

# **A ZERO SUM GAME**

## **EQUITABLE DISTRIBUTION OF ORGAN TRANSPLANTS**

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*Abstract.* The transplantation of organs represents an extraordinary medical breakthrough and has positively impacted the lives of many. However, the supply of transplantable organs is inadequate to provide treatment for everyone who needs it. As such, organs must be allocated with as much regard for equity and beneficence as possible. In the United States' current system, poverty disadvantages access to organ transplants. This unfortunate fact owes to issues related with the ability to pay, geographic access, substance abuse, and psychosocial factors, which disparately affect the poor. Reform strategies should be considered that mitigate these disadvantages, in order to ensure equality of access to lifesaving organs.

*HOUSEWIFE: If we are still looking for the men with the highest potential of service to society, I think we must consider that the chemist and the accountant have the finest educational backgrounds of all five candidates.*

*LAWYER: Both these men have made provisions so that their deaths will not force their families to become a burden on society.*

*SURGEON: How do the rest of you feel about Number Three-the small businessman with three children? I am impressed that his doctor took special pains to mention that this man is active in church work. This is an indication to me of character and moral strength.*

*HOUSEWIFE: Which certainly would help him conform to the demands of the treatment...*

*LAWYER: It would also help him endure a lingering death...*

*STATE OFFICIAL: But that would seem to be placing a penalty on the very people who have perhaps been most provident...*

*MINISTER: And both of these men have children too.*

*LABOR LEADER: For the children's sake, we've got to reckon with the surviving parent's opportunity to remarry, and a woman with three children has a better chance to find a new husband than a very young widow with six children.*

*From They Decide Who Lives, Who Dies (1962)*

## **I. Introduction**

In 1960, in the wake of Belding Scribner's invention of the first hemodialysis machines, so too was born an issue of medical ethics unlike any before it: the allocation of life and death. The scarce, primitive dialysis machines came nowhere near to satisfying

demand. As a result, the forerunner of medical ethics committees (the “Seattle God Committee”) was conceived to decide who, among the 100,000 patients with chronic kidney conditions in the United States at that time, would receive treatment. It was a zero sum game; for every beneficiary of the novel treatment, countless others were sentenced to death.

A 1962 report published in LIFE magazine was perhaps the first exposition of the Committee’s previously undisclosed methods; it shared a brief excerpt from a single typical conference (S. Alexander, 1962). The proceedings, included above, are no doubt an ugly sight. The limited options at the disposal of the Seattle God Committee meant that even the most conscientious and genuinely well meaning of considerations were controversial. The valuation of which factors should be considered, and the judgment of their respective significances, unveils a “dark side” to medical ethics that is inseparable from traditional concepts of beneficence.

Medicine has evolved rapidly since the inception of the God Committee, and the proliferation of highly advanced kidney dialysis machines has made the service accessible to most U.S. patients. However, allocation of life and death has survived as a prominent subject of medical ethics; it lives on within the domain of organ transplantation. In the United States alone, 22 people awaiting organ transplantation die each day (U.S. Department of Health & Human Services, 2017). The scarcity of transplantable organs means that supply simply cannot keep up with the growing demand. Though sophisticated criteria have been adopted to make responsible selections of organ transplant recipients, the allocation of life and death remains vulnerable to a breach by injustice. Therefore, conscientious, ongoing assessment of these criteria is necessary to ensure an equitable

distribution of organs. Indeed, maximization of justice should be an objective of ongoing discourse regarding the allocation of life and death, as it pertains to present day organ transplantation.

It is with this goal in mind that I present a reprehensible fact of modern medicine: relative to the wealthy, the American poor are disadvantaged regarding access to often lifesaving organ transplants. Given this truth, *I will proceed to argue that the current structure of the healthcare system, as it pertains to the allocation of transplantable organs, should be revised to reflect our moral responsibility to minimize inequality.* My discussion proceeds as follows: 1) authentication of the purported fact that is the focus of this essay; 2) assessment of the “principles of allocation” that are the basis for existing and future criteria for the selection of organ transplant recipients; 3) explanation of the reasons for the observed “fact” of socioeconomic inequities of access to transplant; 4) moral criticism and justification for reform of the existing systems of organ allocation; and 5) proposal of specific reformative policies.

