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Samuel D. Hodge Jr.
Temple University, shodge@temple.edu

Nicole Marie Saitta-Gill
Stradley Ronon Stevens & Young, LLP, ngill@stradley.com

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SOLVING THE PROBLEM OF ORGAN DONATION SHORTAGE

Nicole Saitta-Gill and Samuel D. Hodge, Jr.*

ABSTRACT

Organ donation, a medically perfected procedure, affords a second chance at life for many people. Unfortunately, organ transplantation demonstrates the stark reality of supply and demand. Thousands of individuals are added to the transplant list each day, but many more die during the same time frame waiting for new organs.¹ The solution to this dilemma seems simple: increase the supply. This article will discuss several ways to achieve this goal. First, through the HIV Organ Policy Equity Act, which allows for HIV-positive-to-HIV-positive transplants,² more transplantable organs will hopefully be available in the future. Second, the supply of organs may increase by changing the standards of organ donation from irreversible loss of brain function to irreversible loss of cardiac function.³ Third, educating individuals, especially minorities, about donation and the regionally based system for transplants may result in a larger number of matching donors and a greater number of potential recipients on multiple transplant lists. Finally, efforts such as payments and advertising for organs, giving priority transplants to registered

* Samuel D. Hodge, Jr., Esquire, a skilled litigator, is a professor of Legal Studies at Temple University where he teaches both law and anatomy. He has authored more than 150 articles in medical and legal journals and has written five medical/legal texts. Professor Hodge is also considered one of the most popular CLE speakers in the country, enjoys an AV Preeminent rating and has been named a top rated lawyer in Pennsylvania. Nicole Marie Saitta-Gill is an associate at Stradley Ronon Stevens & Young, LLP. She is a recent graduate of Temple University's Beasley School of Law and a former teaching assistant for Professor Hodge. She received an M.A. in English Literature from Villanova University. An experienced academic researcher with a background in pre-medical studies, she is particularly interested in research pertaining to the intersection of law and medicine.

1. U.S. Dep't of Health and Human Servs., *The Need Is Real: Data*, ORGANDONOR.GOV, <http://www.organdonor.gov/about/data.html> (last visited Nov. 13, 2015).
2. 42 U.S.C. § 274 (2012).
3. Jane Brody, *The Solvable Problem of Organ Shortages*, N.Y. TIMES (Aug. 28, 2007), http://www.nytimes.com/2007/08/28/health/28brod.html?_r=1&.

donors, and even confronting the disparate number of elderly donors whose organs are never transplanted, may result in an increase in the organ supply.

INTRODUCTION

Organ donation⁴ affords a second chance at life for many people.⁵ It is also one of the most extraordinary gifts a human can give another since it can literally mean the difference between life and death. Unfortunately, organ transplantation classically demonstrates the stark reality of supply and demand.⁶ Thousands of individuals are added to the transplant list each year,⁷ and on average, twenty-two

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4. Organ donation is defined as “the surgical process of providing one or more organs to be used for transplantation into another person. Organ donors can be deceased or living.” U.S. Dep’t of Health and Human Servs., *Organ Donation and Transplantation Saves Lives*, ORGANDONOR.GOV, <http://www.organdonor.gov/about/index.html> (last visited Nov. 13, 2015). A brief legal history of organ donation is as follows: The National Conference of Commissioners of Uniform Acts (NCCUA) “issued the Uniform Anatomical Gift Act (UAGA) in 1968, which was adopted . . . by all fifty states.” Brendan Abel, *Physician Assisted Homicide in Organ Donations After Cardiac Death: The Failure of Biotechnologies to Comply with the Uniform Definition of Death Act and the Dead Donor Rule*, 7 J. HEALTH & BIOMEDICAL L. 573, 581 (2012) (internal quotation marks omitted). Congress passed two additional acts in the 1980s. The National Organ Transplant Act (NOTA) of 1984 “prohibited the sale of organs and tissues and ordered the Department of Health and Human Services (DOHHS) to establish the Organ Procurement Transplant Network (OPTN) . . . for organ matching.” *Id.* at 588 (internal quotation marks omitted). “The NCCUA [also] revised the UAGA in 1987; however, only twenty-one states adopted the revision. . . . Both iterations of the UAGA adopt the opt-in theory for solid organ donations” *Id.* at 582. Adding Section Four to the 1987 UAGA “authorized coroners, medical examiners, and public health officials to remove designated body parts, such as corneas, without consent for transplantation if several conditions were met.” *Id.*
 5. U.S. Dep’t of Health and Human Servs., *Becoming a Donor*, ORGANDONOR.GOV, <http://www.organdonor.gov/becomingdonor/index.html?gclid=CIav9JukvsMCFUkvgQodI1gAyQ> (last visited Nov. 13, 2015). The concept of organ transplantation is not new to medicine. History shows that in the third century A.D., a physician in China discussed organ transplants. Medicine has now progressed beyond the days of mere conceptualization of the process to the point where organ transplantation is an ordinary medical procedure. In addition to organs, such as livers and hearts, doctors have transplanted hands and even a face. See Robert John Kane & Lawrence E. Singer, *Organ and Tissue Transplantation-Anatomical Gifts*, 22 ILL. PRAC., THE LAW OF MEDICAL PRACTICE IN ILLINOIS § 33:1 (3d ed.).
 6. Melissa Wong, *Coverage for Kidneys: The Intersection of Insurance and Organ Transplantation*, 16 CONN. INS. L.J. 535, 535 (2010).
 7. See *Data*, UNITED NETWORK FOR ORGAN SHARING, <https://www.unos.org/data/> (last visited Nov. 13, 2015). As of 9:37 AM on September 14, 2015, 122,532 individuals were on the list for a transplant. While 15,083 transplants occurred between January and June of 2015, these organs came from only 7323 donors. *Id.*

people die every twenty-four hours waiting for new organs.⁸ The easiest way to solve the problem of transplant shortages seems simple: increase the supply.⁹ But how can this seemingly simple goal be achieved? First, through the HIV Organ Policy Equity Act, which allows for HIV-positive-to-HIV-positive transplants, more transplantable organs will hopefully be available in the future.¹⁰ Second, the supply of organs may increase by changing the standards of organ donation from irreversible loss of brain function to irreversible loss of cardiac function.¹¹ Educating individuals, especially minorities, about donation and the regionally based system for transplants may result in a larger number of matching donors and a greater number of potential recipients on multiple transplant lists.¹² And other suggestions, such as payments and advertising for organs, giving priority transplants to registered donors, and even confronting

8. U.S. Dep't of Health and Human Servs., *supra* note 1.

9. Transplants are relatively routine in medical practice and the success rate is fairly high. Nevertheless, it is not without risk and some of the major dangers include: "1) blood and tissue incompatibility between the patient and the donor; 2) ineffective treatment to restrict the patient's own immune system from 'attacking' the transplanted organ; and 3) deterioration of the organ caused by a lack of oxygenated blood, known as ischemia." Abel, *supra* note 4, at 575.

10. A major issue in transplants is the cost and whether health insurance will pay for it. Congress has attempted to regulate this problem under Medicaid by making sure states apply their coverage decisions in a uniform and fair fashion. As noted in *Ellis v. Paterson*:

To assure that State coverage decisions for organ transplants are based on clear principles consistently applied, and not on political or media considerations, section 9507 of the Consolidated Omnibus Budget Reconciliation Act of 1985 (COBRA), P.L. 99-272, requires that a State which covers organ transplant procedures set forth under its Medicaid plan written standards respecting the coverage of such procedures. Under these standards, similarly situated individuals must be treated alike.

Ellis v. Patterson, 859 F.2d 52, 55 (8th Cir. 1988) (emphasis omitted) (quoting H.R. Rep. No. 100-391, pt. 1, at 532 (1987), reprinted in 1987 U.S.C.C.A.N. 2313-1, 2313-352). Nevertheless, while Congress may establish guidelines and standards to guarantee state obedience with the Medicaid laws, it is still the obligation of the states to create coverage criteria "subject to federal approval and reimbursement." Wong, *supra* note 6, at 546.

11. See Maxine M. Harrington, *The Thin Flat Line: Redefining Who Is Legally Dead in Organ Donation After Cardiac Death*, 86 DENV. U. L. REV. 335, 337 (2009) (explaining the benefits of donations after "cardiac death" rather than "brain death").

