuals will cause the supply of organs to increase, extensive studies have not shown this statement to be completely accurate. The willingness of some groups, like the poor, to donate may increase at the expense of decreasing the willingness of others groups such as altruistic donors. At this point, the living donation system should not compensate individuals. Many other possible improvements are available that could increase the supply of donations without the added complications that compensating donors will bring. Until the current altruistic system is proven ineffective, compensation should remain a topic debated by ethicists.

V. Conclusion

The law should continue to permit the extraordinary acts of kindness performed by related, non-related, and stranger living organ donors, but improvements to the current system are essential in order to ensure a system of voluntary donations that benefit the donor, recipient, and society as a whole. Currently, a huge problem exists with organ procurement because organs are a scarce resource. In order to solve this problem, medical professionals must work to change the system and accommodate new solutions, like encouraging

²³¹ CAPLAN & COELHO, *supra* note 162, at 229.

²³² UNOS FINANCIAL INCENTIVES REPORT, *supra* note 2; *see also* Rothman, *supra* note 214, at 1640-41.

²³³ UNOS FINANCIAL INCENTIVES REPORT, *supra* note 2.

²³⁴ Harris & Alcon, *supra* note 38, at 231.

²³⁵ *Id.*

²³⁶ *Id.*

²³⁷ *Id.*

living organ donations of non-related individuals and internet-based donation sites already in operation. The Department of Health and Human Services (“DHHS”) is faced with many issues but technology does not afford it the opportunity to take a wait and see attitude. The DHHS, though UNOS, must start to regulate living organ donations so that they can track the safety of transplants.

The first step is to expand UNOS’s ability to control living organ donations. The law should require UNOS to track every living organ donation through its transplant centers. The law should also obligate all doctors performing transplants to provide information to UNOS regarding the type of organ to be transplanted, the relationship between the donor and recipient, the signed informed consent agreements, and evidence that the organ donor was not paid for their organs. Evidence could include requiring parties to sign an agreement stating that under pain of prosecution that they have not paid or been paid any monetary sum for the donation.²³⁸ UNOS should be responsible for creating standards for living organ donations as they do with cadaver donations. UNOS should protect patients by providing independent counselors to help make informed decisions.

UNOS must allow the technology available to dictate to some degree what kinds of transplants are legal. The bottom line is that there are not enough organs to meet demand. Therefore, UNOS should allow all ethical, whether traditional or non-traditional, methods of transplantation to occur. UNOS must continue to allow living donations between related and non-related living donors, regardless of the methods employed to find an appropriate donor. UNOS must look to non-traditional schemes like paired organ exchanges and internet solicitation. Overall, UNOS needs to create a system that is easy and accessible to all.

Financial incentives must be considered only as a last resort. Financial incentives will push the most needy to donate organs and will essentially limit access to transplants to those that can afford it most. Even though Medicare will pay for 100% of transplantation costs, the available organs will limit access to health care. It is not fair to create a system that will disproportionately harm those with lower incomes because someone else can pay more money for an organ. A more equitable solution is necessary. If the current system cannot accommodate demand, and studies show that these incentives will create more organs, the consideration of financial incentives may be

²³⁸ Anderson, *supra* note 66, at 286.

proper on a trial basis. The organ supply must be increased in total. A sustainable solution cannot just change the groups of individuals who consider donation. Every solution, however, is a potential controversy that must be analyzed and considered.