## **II. The Fact of Inequality**

### *Socioeconomic barriers to organ transplantation*

A 1993 study by Ozminkowski, et al. found that between 1986 and 1987, the ability to pay for the treatment affected one’s access to a liver transplant by as much as 70 percent (Ozminkowski, Friedman, & Taylor, 1993). It was among the first statistical characterizations of an inequality that has persisted for decades since then.

In 1998, Alexander and Sehgal’s report on barriers to renal transplantation in the 1990s found that individuals with income greater than \$14,000 were more likely to receive treatment than were their counterparts with incomes less than \$11,000 (G. C. Alexander &

Sehgal, 1998). Over a decade later, Axelrod, et al. reported that, after controlling for a variety of variables, such as geography and preexisting conditions, the wealthiest transplant hopefuls were 76% more likely to obtain a live kidney transplant (Axelrod et al., 2010). In a 2011 study, uninsured patients and those with Medicare or Medicaid are less likely both to be waitlisted and to receive a kidney transplant (Schold et al., 2011). The same was found to be true for individuals from counties with lower median income (Schold et al., 2011). Another study reports that lower income patients are far more likely to die on waitlist for a liver transplant (Schwartz, Schiano, Kim-Schluger, & Florman, 2014). As recently as 2015, an article published by the American College of Cardiology Foundation found that patients belonging to zip codes with higher median incomes were significantly more likely to receive heart transplants (Givens et al., 2015).

#### *Racial disparities of access to transplant*

Paralleling the trends of socioeconomic disparity is yet another disturbing fact; racial minorities also exhibit reduced access to organ transplantation. An assessment of data on kidney transplantation before 1984 found that African Americans comprised 35 percent of kidney dialysis patients, but only 12 percent of kidney transplant recipients (Hoe, Evans, & Elworth, 1984). Almost ten years later, a study found that American racial minorities were only one-fourth as likely to be transplant recipients, compared with those of Caucasian descent (Ozminkowski et al., 1993). Even as recently as 2010, Caucasian descent remains one of the strongest predictors of access to organ transplants (Axelrod et al., 2010). Notably, historically oppressed U.S. racial minorities are known to suffer poverty at high rates compared with the racial majority. Consider the data from 2014, which places Caucasian American median household income at \$60,256, compared with only \$42,491

among Hispanic Americans and \$35,398 among African Americans (DeNavas-Walt, Proctor, & Smith, 2015). Undeniably, race is intertwined with socioeconomic status in present day America, and their respective significances to organ transplant rates may be difficult to separate. Though this essay will not give explicit treatment to the subject of racial inequities, it seems plausible that the issue might (at least partially) fall beneath the “umbrella” of my discussion of the socioeconomic factors of organ transplantation.

#### *“Presumed fairness” obscures inequality*

It may come as a shock to some that such a trend would persist, despite measures to secure access to medicine for even the poorest of U.S. citizens. However, it is a fact that, as of yet, the shift towards progressive healthcare reform has failed to mitigate inequality. Even in Ireland, where access to healthcare is universal, the wealthy are three times likelier to receive transplants than their lower class counterparts (McCormick, O’Rourke, Carey, & Laffoy, 2004). In hopes of safeguarding the poor from the socioeconomic inequalities of a “free market” for organs, the National Organ Transplant Act (NOTA) of 1984 made it “unlawful for any person to knowingly acquire, receive, or otherwise transfer any human organ for valuable consideration for use in human transplantation if the transfer affects interstate commerce” (National Organ Transplant Act, 1984). Measures such as these gave root to a “presumed fairness” of the system that is contrary to reality, and which will come under fire throughout this paper.