12. Kimberly D. Krawiec & Michael A. Rees, *Reverse Transplant Tourism*, 77 L. & CONTEMP. PROBS. 145, 172 (2014); see also Ingrid Kinkopf-Zajac, *Assessing Patient Compliance in the Selection of Organ Transplant Recipients*, 6 HEALTH MATRIX 503, 503 (1996).

the disparate number of elderly donors whose organs are never transplanted, may result in an increase in the organ supply.¹³

I. INCREASING THE SUPPLY THROUGH HIV-POSITIVE TRANSPLANTS

Many HIV-positive patients are on a transplant waiting list, waiting for a kidney or liver.¹⁴ What if the wait is too long? What if the person dies before receiving the life-saving organ? Would you be appalled if you discovered that a matching donor kidney could have been transplanted, but it was discarded after testing positive for HIV?¹⁵ This scenario is more real than you think. For many years, HIV patients were banned from donating organs because of the uncertainty as to what caused the disease.¹⁶ Fortunately, with the signing of the HIV Organ Policy Equity Act, HIV-positive individuals can now obtain transplants from HIV-positive donors.¹⁷

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13. See generally Paul P. Lee, *The Organ Supply Dilemma: Acute Responses to a Chronic Shortage*, 20 COLUM. J.L. & SOC. PROBS. 363 (1986) (discussing the possible increase in available donative organs through payment and priority systems).
 14. Many HIV-positive individuals suffer from kidney and renal disease. Michele Roland, *Safety and Efficacy of Solid Organ Transplantation in HIV-Positive Patients*, PHYSICIANS' RES. NETWORK (2001), http://www.prn.org/images/pdfs/503_roland_v6n1.pdf.
 15. There are a variety of laws that require donors to be tested for HIV prior to the transplantation of their organs. However, Montana takes an interesting approach and will allow a transplant without HIV testing in an emergency. Its law states:
Prior to donation of an organ, semen, or tissues, HIV diagnostic testing of a prospective donor, in accordance with nationally accepted standards adopted by the department by rule, is required unless the transplantation of an indispensable organ is necessary to save a patient's life and there is not sufficient time to perform an HIV diagnostic test.
MONT. CODE ANN. § 50-16-1008(1) (2013); accord 20 ILL. COMP. STAT. ANN. 2310/2310-330 (West 2007).
 16. *Could HIV-Infected Organs Save Lives?*, JOHNS HOPKINS MED. (Mar. 30, 2011), http://www.hopkinsmedicine.org/news/media/releases/could_hiv_infected_organ_save_lives.
 17. Such a transplant would clearly have to come with a full disclosure of the fact that the organ is coming from a person infected with HIV to avoid a malpractice claim. For instance, in a case in which the names of the parties have been withheld, the decedent obtained a kidney from a donor with brain cancer. While this type of transplant is allowed, the decedent also developed a malignant glioblastoma. In a malpractice suit against the transplant surgeon, it was alleged that the decedent should have been told that the transplanted organ was donated by a person with cancer. The case was settled for \$750,000. 24 NEW ENG. JURY VERDICT REV. & ANALYSIS, 2007, at 1:C3, 2007 WL 8026533 (Mass.); cf. *Kelly v. Fenton*, No. 08-33833, 2012 WL 1359760, slip op. 30878(U) (N.Y. Sup. Ct. Mar. 30, 2012).

A. *A Background on HIV: How It Is Different From AIDS*

The Center for Disease Control (CDC) estimates that over 1.2 million people aged thirteen years and older are living with HIV, including over 156,300 who are unaware they are affected.¹⁸ About 50,000 people become infected with HIV each year, and in 2010, there were around 47,500 new HIV infections in the United States alone.¹⁹ In 2013, the estimated number of persons diagnosed with AIDS in the United States was 26,688.²⁰ But, while the acronyms “AIDS” and “HIV” are commonplace in today’s jargon, many individuals remain unaware of the difference between the two terms or do not fully understand what they mean.

HIV stands for “Human Immunodeficiency Virus” and is similar to other pervasive viruses, such as the flu.²¹ However, while the body uses its immune system to rid itself of the flu, it cannot rid itself of HIV.²² In fact, HIV attacks key cells that are part of the immune system, using them to multiply before destroying them.²³ When the body can no longer fight infections and disease because of a depletion of immune system cells, the final stage of the HIV infection, known as AIDS, occurs.²⁴

AIDS stands for “Acquired Immune Deficiency Syndrome,” and a person is characterized as having AIDS once he has “less than 200 CD4 cells” (also known as “T-helper” cells which are a critical part of one’s immune system) “or if [his] CD4 percentage is less than 14% percent.”²⁵ A patient is also diagnosed as having AIDS when he develops an opportunistic infection, such as pneumonia, skin cancer, a particular eye infection, or a fungal infection that can cause thrush.²⁶ Globally, in 2014, 1.2 million people died of AIDS-related

18. *HIV in the United States: At a Glance*, CTRS. FOR DISEASE CONTROL & PREVENTION, <http://www.cdc.gov/hiv/statistics/basics/ata glance.html> (last updated July 1, 2015).

19. *Basic Statistics*, CTRS. FOR DISEASE CONTROL & PREVENTION, <http://www.cdc.gov/hiv/basics/statistics.html> (last updated Sept. 29, 2015).

20. *Statistics Overview*, CTRS. FOR DISEASE CONTROL & PREVENTION, <http://www.cdc.gov/hiv/statistics/basics/> (last updated Sept. 11, 2015).

21. *What is HIV/AIDS?*, AIDS.GOV, <https://www.aids.gov/hiv-aids-basics/hiv-aids-101/what-is-hiv-aids/> (last updated Apr. 29, 2014).

22. *Id.*

23. *Id.*

24. *Id.*

25. Int’l Assoc. of Providers of AIDS Care, *What Is AIDS?*, AIDS INFO NET (Jan. 24, 2014), http://www.aidsinfonet.org/uploaded/factsheets/180_eng_101.pdf.

26. *Id.*

causes.²⁷ It is important to note, however, that “not everyone who has HIV progresses to AIDS,” and, especially with advances in treatment, individuals infected with HIV “can have a nearly normal life expectancy.”²⁸ It is this population, those living with HIV that has not progressed to AIDS, that the HIV Organ Policy Equity Act targets.

B. History Surrounding Positive-Positive Transplants

The HIV Organ Policy Equity (HOPE) Act, signed in November 2013, updates regulations that were well out of date.²⁹ The National Organ Transplant Act, enacted in 1984, and a particular 1988 amendment to this Act, prohibited donations of HIV-infected organs.³⁰ This ban was enacted around the same time as bans prohibiting people with HIV from donating blood and stemmed from a belief that “organs should go to people with a better chance of survival.”³¹ Thus, attitudes surrounding the 1988 amendment reflected the pervasive bias against HIV-infected patients, whether they be donors or recipients.³²

In 1994, the CDC’s “Guidelines for Preventing Transmission of Human Immunodeficiency Virus [HIV] Through Transplantation of Human Tissue and Organs” provided that “[r]egardless of their HIV antibody test results,³³ persons who meet any of the criteria listed

27. *HIV/AIDS*, WORLD HEALTH ORG., <http://www.who.int/features/qa/71/en/> (last updated July 2015).

28. *What Is HIV/AIDS?*, *supra* note 21.

29. Brian Krans, *HIV Organ Donation Gives Hope to Thousands of Patients*, HEALTHLINE NEWS (Dec. 1, 2013), <http://www.healthline.com/health-news/hiv-organ-donation-will-save-thousands-of-lives-120113>.

30. *Id.*

31. *Ending HIV Organ Donation Ban Could Eliminate Transplant Waiting List for People with HIV*, AIDSMEDS (Mar. 30, 2011), http://www.aidsmeds.com/articles/hiv_transplant_organ_1667_20165.shtml [hereinafter *Ending HIV Organ Donation Ban*].

32. *Id.* A 1998 study revealed that the vast majority of surveyed clinics “would not transplant a kidney from a cadaveric (88%) or a living donor (91%) into an asymptomatic HIV-infected patient who is otherwise a good candidate for transplantation.” Roland, *supra* note 14.