### **III. The Principles of Allocation**

#### *UNOS’ inception and mission*

The significance of the passage of NOTA in 1984 goes beyond the illegalization of organ sale alone; the act went on to establish a Task Force to assess the problem of organ

scarcity. Soon afterwards, the Organ Procurement and Transplantation Network (OPTN) was installed to manage the distribution of transplantable organs among waitlisted patients. Subsequently, the United Network for Organ Sharing (UNOS) was entrusted with operating the OPTN; as a first measure, UNOS designed a set of criteria to instruct the allocation of organs. An expressed goal of the UNOS system was to ensure that organs were distributed “equitably among transplant patients according to established medical criteria” (Blumstein, 1988). Though the new methodology promised to avoid the style of overtly normative judgments that characterized the deliberations of its predecessor, the controversial Seattle God Committee, the potential remained for injustice to permeate the UNOS system.

#### *Complications with selection criteria*

Our continued discussion of injustice, as it relates to modern day organ transplantation, requires that we first come to accept (or reject) the variety of objectives that should characterize an ideal framework of allocation. Though the definitions and respective significances of these are certain to vary from person to person, there has, until now, been measured agreement on a series of generally worthwhile objectives of a “just” system. Henceforth, these will be referred to as the “principles of allocation.”

The principles of allocation became a subject of debate in the 1960s, soon after the establishment of the Seattle God Committee. An early assessment of the field asked (Annas, 1985):

*"Shall machines or organs go to the sickest, or to the ones with most promise of recovery; on a first-come, first-served basis; to the most 'valuable' patient (based on wealth, education, position, what?); to the one with the most*

*dependents; to women and children first; to those who can pay; to whom? Or should lots be cast, impersonally and uncritically?"*

In a 1988 argumentative essay, Dossetor emphasizes the importance of nine such principles: 1) to treat those with the greatest medical need; 2) to maximize medical "utility;" 3) to select randomly (minimize systematic prejudice); 4) to distribute on a first-come, first-served basis; 5) to ensure full payment for the service; 6) to reward social worth; 7) to cater to public opinion; 8) to ensure medical-political compatibility with the service; and 9) to function in accordance with the law (Dossetor, 1990).

Dossetor's evaluation only furthers the controversy of field. Clearly, identification of reasonable objectives for allocation does nothing to elucidate the comparative significances of each. Which criteria should be accepted, and how should they be weighed against each other? Further complicating the matter is the ambiguity that exists within each respective objective. Should "medical need" be assessed for the gravity of pain, closeness to death, or the threat to dignity? What of "medical utility," which might focus on increasing years of life or quality of life? Is "social worth" a matter of immediate welfare (for friends and family) or future benefit (to societal progress)? Should "unbiased selection" aim to minimize economic, racial, sexual, or cultural disparities of health (it is conceivable, I think, that these will not necessarily align)?

Rather than paying all of Dossetor's principles the attention they are due, this essay will proceed to discuss only the first three, as these are the most widely accepted. The fact of inequality – which is the focus of this paper – represents a societal failure to uphold the third rule as it relates to socioeconomic status (and its parallels with certain racial disparities). This should not be mistaken for a condemnation of UNOS; in fact, the stated

goals of UNOS are compatible with Dossetor's first three principles. UNOS has expressed an interest in all of the following outcomes: 1) equitable application of medical criteria, 2) fair distribution of services to those in need, 3) maximization of the probability of successful transplant, 4) minimal waste of scarce organs, and 5) promotion of organ donation (Benjamin, Cohen, & Grochowski, 1994). I argue (in *Section IV*) that inequality persists *in spite of* UNOS' first and second objectives, because a failure of systemic nature impels the compromise of certain principles. Likewise, most discriminatory selection occurs before the incidence of waitlisting and outside of UNOS' authority.