33. Although different types of antibody tests may be used for HIV screening, “[a]ll HIV tests used in the U.S. detect HIV-1,” the most common form of HIV in the United States, and “some tests have been developed that can also detect HIV-2. Am. Ass’n. for Clinical Chemistry, *HIV Antibody*, LAB TESTS ONLINE, <http://labtestsonline.org/understanding/analytes/hiv-antibody/tab/test/> (last modified Feb. 24, 2015). These “[c]ombination tests . . . detect the HIV antibody and the HIV antigen called the p24 antigen,” which is typically high in the beginning stages of the infection. *Id.* There are several different methods of testing, including a blood or oral sample obtained by one’s doctor, or an at-home collection kit. *Id.*

below *should be excluded* from donation of organs or tissues unless the risk to the recipient of not performing the transplant is deemed to be greater than the risk of HIV transmission and disease”³⁴ Behaviors included “[m]en who have had sex with another man in the preceding 5 years.”³⁵ In 1996, the CDC became a little more liberal with its restrictions, stating “transplant teams are encouraged to accept and transplant organs from medically appropriate donors who test HIV-antibody negative but have behavioral risk criteria for HIV infection after the transplant teams have discussed the risks and benefits with potential recipients and/or their families.”³⁶

However, as scientific developments in HIV treatment grew, so too did the clamoring to reverse the longtime ban on HIV-infected organ donation. With the success of active antiretroviral therapy,³⁷ fewer people are dying of AIDS-related complications today.³⁸ Instead, more individuals are now dying of disease processes, including end-stage liver and renal diseases.³⁹ This recent trend led to a 2011 study conducted by Johns Hopkins University School of Medicine, published in the *American Journal of Transplantation*.⁴⁰ The study sought to address the dilemma of having needy HIV-positive recipients who could not receive transplants from willing HIV-positive potential donors.⁴¹ Pulling data from the Nationwide

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34. Doe v. Univ. of Chi. Med. Ctr., 20 N.E.3d 1, 3 (Ill. App. Ct. 2014) (emphasis added) (quoting Martha F. Rogers et al., Ctrs. for Disease Control & Prevention, *Guidelines for Preventing Transmission of Human Immunodeficiency Virus Through Transplantation of Human Tissue and Organs*, 43 MORBIDITY & MORTALITY WKLY. REP., May 20, 1994, at 12, <http://stacks.cdc.gov/view/cdc/13462> [hereinafter CDC Guidelines]).
35. *Id.* (alteration in original) (quoting CDC Guidelines, *supra* note 34).
36. *Id.* (quoting Clarification of Human Immunodeficiency Virus Screening Practices for Organ Donors, 61 Fed. Reg. 56,548, 56,549 (Nov. 1, 1996)).
37. “Antiretroviral therapy (ART) is the combination of antiretroviral medicines used to slow the rate at which HIV [multiplies] in the body.” ART aims to reduce the amount of virus in an individual’s body. *HIV: Antiretroviral Therapy (ART) - Topic Overview*, WEBMD.COM, <http://www.webmd.com/hiv-aids/tc/hiv-highly-active-antiretroviral-therapy-haart-topic-overview> (last visited Nov. 13, 2015) [hereinafter *ART - Topic Overview*].
38. See UNAIDS, *AIDS by the Numbers*, at 4, U.N. Doc. JC2571/1/E (2013), http://www.unaids.org/sites/default/files/media_asset/JC2571_AIDS_by_the_numbers_en_1.pdf; see also Roland, *supra* note 14; *ART - Topic Overview*, *supra* note 37.
39. Roland, *supra* note 14.
40. See B. J. Boyarsky et al., *Estimating the Potential Pool of HIV-Infected Deceased Organ Donors in the United States*, 11 AM. J. TRANSPLANTATION 1209, 1209–10 (2011), <http://onlinelibrary.wiley.com/doi/10.1111/j.1600-6143.2011.03506.x/epdf>; see also *Ending HIV Organ Donation Ban*, *supra* note 31.
41. See Boyarsky et al., *supra* note 40; *Ending HIV Organ Donation Ban*, *supra* note 31.

Inpatient Study and the HIV Research Network, the Johns Hopkins team estimated the number of deaths by HIV-positive people “where viable organs might have been available for transplantation.”⁴² The number of deaths in this category totaled “534 each year between 2005 and 2008 in the Nationwide Inpatient Study and . . . 494 each year between 2000 and 2008 in the HIV Research Network.”⁴³ Translated, this information means that “500 HIV-infected patients would be eligible for life-saving transplants each year if the ban was overturned, and allowing those transplants would shorten wait times for non-HIV infected patients.”⁴⁴ Based upon this study, the American Society of Transplant Surgeons, American Society of Transplantation, Association of Organ Procurement Organizations, and the United Network for Organ Sharing started to urge lawmakers to overturn the ban, releasing a joint statement on the issue in 2011.⁴⁵ It was this background that eventually led lawmakers to enact the HOPE Act.

While the thought of transplanting HIV-infected organs is revolutionary for the United States, other countries have already pioneered HIV-positive-to-HIV-positive kidney transplants.⁴⁶ Since 2008, Dr. Elmi Muller, a transplant surgeon in Cape Town, South Africa, has conducted at least 26 such transplants.⁴⁷ Of these transplants, only two have failed as of November 2013.⁴⁸ While most donations have been from cadavers, the first transplant between a living HIV-positive donor and recipient recently occurred in Tel Aviv with great success.⁴⁹ The doctors in Israel stated that “due to much experience in South Africa with kidney and even liver donations from

42. *Ending HIV Donation Ban*, *supra* note 31.

43. *Id.*

44. Nicole Jones, *Hopkins Researchers Help Overturn Government Ban*, WMAR BALT. (Nov. 21, 2013, 11:16 PM), <http://www.abc2news.com/news/health/johns-hopkins-researchers-help-overturn-government-ban>.

45. Angela Townsend, *Should the Ban on HIV-Positive Organ Transplants Be Lifted?* CLEVELAND.COM (Sept. 12, 2011, 6:00 PM), http://www.cleveland.com/healthfit/index.ssf/2011/09/should_the_ban_on_hiv-positive.html.

46. *See* Sara Reardon, *United States to Allow Transplants of HIV-Infected Organs*, NATURE.COM (Nov. 13, 2013), <http://www.nature.com/news/united-states-to-allow-transplants-of-hiv-infected-organs-1.14170>.

47. *Id.*

48. *Id.*

49. Judy Siegel-Itzkovich, *Sourasky Announces World's First Kidney Donation, Transplant Between Live HIV Carriers*, JERUSALEM POST (Aug. 15, 2013, 6:45 PM), <http://www.jpost.com/Health-and-Science/Worlds-first-live-kidney-donation-by-HIV-carrier-and-transplant-into-another-carrier-announced-by-Tel-Aviv-Sourasky-Medical-Center-323225>.

brain-dead patients to HIV patients, the success rate of transplants has risen to be almost equal to those of non-carriers.”⁵⁰

So why would countries such as South Africa or Israel trump the United States in terms of its progressive view on HIV-positive-to-HIV-positive transplants? The most obvious answer is the countries’ greater needs for transplants for HIV-positive individuals given large populations of HIV-infected citizens. But this answer does not seem correct. Approximately twenty percent of South Africa’s population is infected with HIV.⁵¹ While one may think the incidence of HIV is much less in the United States, as previously noted, the CDC estimates that 1.2 million people aged thirteen years and older are living with HIV, including over 156,300 who are unaware they are affected.⁵²

A more appropriate reason for the United States’ slow response to HIV-positive transplants may lie in the unknown risks of such transplants. Of particular concern is “superinfecting” a HIV-positive patient with a . . . strain of the virus” from the donated organ.⁵³ Also, it remains unclear as to how antiretroviral drugs will interact with anti-rejection drugs taken by transplant patients.⁵⁴ There are concerns that immunosuppressive drugs⁵⁵ that prevent organ rejection would worsen HIV progression, for such drugs weaken one’s immune system, which is already compromised in an HIV-patient.⁵⁶ There is also a fear of mislabeling an HIV-infected organ, which might result in transplantation into an HIV-negative patient.⁵⁷ Even Dr. Muller highlights a continued need for research to perfect the safety of positive-to-positive transplants.⁵⁸ It is for these reasons that the new law has ongoing research and review standards.⁵⁹ But, “[r]ecent studies have shown that transplant outcomes in selected HIV-positive

50. *Id.*

51. Reardon, *supra* note 46.

52. *HIV in the United States*, *supra* note 18.

53. Reardon, *supra* note 46.

54. *Id.*

55. Immunosuppressant drugs suppress the body’s immune system to lower the body’s ability to reject a transplanted organ by decreasing the body’s reaction to the foreign organ. Anna Giorgi, *Immunosuppressant Drugs*, HEALTHLINE (June 20, 2013), <http://www.healthline.com/health/immunosuppressant-drugs#Overview1>.

56. *Liver Transplant*, NAM AIDS MAP, <http://mobile.aidsmap.com/Liver-transplant/page/1731924> (last visited Nov. 13, 2015).

57. *Ending HIV Organ Donation Ban*, *supra* note 31.

58. Reardon, *supra* note 46.

59. 42 U.S.C. § 274f-5 (Supp. I 2013).

people can be nearly as good as those seen in people without HIV.”⁶⁰ Transplants seem most successful in patients with well-controlled HIV, and some patients are able to tolerate antiretroviral drugs after receiving a liver transplant.⁶¹

C. Current Legislation’s Likely Consequences

The current legislation dealing with the new transplant policy in the United States is not very extensive. It reads as follows:

(a) In general:

Not later than 2 years after November 21, 2013, the Secretary shall develop and publish criteria for the conduct of research relating to transplantation of organs from donors infected with human immunodeficiency virus (in this section referred to as “HIV”) into individuals who are infected with HIV before receiving such organ.

(b) Corresponding changes to standards and regulations applicable to research:

Not later than 2 years after November 21, 2013, to the extent determined by the Secretary to be necessary to allow the conduct of research in accordance with the criteria developed under subsection (a)—

(1) the Organ Procurement and Transplantation Network shall revise the standards of quality adopted under section 274(b)(2)(E) of this title; and

(2) the Secretary shall revise section 121.6 of title 42, Code of Federal Regulations (or any successor regulations).

(c) Revision of standards and regulations generally:

Not later than 4 years after November 21, 2013, and annually thereafter, the Secretary, shall—

(1) review the results of scientific research in conjunction with the Organ Procurement and

60. *Liver Transplant*, *supra* note 56.

61. *Id.*

Transplantation Network to determine whether the results warrant revision of the standards of quality adopted under section 274(b)(2)(E) of this title with respect to donated organs infected with HIV and with respect to the safety of transplanting an organ with a particular strain of HIV into a recipient with a different strain of HIV;

(2) if the Secretary determines under paragraph (1) that such results warrant revision of the standards of quality adopted under section 274(b)(2)(E) of this title with respect to donated organs infected with HIV and with respect to transplanting an organ with a particular strain of HIV into a recipient with a different strain of HIV, direct the Organ Procurement and Transplantation Network to revise such standards, consistent with section 274 of this title and in a way that ensures the changes will not reduce the safety of organ transplantation⁶²

While this legislation has been enacted into law, it will most likely be at least several months before the United States hears of the first HIV-positive-to-HIV-positive transplant. The current legislation “directs the Department of Health and Human Services . . . and the Organ Procurement and Transplant Network . . . to develop standards [that will] make these transplants possible” by 2015.⁶³ In particular, by November 2015, the Secretary “shall develop and publish criteria for the conduct of research relating to transplantation of organs from donors infected with [HIV] into individuals who are infected with HIV before receiving such organ.”⁶⁴ These standards are to be updated and reviewed no later than four years after November 21, 2013, and annually thereafter in order to accommodate current scientific research.⁶⁵

The result of the HOPE Act may be more transplants for HIV-positive individuals and thus more lives saved. In a recent case alleging negligence in an HIV-infected organ transplant, a doctor noted that “a patient who received a kidney from an infected donor would most likely be infected with HIV” and further noted that “a

62. 42 U.S.C. § 274f-5 (footnote omitted).

63. Krans, *supra* note 29.

64. 42 U.S.C. § 274f-5.

65. *Id.*

patient who is at the top of the transplant list and likely to receive a noninfected organ very soon was better off refusing the infected or possibly infected [organ].⁶⁶ Thus, while an HIV-negative recipient awaits a non-infected organ, the infected organ could be placed in an HIV-positive individual with no harm resulting to the unaffected recipient.⁶⁷ Essentially, individuals partaking in high-risk behaviors or who are diagnosed as having HIV can still serve a donative purpose without risking infection to an HIV-negative recipient, and an uninfected recipient may be more willing to wait for an uninfected organ knowing that more donations equals less time on the transplant waiting list. It is too soon to back up this idealistic outcome with empirical evidence, but perhaps this could be one good consequence that results from the new HOPE Act.

II. CHANGING THE STANDARD TO ALLOW FOR TRANSPLANTS AFTER CARDIAC DEATH

Once an individual is declared brain dead, organ donation may occur;⁶⁸ however, changing this standard to allow for organ donation when cardiac death is irreversible may, in fact, increase the amount of available organs to be donated.

A. The Current Transplant Standard: Brain-Death

It is universally accepted that an individual is deceased when his or her brain no longer has activity.⁶⁹ Nevertheless, mechanical ventilators and other medical techniques can continue to allow the heart to beat and the blood to circulate for a prolonged period of time.⁷⁰ The current standard at which time a doctor may consider an individual for organ donation is at the point of brain death.⁷¹ When a patient is no longer responsive, a physician, usually a neurosurgeon or neurologist, performs a series of tests to determine if brain death has occurred.⁷² Patients are declared brain dead when there is no brain activity and when the patient cannot breathe on his own, for

66. Doe v. Univ. of Chi. Med. Ctr., 20 N.E.3d 1, 10 (Ill. App. Ct. 2014).

67. *Id.*

68. Ajay Kumar Goila & Mridula Pawar, *The Diagnosis of Brain Death*, 13 INDIAN J. CRITICAL CARE MED. 7, 7 (2009), http://www.ijccm.org/temp/IJCCM1317-3497178_094251.pdf.

69. *Id.*

70. *Id.* at 7–8.

71. *Id.* at 7.

72. U.S. Dep't of Health and Human Servs., *Organ Donation: The Process*, ORGANDONOR.GOV, <http://www.organdonor.gov/about/organdonationprocess.html#process3> (last visited Nov. 13, 2015).

these symptoms are irreversible.⁷³ Brain death occurs in less than one percent of all deaths in the United States.⁷⁴ Such patients usually “suffer an injury to the brain resulting from a trauma, stroke or lack of oxygen.”⁷⁵

After an individual is declared brain dead, the hospital notifies its local organ procurement organization and gives the organization information about the patient to confirm whether he is a candidate for donation.⁷⁶ If the deceased has enrolled as a donor, then this enrollment serves as consent, but if not, consent must be received from the next of kin.⁷⁷ But what if the declaration of death relied on a different standard, one that could possibly start the transplant process well before brain death occurs? Enter the consideration of donation after cardiac death.

B. A Proposed New Standard of Donation After Cardiac-Death and Its Implications

Cardiac death is different than brain death. Sudden cardiac death is an unexpected death caused by loss of heart function.⁷⁸ “It is triggered by an electrical malfunction in the heart that causes an irregular heartbeat[,]” and patients must receive treatment within minutes or they will die.⁷⁹ While sudden cardiac death is reversible in most victims if treated immediately,⁸⁰ it is “the largest cause of natural death in the United States, causing about 325,000 adult deaths . . . each year.”⁸¹ This condition is different than a heart attack. “A heart attack occurs when a blocked artery prevents oxygen-rich blood from reaching a section of the heart.”⁸² If the artery is not opened,

73. *Id.*

74. *Understanding Death Before Donation*, GIFT OF A LIFETIME, <http://www.organtransplants.org/understanding/death/> (last visited Nov. 13, 2015).

75. *Id.*

76. *Organ Donation: The Process*, *supra* note 72.

77. *Id.*

78. *Sudden Cardiac Death*, CLEV. CLINIC, <http://my.clevelandclinic.org/services/heart/disorders/arrhythmia/scd> (last visited Nov. 13, 2015) [hereinafter CLEV. CLINIC].

79. *Heart Attack or Sudden Cardiac Arrest*, AM. HEART ASS'N, http://www.heart.org/HEARTORG/Conditions/More/MyHeartandStrokeNews/Heart-Attack-or-Sudden-Cardiac-Arrest-How-Are-They-Different_UCM_440804_Article.jsp (last updated Aug. 19, 2015).