#### **IV. An Explanation for Socioeconomic Disparities**

In order to make responsible decisions regarding policy aimed at addressing the socioeconomic disparities of organ transplantation, we must first understand the reasons for the perceived trends. Forward-thinking reformative measures should be directed by an understanding of the mediums through which these inequalities take shape. To date, many explanations have been given for the trends. My continuing argument focuses only on the four most widely studied avenues of the injustice I hope to mitigate; these are the following: 1) ability to pay, 2) geographic access, 3) substance abuse, and 4) psychosocial factors.

##### *The ability to pay*

Perhaps the most obvious of barriers to organ transplantation faced by the poor is that of payment for services. As one 1990 article maintained (Dhooper, 1990):

*“Realistically, organ transplantation is expensive and therefore beyond the reach of most patients. Most transplantation centers require that the patient make a substantial contribution toward the transplant procedure. Average*

*costs for these procedures can range from a few thousand to several hundred thousand dollars... The only option for uninsured or underinsured individuals is to seek charity through fund-raising by public appeals, which is demeaning to the individuals involved and the society at large."*

The United States does not offer universal healthcare access, and indeed the financial burden of organ transplantation should not be taken lightly. Much research has focused, in particular, on the extensive costs of post-transplant immunosuppressant medications. A 2007 study estimates that, for the first three years post-surgery, these costs would represent nearly a third of pretax income for a Medicare-insured, fulltime employed (at minimum wage) individual (Simmerling, 2007). Shockingly, the financial burden after three years would only get worse, as Medicare's coverage ends after the first three months of treatment. The patient would be unlikely to afford the medications thereafter (Simmerling, 2007).

In 1993, ability to pay was found to have a significant impact on organ transplant rates (Ozminkowski et al., 1993). Moreover, the study found disturbing evidence to suggest that increased ability to pay might encourage the selection of patients with low probability of successful treatment (Ozminkowski et al., 1993). Ozminkowski et al. warned against such a system, as it imperils four of UNOS' five goals in allocation. A more recent study, published in 2010, demonstrates that these disparities continue to be prominent: over 25 percent of transplant candidacy assessments cite a lack of necessary financial resources or insurance as reason for denial of treatment (Laurentine & Bramstedt, 2010). Oftentimes, the poor lack even the counsel to pursue transplantation; medical professionals are

demonstrably more likely to inform patients with private insurance of the potential for transplant (Kucirka, Grams, Balhara, Jaar, & Segev, 2012).

### *Geographic access*

The issue of geographic access, though less intuitive than that of the ability to pay, is perhaps the most studied of factors that confer disadvantage to low-income transplant hopefuls. In 1997, Tuttle-Newhall et al. found that, in the state of North Carolina, the odds of liver transplantation were over four times greater for those with homes nearby the facility relative to geographically distant patients (Tuttle-Newhall, Rutledge, Johnson, & Fair, 1997). A 2010 report indicates that these disparities have scarcely subsided since then; after controlling for socioeconomic status, distance to transplantation center remains a negative correlate for the probability of transplant selection (Axelrod et al., 2010). The next year, a further study elaborated that a lack of reliable access to transportation was cited as a barrier to transplantation in nearly 50 percent of cases (Flattau et al., 2011).

A more recent article, published in 2015, highlights another explanation for transplant distribution that stems from the differential access to transport among socioeconomic classes. The findings of Givens et al. found that the frequency of “multiple listing” (registering for status on more than one waitlist) was significantly greater among individuals with private insurance or from zip codes with higher median income (Givens et al., 2015). Another study reports that that multiple listing patients have higher median income than those dying on waitlist for liver transplants (Schwartz et al., 2014). This perceived trend compliments what one might expect; the wealthy are likely to have greater access to the transportation necessary to receive treatment at geographically distant transplantation centers. Moreover, their relative financial security may free them to make

frequent, time-consuming trips to distant clinics; by contrast, the poor are unlikely to be able to afford any such expenditure of money or time. As the study elaborates, multiple listing significantly improves the probability of heart transplantation and reduces the frequency of waitlist mortality (death while on the waitlist to receive treatment) (Givens et al., 2015). Disturbingly, “multiple listing patients seem to have less medical need than single listing patients throughout most of their waiting time” (Givens et al., 2015). The findings of Givens et al. further the evidence to suggest that the existing system of allocation fails to satisfy the fundamental objectives laid out by UNOS.