80. *Id.*

81. CLEV. CLINIC, *supra* note 78; *Heart Attack or Sudden Cardiac Arrest*, *supra* note 79.

82. *Heart Attack or Sudden Cardiac Arrest*, *supra* note 79.

the part of the heart fed by that artery begins to die; thus, the longer a patient is without treatment, the more damage is done to the heart.⁸³

“Donor after cardiac death (DCD) means an individual who donates after his or her heart has irreversibly stopped beating. A donor after cardiac death may be termed a non-heartbeating or asystolic donor.”⁸⁴ No specific statutory authorization of DCD exists in federal law; instead, DCD relies on “existing statutory framework governing the planned withdrawal of life supportive measures in terminally ill patients, the ability of those patients or their families to make an anatomical gift, and the pronouncement of death in those patients by cardiopulmonary criteria.”⁸⁵ Thus, the process for DCD starts when life-supportive measures are withdrawn from a terminally ill patient either by consent of the family or an advanced directive of the patient.⁸⁶

The use of DCD organs is fairly routine in many European countries as well as South America, Australia, and Japan.⁸⁷ Specifically, there are five categories of DCD donors: two categories for donors who die unexpectedly and three categories for donors whose death is anticipated.⁸⁸ However, different legislations regarding consent for organ donation and different attitudes concerning the withdrawal of futile life-sustaining treatments make DCD a controversial topic.⁸⁹ Of course, the existence of consent, either by the donor or by a family representative, is mandatory and can have ethical and legal implications of its own. Grieving family members may argue that a donor’s consent for organ donation meant consent to donation after brain death, not cardiac death.⁹⁰ Furthermore, finding a family member authorized to make end-of-life decisions in the absence of a patient directive is legally required and

83. *Id.*

84. 42 C.F.R. § 486.302 (2014).

85. Frederick J. White III & J. Kelly Elrod, Institutional Ethics & Comm. of the Willis-Knighton Health Sys., *Organ Donation After Cardiac Death: A Louisiana Hospital Ethics Committee Perspective*, 39 S.U. L. REV. 71, 85 (2011).

86. *Id.* at 86 & n.58.

87. Umberto Maggiore et al., *Strategies to Increase the Donor Pool and Access to Kidney Transplantation: An International Perspective*, 30 NEPHROLOGY DIALYSIS TRANSPLANTATION 217, 221 (2015), <http://ndt.oxfordjournals.org/content/30/2/217.full.pdf+html?sid=3ce37119-b5e8-40b5-b9ff-e31baa83cd1e>.

88. *Id.*

89. *Id.*

90. Bernadette Richards & Wendy A. Rogers, *Organ Donation After Cardiac Death: Legal and Ethical Justifications for Antemortem Interventions*, 187 MED. J. AUSTL. 168, 168 (2007), https://www.mja.com.au/system/files/issues/187_03_060807/ric10166_fm.pdf.

thus may prove difficult for individuals without immediate family present.⁹¹ Of particular concern to doctors is the ethical conflict between DCD donations, when an individual is not considered brain dead, and the Hippocratic Oath of “do no harm.”⁹² Does the invasive removal of organs from a patient who is not declared brain dead harm the patient and thus conflict with a doctor’s ethical oath?

Several concerns surround a doctor’s implementation of DCD, especially in controlled DCD patients.⁹³ First, interventions administered ante-mortem to preserve the organs of a potential donor can cause harm and thus infringes on a doctor’s ethical oath to do no harm and to act only in the interest of the patient.⁹⁴ DCD supporters respond by stating that ante-mortem intervention is not proven to cause harm to the patient.⁹⁵ Others cite the doctrine of double effect from medical ethics. According to this doctrine,

[A]n action that has both good and bad effects, such as administering morphine to a terminally ill patient, which can both relieve pain and hasten death, may be permissible if four conditions are met: 1) the act is not itself immoral—it may be good, but is at least indifferent; 2) the intent in performing the act is only the good effect, although the bad effect may be foreseen; 3) the bad effect must not be a means to the good effect; and 4) the act is performed for an adequately serious reason.⁹⁶

Thus, ante-mortem interventions would seem to meet these conditions and be ethically permissible.⁹⁷

In uncontrolled DCD patients, those who have already suffered cardiac arrest and failed resuscitative measures, this ethical conundrum is less concerning.⁹⁸ However, other concerns emerge in these instances. Since other, more aggressive techniques can be used to resuscitate an individual, labeling an uncontrolled DCD patient’s

91. *Id.* at 169.

92. *Id.* at 168.

93. Controlled DCD occurs in those patients whose heart has not necessarily suffered cardiac arrest or sustained failed resuscitative measures. Jeremy R. Simon et. al., *Donation After Cardiac Death and the Emergency Department: Ethical Issues*, 21 *ACAD. EMERGENCY MED.* 79, 80–81 (2014).

94. *Id.*

95. *Id.* at 81.

96. *Id.*

97. *Id.*

98. *Id.* at 82.

heart as irreversibly dead can be tricky.⁹⁹ Technological advances, such as extracorporeal membrane oxygenation (ECMO)¹⁰⁰ make the phrase “irreversible cessation of circulatory and respiratory function[s]” difficult to understand.¹⁰¹ Applying a strict interpretation to this phrase, ECMO patients would technically not be seen as dead since they would have circulation of oxygenated blood.¹⁰² Thus, removing an ECMO patient from this device for purposes of organ harvesting could open doctors up to criminal liability since the patient would technically not be seen as dead.¹⁰³ Furthermore, there may be a concern that doctors will not try as hard to resuscitate uncontrolled DCD patients, hoping their organs will be of value to eager recipients.¹⁰⁴ These ethical considerations make the concept of DCD, both controlled and uncontrolled, controversial in the medical world.

Even more disconcerting for both medical ethicists and the legal community is the term “irreversible death” utilized for purposes of DCD. Legally, the concept of uncontrolled versus controlled DCD poses problems. In particular, “nearly every state . . . has adopted” a form of the Uniform Determination of Death Act (UDDA), which “outlines the two means by which death can be determined for organ transplantation.”¹⁰⁵ However, the UDDA does not address “how long cardiac and respiratory functions must have ceased before they can be considered irreversible,” and thus variations in determinations of death occur.¹⁰⁶ This conundrum leaves the doctor in a precarious position between waiting long enough to declare cardiac death irreversible and not waiting too long to render organs unviable.¹⁰⁷

99. *Id.*

100. “Extracorporeal membrane oxygenation (ECMO) is a treatment that uses a pump to circulate blood through an artificial lung back into the bloodstream” U.S. Nat’l Library of Med., U.S. Dep’t of Health and Human Servs., *Extracorporeal Membrane Oxygenation*, MEDLINEPLUS, <http://www.nlm.nih.gov/medlineplus/ency/article/007234.htm> (last updated Nov. 2, 2015).

101. Abel, *supra* note 4, at 600 (quoting Robert M. Veatch, *Donating Hearts After Cardiac Death—Reversing the Irreversible*, 359 NEW ENG. J. MED. 672, 672 (2008)); accord UNIF. DETERMINATION OF DEATH ACT § 1 (NAT’L CONFERENCE OF COMM’R ON UNIF. STATE LAWS 1980).

102. Abel, *supra* note 4, at 603.

103. *Id.*

104. Simon et al., *supra* note 93, at 82.

105. Abel, *supra* note 4, at 600.

106. *Id.*

107. *Id.* at 600–01.

C. *How Changing the Standard May Increase Available Organs*

In the United States, DCD donors consist of only about ten percent of organ donations.¹⁰⁸ Considering the greater number of cardiac deaths than brain deaths that occur each year, perhaps making cardiac death versus brain death the standard to start the organ donation process would result in more organs to donate. A consultant for *The New England Journal of Medicine* made this startling claim in 2007, stating this theory “has been demonstrated at organ banks in Wisconsin, the Boston metropolitan region and the Finger Lakes region of New York . . . where cardiac death donors account for more than 20 percent of all deceased donors.”¹⁰⁹ Such donors included “patients on ventilators after devastating and irreversible brain injuries, as might follow a hemorrhagic stroke, as well as patients with high spinal cord injuries and terminal musculoskeletal diseases like ALS, for whom further medical treatment is deemed futile.”¹¹⁰ Under the brain-death standard for organ donation, these patients are technically not dead for the purpose of organ harvesting.¹¹¹ However, if these patients were considered suitable donors under a DCD organ donation standard, life-support measures could be ended and their organs successfully harvested.¹¹²

Currently, DCD only becomes a viable alternative for those who have previously consented to the removal of life support or whose family has done so.¹¹³ Ultimately, the harvesting of organs from cardiac death patients should not be looked at as a way to sidestep the criteria for brain death but as a way to afford donors or their families “donation that complies with patient or authorized family directives.”¹¹⁴

108. Maggiore et al., *supra* note 87.

109. See Jane Brody, *The Solvable Problem of Organ Shortages*, N.Y. TIMES (Aug. 28, 2007), http://www.nytimes.com/2007/08/28/health/28brod.html?_r=1&.

110. *Id.*

111. *Id.*

112. *Id.* “DCD has evolved into routine clinical practice that currently supplies >10% of all deceased-donor kidneys in the United States” Maarten G. Snoeijs et al., *Kidneys from Donors After Cardiac Death Provide Survival Benefit*, 21 J. AM. SOC’Y NEPHROLOGY 1015, 1016 (2010), <http://jasn.asnjournals.org/content/21/6/1015.full.pdf+html>.

113. *Donation After Cardiac Death (DCD)*, LIFEPOINT, INC., http://www.lifepoint-sc.org/facts_cardiac.htm (last visited Nov. 13, 2015).

114. *Id.*

III. EDUCATING INDIVIDUALS, ESPECIALLY MINORITIES, ABOUT DONATION

It is alleged that “the organ transplant system operates with a built-in bias against the poor,” making minorities “nearly half as likely to receive organs,” despite their greater demand.¹¹⁵ This disparity may be linked to disparate education about organ donation. There have been many studies indicating that, for both minority and majority groups, education leads to a greater possibility of organ donation.¹¹⁶

A. A Greater Minority Need for Transplants

The need for transplants in some minority groups is disproportionately high as a result of a higher incidence of medical conditions for particular minorities.¹¹⁷ The U.S. Department of Health and Human Services explains that “African Americans, Asians and Pacific Islanders, and Hispanics/Latinos are three times more likely than Caucasians to suffer from end-stage renal (kidney) disease, . . . [and] [a]lmost 34 percent of the more than 101,000 people on the national waiting list for a kidney transplant are African American.”¹¹⁸ Further, “African Americans make up 12% of the region’s overall population, but represent 43% percent of patients on the kidney transplant waiting list.”¹¹⁹ Similarly, Hispanics are in the same position, being three times more likely than Caucasians to suffer from a disease requiring a kidney transplant.¹²⁰

While “organs are not matched according to [one’s] race[,] . . . all individuals waiting for an organ transplant will have a better chance of receiving one if there are large numbers of donors from their racial/ethnic background.”¹²¹ This is due to the fact that individuals of similar ethnicity are more likely to be of compatible blood types

115. Kristen Gwynne, *How the Organ Transplant System Is Stacked Against the Most Needy, and Why You Should Be a Donor*, ALTERNET (Aug. 19, 2011), http://www.alternet.org/story/152074/how_the_organ_transplant_system_is_stacked_against_the_most_needy_and_why_you_should_be_a_donor.

116. *See id.*

117. U.S. Dep’t of Health and Human Servs., *Why Minority Donors Are Needed*, ORGANDONOR.GOV, <http://organdonor.gov/whydonate/minorities.html> (last visited Nov. 13, 2015).

118. *Id.*

119. *Multicultural Donation Statistics*, GIFT OF LIFE DONOR PROGRAM, <http://www.donors1.org/learn2/multicultural/statistics/> (last visited Nov. 13, 2015). This region includes Delaware, the eastern half of Pennsylvania, and southern New Jersey. *Id.*

120. *Id.*

121. *Why Minority Donors Are Needed*, *supra* note 117.

and tissue markers.¹²² For example, “the African-American population has a high prevalence of type B blood, which is more rare in the general population.”¹²³ The lack of compatible donors may explain why it generally takes longer for an African American to obtain a lifesaving organ.¹²⁴

B. Education May Encourage Donation and May Get Recipients on More Transplant Lists

While African Americans constitute about 13% of organ donors in total,¹²⁵ thirty percent of individuals currently waiting for an organ donation are African American.¹²⁶ If more minorities, particularly African Americans, were educated about donations and encouraged to donate, perhaps the greater likelihood of organ matches would equal more successful transplants and thus fewer individuals on the transplant list. Education can begin by making the steps for signing up as a donor more apparent. Different states have different processes for enrollment, with some allowing enrollment through the DMV while others require online enrollment.¹²⁷ While this may not seem confusing for some, educating individuals, specifically those without access to quality health care, as to how to donate and about the importance of donation, may increase their likelihood of donation. Furthermore, expending resources to educate living donors about the greater need for organs may increase donation and result in large savings in healthcare expenditures.¹²⁸

In addition, education about the regional based system may encourage more possible recipients to place their names on multiple regional lists, resulting in a greater chance of receiving an organ. Currently, the country is divided into eleven allocation regions, with each region having its own organ procurement organization to

122. *Id.*

123. *See* Gwynne, *supra* note 115.

124. *Id.*

125. *Id.*

126. U.S. Dep’t of Health and Human Servs., *African Americans and Organ Donation*, ORGANDONOR.GOV, <http://organdonor.gov/minortyaa/index.html> (last visited Nov. 13, 2015).

127. *See* Gwynne, *supra* note 115.

128. A kidney from a living donor is often superior to one from a deceased donor since it lasts almost twice as long. Harvey Mysel, *How to Increase the Number of Kidney Transplants*, LIVING KIDNEY DONORS NETWORK, http://www.lkdn.org/how_do_we_increase_article.pdf (last visited Nov. 13, 2015). Furthermore, recent studies reveal that removing someone from kidney dialysis “saves a present value of \$1 million.” *Id.*

“oversee[] the selection of organ transplant patients.”¹²⁹ Because of the disparate populations of the regions, “[s]ome regions have more donors or transplant centers than others, making the regional list lengths unequal.”¹³⁰ Organs are allocated regionally to the sickest, best-matched patients; however, if a region has no viable matches, the organ moves to a nearby location, applying the same matching criteria.¹³¹ Individual recipients may put their name on multiple waiting lists, especially on regional lists of neighboring states, to have a better chance of finding a donor match.¹³² Karen Cummings, a specialist at the New York Organ Donation Network, states that the issue for many individuals, especially minorities, “is making sure they know that, for example, Pennsylvania, Connecticut, those are areas in your region.”¹³³ Similarly, leading experts in the field agree that “community empowerment, education and encouraging communities to discuss wishes upon death are key to increasing organ transplantation in any community.”¹³⁴

But education does not just promote organ donations for donors; educating doctors also encourages organ donations in general. Education for doctors includes programs that teach care-givers how to broach the topic with a more sensitive approach and working in a team to lend support to the family faced with the decision.¹³⁵ Most recently, “[t]hrough partnerships with local organ procurement organizations, medical schools and teaching hospitals are educating residents, fellows, and other members of their medical staffs not only in better communication with families during difficult times but also in ways to introduce families to organ procurement representatives.”¹³⁶ While success of education programs may be hard to quantify, the Association of Organ Procurement Organization has noted that “a determined focus on opportunities for organ donation has worked in the past to improve education and understanding.”¹³⁷ For example, in 2003, the U.S. Department of

129. See Gwynne, *supra* note 115.

130. *Id.*

131. *Id.*

132. *Id.*

133. *Id.*

134. *Id.*

135. See Jennifer Anderson, *Increasing Organ Donation Through Education*, REPORTER (ASS'N OF AM. MED. COLLS., D.C.), July/Aug. 2014, <https://www.aamc.org/newsroom/reporter/julyaugust2014/401414/organ-donation.html> (“[R]esidents and other medical staff are taught, through role playing and other techniques, how to share bad news with families.”).