### *Substance abuse*

A 1998 study found that use of addictive substances frequently excluded organ transplant candidates from access to waitlists (Corley et al., 1998). This finding reflects UNOS’ professed interest in maximization of transplant utility. Substance abuse threatens the immediate success of transplant as well as post-transplant life expectancy and wellness (Olbrisch, Benedict, Ashe, & Levenson, 2002). Smoking, for example, was associated with a 30 percent increase in the frequency of kidney transplant failure. Until recently, a history of drug abuse was unconditionally exclusive to treatment (Beresford, 1992). Since then, drug abuse has remained a factor of primary importance to transplant candidate selection. A 1997 study found that liver transplant candidacy depended significantly on whether a patient’s condition was related with consumption of alcohol (Tuttle-Newhall et al., 1997). A later publication cited illicit drug and alcohol use as a barrier to liver transplant eligibility for over 6 percent of patients (Kemmer, Alsina, & Neff, 2011).

A 1987 article notes that “if medical criteria were to be the basis on which rationing decisions are made, they might exclude the poor and disadvantaged because health and

socioeconomic status are highly interdependent” (Evans & Yagi, 1987). Rejection for reasons of substance abuse is potentially a conduit for such an exclusion to occur. It has long been known that substance abuse is more prevalent among the poor (Haustein, 2006; Johnson & Chamberlain, 2008; Pollack, Danziger, Seefeldt, & Jayakody, 2002). One study found that cigarette smoking was far more prevalent among individuals with income below the poverty threshold, and that cessation was more infrequent (Flint & Novotny, 1997; Haustein, 2006). The same is true for alcohol consumption; a 20 percent increase in community poverty rates has been estimated to account for a 10 percent rise in the likelihood of binge drinking (Cerdá, Diez-Roux, Tchetgen, Gordon-Larsen, & Kiefe, 2010). Therefore, selection criteria that are critical of drug abuse are likely to discriminate against lower socioeconomic classes.

### *Psychosocial Factors*

Perhaps the least intuitive among widely studied factors pertaining to transplant access are those of psychosocial character. An article published in 1990 describes the significance of psychosocial assessment to expectations of success or failure in treatment (Dhooper, 1990):

*At the screening stage, medical feasibility or the use of a formula such as “benefit versus burden” can be important considerations. The medical criteria assess the probability that patients will survive for a substantial period with a reasonable quality of life if they receive a transplant. Age, social support, and life-style criteria also may be used at this stage for their perceived role in affecting medical outcomes. But these nonmedical factors require special scrutiny to ensure that they do not reflect social and cultural biases.”*

As it stands, most transplant selection committees will field any assessment, however eccentric, that is demonstrably related to transplant success. One such criterion is social support, or any resource provided within nonprofessional social contexts. Advice, financial aid, and caregiving are three such resources (Coglianese, Samsi, Liebo, & Heroux, 2015). All are significant to post-transplant outcomes including wellness and adherence to prescribed medication (Coglianese et al., 2015; Dobbels et al., 2009). As a result, social support and other psychosocial measures are common determinants of transplant candidacy. A 1998 article shares that factors of the “Family/Socioeconomic” subset were met with “reservations on the appropriateness of candidates for transplant (Corley et al., 1998). The article elaborates that these factors often reflected a lack of family support (Corley et al., 1998). Flattau et al. elaborates that a “chaotic social environment” and the “lack of a care partner” were cited as two of the most common barriers to liver transplantation; each presented in over 60 percent of cases (Flattau et al., 2011). That same year, another study found that psychosocial reasons were given for the denial of nearly 20 percent of candidates barred from the waitlist for orthotopic liver transplant (Kemmer et al., 2011). Among these cases, lack of social support accounted for over 30 percent (Kemmer et al., 2011).