136. *Id.*

137. *Id.*

Health and Human Services, through its national Donation and Transplantation Collaborative, worked to educate families and care providers and, as a result, donation rates increased from 50% to 75%.¹³⁸ While donation rates have plateaued since this initiative,¹³⁹ other regions have proven that education is still a means by which to increase organ donation. At Johns Hopkins Hospital, end-of-life education increased donations from 44% in 2002 to 80% in 2014.¹⁴⁰

IV. OTHER POSSIBLE SOLUTIONS: PAYMENTS, ADVERTISING, PRIORITY LISTS, AND CHANGING AGE REQUIREMENTS

While the HOPE Act, education programs for both donors and recipients, and a change in donation standards are the most widely discussed ways in which the number of available organs can be increased, there are other, less talked about, means by which the supply of organs can be increased. Setting aside ethical considerations, individuals have proposed paying and advertising for organ donations, as well as giving priority on transplant lists to those patients who are organ donors.¹⁴¹ In addition, there is a disparity between the number of elderly donors and the rate at which these harvested organ are transplanted.¹⁴² Perhaps with the implementation of new requirements in 2014, this disparity will be lessened, resulting in a larger number of transplantable organs.

A. *Payments, Solicitations, and Priority Status*

In a 2011 research study conducted by the University of Pennsylvania, professors tested whether organ donation would increase if transplant waiting list priority was given to registered organ donors.¹⁴³ “The underlying economic rationale . . . is that by providing priority on the waiting list, you are giving an incentive to register as a donor.”¹⁴⁴ In order to test their theory, the professors set up a gaming system to judge whether priority registration would lead

138. *Id.*

139. *Id.*

140. *Id.*

141. Wharton Sch., Univ. of Pa., *How to Encourage People to Become Organ Donors*, KNOWLEDGE@WHARTON (Oct. 7, 2011), <http://knowledge.wharton.upenn.edu/article/how-to-encourage-people-to-become-organ-donors-an-incentive-system-with-heart/>.

142. Maggiore et al., *supra* note 87, at 220.

143. Wharton Sch., Univ. of Pa., *supra* note 141.

144. *Id.* (quoting Judd Kessler, Bus. & Pub. Policy Professor, Wharton Sch., Univ. of Pa.).

to a greater willingness to donate.¹⁴⁵ The results overwhelmingly indicated that individuals were willing to register in order to receive priority transplants.¹⁴⁶ A variation of this incentive program may be to require individuals who receive an organ to then either give an organ in return or to register as an organ donor.¹⁴⁷ Likewise, some believe an “opt-out” provision, one in which individuals are automatically registered as donors and must actively opt out of this choice, may increase organ donation.¹⁴⁸

The University of Pennsylvania researchers also broached another controversial means by which organ donations may increase. They gave either a discount or a rebate for agreeing to donate, providing a monetary incentive to register as a donor.¹⁴⁹ “[T]hese monetary incentives worked just as well as giving [waiting-list] priority to donors,”¹⁵⁰ and thus providing financial incentive could increase the availability of transplantable organs.¹⁵¹ The receipt of a benefit for a donation, especially for living donors, makes sense. Living donor donations are rare because, unlike a deceased donor, a living donor must make a personal sacrifice, bearing any health risks associated with the donation.¹⁵² Thus, by requiring an incentive such as priority receipt of an organ or monetary compensation,¹⁵³ more living donors may be willing to donate.

145. *Id.*

146. *Id.* (“[W]illingness to pay the cost of donation shot up to over 100%, to between 70% and 80% of subjects registering to donate.”).

147. Denise Aptekar, Comment to *How Can Organ Donations Rated Be Improved?*, QUORA, <http://www.quora.com/How-can-organ-donation-rates-be-improved> (last updated Feb. 7, 2013).

148. *Id.* New York and California have unsuccessfully attempted to pass presumed consent laws in which every person, upon death, is considered a donor unless he has opted out of donation. Mysel, *supra* note 128.

149. Wharton Sch., Univ. of Pa., *supra* note 141.

150. *Id.* It is important to note that any proposal for compensating donors is met with extreme opposition by medical ethicists. Mysel, *supra* note 128.

151. Kristy Lynn Williams et al., *Just Say No to NOTA: Why the Prohibition of Compensation for Human Transplant Organs in NOTA Should Be Repealed and a Regulated Market for Cadaver Organs Instituted*, 40 AM. J.L. & MED. 275, 302 (2014) (“Offering monetary compensation for organs will likely increase the number of organ donors in the United States and thus narrow the gap between the number of organs needed and the number of organs available.”).

152. Alexandra K. Glazier & Scott Sasjack, *Should It Be Illicit to Solicit? A Legal Analysis of Policy Options to Regulate Solicitation of Organs for Transplant*, 17 HEALTH MATRIX 63, 72 (2007).

153. Compensation in the form of travel and lodging, government-paid life insurance in the event of death during donation, payments for college tuition and tax credits have also been suggested along with monetary compensation. Editorial, *Ways to Reduce the Kidney Shortage*, N.Y. TIMES (Sept. 1, 2014), <http://www.nytimes.com/2014/09/02/op>

The concept of payment for or solicitations of donations is ethically controversial.¹⁵⁴ Currently, there is a federal prohibition on the sale of human organs for transplantation by the National Organ Transplant Act (NOTA).¹⁵⁵ However, arguments in favor of financial incentives state that such a system “would increase the supply of organs and thereby secure the basic ethical concern of saving lives that may otherwise be lost due to the lack of this resource.”¹⁵⁶ Furthermore, the medical care system could benefit: assuming 500 additional live donors opted to donate organs for money, a \$30 million savings could result, allowing for other transplant-related programs.¹⁵⁷ On the other hand, there are compelling arguments against financial incentives. Opponents of such financial incentives “point out that there would be potentially decreased emotional gain for the donor family, decreased respect for life and the sanctity of the human body, and a loss of the personal link that currently exists in the donation process.”¹⁵⁸ There are also concerns about the impact such compensation may have on the economically disadvantaged population willing to sell their kidneys for cash.¹⁵⁹ Thus, methods by

inion/ways-to-reduce-the-kidney-shortage.html?_r=1. The National Organ Transplant Act, discussed *supra* Part I.B., “permits reimbursement for ‘the expenses of travel, housing, and lost wages incurred by the donor of a human organ in connection with the donation of the organ.’” Williams et al., *supra* note 151 at 300 (quoting 42 U.S.C. § 274e(c)(2) (2012)). Furthermore, income tax benefits for organ donors is currently permitted in seventeen states. *Id.*; see also § 274e(c)(2).

154. Williams et al., *supra* note 151, at 287. The shortage of organs has caused some to call for the establishment of a commercial market for organs in which the donor sells an organ for a fee. This market system is not a legal market in the United States, even though illegal black markets in human organs exist. Interestingly, the National Organ Transplantation Act’s prohibition on the sale of human organs is only restricted to transplants, thus, allowing the sale of organs and body parts for other purposes. *Id.*
155. *Id.* This prohibition only applies to transplantation, so the sale of organs and body parts for other purposes is allowed. NOTA prohibits “the creation of a national regulated market for organs, but it also potentially prohibits states from providing any financial incentives to living donors and the estates of cadaver donors.” *Id.* at 292.
156. PAYMENT SUBCOMM., U.S. DEP’T OF HEALTH AND HUMAN SERVS., FINANCIAL INCENTIVES FOR ORGAN DONATION (1993), <http://optn.transplant.hrsa.gov/resources/ethics/financial-incentives-for-organ-donation/>.
157. *Id.*
158. *Id.*
159. A further concern regarding the underprivileged who receive transplants is the expense of antirejection drugs. Many of these individuals cannot afford to pay for the antirejection drugs, which can cost more than \$1000 a month. Medicare stops paying for these drugs after three years, unless the patient is old and disabled. As such, Congress’ extension of Medicare coverage for antirejection drugs may increase the success of transplants and thus lessen the number of individuals who make their way

which such concerns could be ameliorated have been proposed, including “limiting payments to sales of cadaver organs, limiting the compensation that may be paid for each organ, regulating the exchange such that compensation is paid by a third party government agency and not directly from recipient to donor, and setting donor health standards.”¹⁶⁰

There are also differing views as to how the sale of organs is connected or related to property rights.¹⁶¹ “One view is that the sale of organs is impossible because the body is not property in a commercial sense.”¹⁶² A second view does not object to the sale of organs but objects to the commodification of the body.¹⁶³ A final view recognizes that commercial activity occurs with the “trading” of body parts and instead questions whether compensation for donated organs should be paid to the donor or donor’s estate.¹⁶⁴ These various views concerning organs as property further complicate the already controversial ethical debate surrounding the sale of organs.

A similar ethical debate also surrounds the solicitation of organs. A growing number of individuals, labeled “transplant tourists,” have begun to travel in order to find a transplantable organ in a donor country.¹⁶⁵ Similarly, others have begun to travel the web to find a

back on to the transplant list. *Ways to Reduce the Kidney Shortage*, *supra* note 153. While this remains a concern for some, others have contemplated safeguards that would guard against this, such as regulating an upper limit on the amount of compensation that can be given for a donation, limiting the market to cadaver organs to protect living donors, and requiring extensive health checks of potential living donors to eliminate the risk of future complications. Williams, *supra* note 151, at 309–10.

160. Williams, *supra* note 151, at 302.

161. While the common law in the United States recognized a quasi-property interest in the body, statutory law in the form of the Uniform Anatomical Gift Act of 1968 impacted this common law in several ways:

- (1) [P]roviding general guidelines for the post mortem donation of body parts;
- (2) providing priority of the decedent’s wishes on organ donation over that of their next of kin;
- (3) prohibiting the sale of specific organs; and
- (4) impacting the laws on whether coroners or medical examiners can make gifts of bodies in their possession.

Id. at 281–83 (footnotes omitted).

162. *Id.* at 280.

163. *Id.*

164. *Id.*

165. Transplant tourism has its own fans and critics. Some cite the advantages as being a potential savings in cost and the matching of donors and recipients who otherwise would not have met. Negatively, critics state that transplant tourism may pose health and safety risks as individuals travel to foreign countries with different health laws

transplant, using websites such as MatchingDonors.com.¹⁶⁶ The process at matching donor websites is described as follows:

[P]otential recipients pay a membership fee to post their photos and personal stories describing their transplant organ needs. Potential donors pay no fee and are able to browse the profiles of over 4,000 potential recipients. If a potential donor is interested in a potential recipient, the potential donor can contact the potential recipient to begin a dialogue and, if both agree, to proceed with the organ donation process.¹⁶⁷

Proponents for internet solicitation claim that a valuable service allows altruistic potential donors to find needy patients in a safe manner.¹⁶⁸ Furthermore, other safeguards prevent coercion, such as the psychological screening procedures for live donors implemented at many hospitals.¹⁶⁹ Other medical facilities may refuse to perform transplants on individuals who met through an internet site.¹⁷⁰ Legally, internet solicitation is allowed under § 6(A)(3) of the 1987 version of the Uniform Anatomical Gift Act, which “permits directed organ donation for transplantation purposes” without regard to how the recipient or donor met.¹⁷¹

Opponents of internet solicitation claim that such sites help circumvent the law as willing donors are paid under the table for organs by recipients.¹⁷² Furthermore, critics claim that, by bypassing transplant wait lists, soliciting recipients weaken the formal transplant wait list structure and allow for a disorganized allocation of organs.¹⁷³ Critics also cite the superficiality of internet solicitation, claiming individuals may select recipients on criteria such as beauty or race.¹⁷⁴ Finally, there is concern about the veracity of potential

and regulations. Liliana M. Kalogjera, *New Means of Increasing the Transplant Organ Supply Ethical and Legal Issues*, HUM. RTS. 19, 21–22 (2007).

166. *Id.* at 21.

167. *Id.*

168. *Id.*

169. *Id.* at 22.

170. *Id.*

171. *Id.*; see also UNIF. ANATOMICAL GIFT ACT § 6(A)(3) (NAT’L CONF. OF COMM’RS ON UNIF. STATE LAWS 1987) (directing that a “designated individual” may become a donee of anatomical gifts for the purpose of “transplantation or therapy needed by that individual”).

172. Kalogjera, *supra* note 165, at 22.

173. *Id.*

174. *Id.*

recipients' profiles due to the lack of legal safeguards regulating such websites.¹⁷⁵

B. Ending Age-Restrictions on Donations and Receipt

Up until the 1990s, donor organs from individuals over fifty-five were rarely used since organs donated from older individuals resulted in reduced graft function and reduced recipient and graft survival.¹⁷⁶ However, age matching between donor and recipient has been adopted by most European countries,¹⁷⁷ and the United States is now catching on to the trend. In the United States, despite the use of kidneys from donors older than sixty, the percentage of organs that are harvested from this population yet not transplanted is 40%.¹⁷⁸ The major reasons that these organs are discarded are unfavorable biopsy findings.¹⁷⁹ However, a new change may mean greater use for these once discarded organs. The United Network of Organ Sharing Kidney Transplantation Committee approved and implemented a policy in 2014 that may result in fewer discarded organs.¹⁸⁰ The new policy is based on the Kidney Donor Profile Index (KDPI), a measure of donor quality, that is an improvement of the older standards.¹⁸¹ "KDPI is a percentile rank, based on a number of donor risk indicators (KDPI = 85 means that 85% of donors are of better quality)."¹⁸² Transplant programs can accept different quality kidneys and match kidneys according to the recipient's age and medical circumstances "by establishing candidate-specific KDPI acceptability thresholds."¹⁸³

A program such as this has already experienced success in European countries. In 1999, the Eurotransplant foundation initiated the Eurotransplant Senior Programme (ESP).¹⁸⁴ Under the program, donor kidneys that are older than sixty-five are matched to recipients older than sixty-five to allow the most use of such marginal organs and to reduce wait times for elderly individuals.¹⁸⁵ Survival rates of ESP program participants have proven similar to those of elderly

175. *Id.*

176. Maggiore et al., *supra* note 87, at 220.

177. *Id.*

178. *Id.*

179. *Id.*

180. *Id.*

181. *Id.*

182. *Id.*

183. *Id.*

184. *Id.* at 220–21.

185. *Id.*

recipients receiving a younger graft.¹⁸⁶ Other European countries are even more adventurous. In Italy, for example, donor kidneys that are older than sixty-five can be given to younger recipients.¹⁸⁷

In the United States, the problem of discarded organs may not only be attributable to the age of a person but also to the age of an organ. Many organs taken from deceased donors are discarded every year since transplantation does not occur within the twenty-four to thirty-six hour window from recovery to evaluation to transplant.¹⁸⁸ Some experts estimate that approximately 1,000 organs are discarded each year because the time runs out before a suitable donor is found.¹⁸⁹ The United Network for Organ Sharing was expected to change its formulas in December 2014 to increase the utilization of donated kidneys and to reduce waste.¹⁹⁰ As such, by finding a viable use for once discarded donations, especially those from elderly patients and “stale” organs, doctors may increase the supply of transplantable organs.¹⁹¹

V. CONCLUSION

There are thousands of people on the transplant list, and this number grows every day. By increasing the supply of available

186. *Id.* at 221.

187. *Id.*

188. *Ways to Reduce the Kidney Shortage*, *supra* note 153.

189. *Id.*

190. *Id.*

191. The elderly are not the only group subjected to discriminatory practices. Those with physical and mental disabilities also have a difficult time in obtaining transplants. This has resulted in at least one state passing legislation to prohibit this practice. New Jersey enacted a law that notes:

Individuals with mental and physical disabilities have been denied life-saving organ transplants based on assumptions that their lives are less worthy, that they are incapable of complying with complex post-transplant medical regimens, or that they lack adequate support systems to ensure such compliance;

. . . Although organ transplant centers must consider medical and psychosocial criteria when determining if a patient is suitable to receive an organ transplant, transplant centers that participate in the Medicare and Medicaid programs are required to use patient selection criteria that result in a fair and non-discriminatory distribution of organs; and

. . . New Jersey residents in need of organ transplants are entitled to assurances that they will not encounter discrimination on the basis of a disability.

N.J. STAT. ANN. § 26:6-86.1(c)–(e) (Supp. 2015).

organs, more individuals may receive life-saving transplants. The signing of the recent HOPE Act will hopefully make more organs available for HIV-positive recipients and thus result in more HIV-negative organs available for HIV-negative individuals. By changing the standards of organ donation from occurring after irreversible loss of brain function to irreversible loss of cardiac function, the organ supply may also increase. While this suggestion has negative legal and ethical implications, the benefit may outweigh the negatives. In addition, by educating individuals, especially minorities who have the greatest need for transplants, about donation and the regionally based system for transplants, more individuals may donate and also receive a greater chance of receiving a life-saving organ. Finally, other measures, such as granting priority status to organ donors, allowing for the payment or solicitation of organs, and allowing age matching for donations, might increase the supply of organs available to be transplanted.