Ozminowski et al. warns that assessment of psychosocial wellbeing threatens to punish the poor for certain facets of lifestyle common to the lower class (Ozminkowski et al., 1993). A 2008 publication found that social disintegration was increasingly prevalent among European persons of lower socioeconomic status (Böhnke, 2008). Another study found the same to be true for urban-dwelling African Americans (Tigges, Browne, & Green, 1998). By extension, selection for access to social support is discriminatory against the

lower class, and represents another vehicle of the current system's failure to equitably distribute transplantable organs.

### *Systemic failure*

At this time, it has been shown that issues related with the ability to pay, geographic access, substance abuse, and psychosocial factors disparately handicap the poor with respect to organ transplant access. Although UNOS' goals reflect an interest in equitable distribution, its authority is limited to the distribution of organs among *waitlisted* patients. Therefore, it must be emphasized that the majority of this inequality occurs *before* the incidence of waitlisting. Problems associated with payment, social support, and substance abuse factor into the listing decisions of many selection committees, nationwide ("Comprehensive Transplant Center," n.d., "Heart Transplant Preparation," n.d., "Kidney Transplant Selection & Referral Criteria," n.d., "Referral and Pre-Transplant Process," n.d., "UC Davis Transplant Center," n.d., "Vanderbilt Transplant," n.d.). Likewise, inadequate transportation prevents patients from traveling to transplant centers for pre-selection assessments. In the next section, I will argue that these inequalities represent a systemic failure of justice, and that it is our moral responsibility to mitigate them.

## **V. A Moral Argument for Reform**

### *Equity and justice*

It is noteworthy that UNOS' first and second goals both place an interest in some form of fairness or equity. If you have ever complained that anything, however trivial, is unfair, then you can sympathize with UNOS' motives. Most people, I think, dislike being treated unfairly. Likewise, few would dispute the virtue of the "Golden Rule," which maintains that we should treat others as we wish to be treated ourselves. It follows that we

should all have an interest in promoting and maintaining fairness in all things. The institutions we construct would thereby operate with special consideration for equity, just as UNOS seeks to do.

In *A Theory of Justice*, John Rawls argues that the principles of justice adopted by a society should reflect a concern for fairness. That is, justice involves the satisfaction of values selected and agreed upon in a perfectly equitable setting. The construction of this setting proceeds as follows: everyone in an entire society is temporarily stripped of all knowledge of oneself, so that class, sex, race, talents, and tastes are unknown (Rawls, 1971). Behind this “veil of ignorance,” there can be no indication of the personal qualities that set us apart, and that give birth to biases. As Rawls argues, the elimination of bias gives rise to conditions that are, by definition, fair. With equity secured, citizens behind the veil would proceed to accept principles of governance that are necessarily just.

According to Rawls, the principles adopted in this scenario would aim to maximize the wellbeing of those that are worst-off in the society. The citizens behind the veil, ignorant of their standing in society, would fear the worst and seek to mitigate the consequences of an “unlucky draw.” Rawls argues that, in hopes of securing protection from an unfavorable status quo, contractors would agree upon two distinct principles of justice. The first principle guarantees each individual maximal basic liberties to the extent compatible with similar liberties for others (Rawls, 1971). The second principle arranges inequalities such that 1) advantages are equally accessible to everyone of similar natural ability and 2) the inequalities produce the highest degree of benefit for those that are worst off (Rawls, 1971).

*Fair allocation of organs*

Life is perhaps the most fundamental liberty that exists, so Rawls' First Principle would have considerable interest in distributing it as maximally and equally as possible. Organ transplants constitute as second chance at life, and should be distributed accordingly. It is noteworthy the first principle emphasizes the highest degree of liberty. Given that only a successful transplant confers the benefits of life, contractors would value the provision of organs unto those most medically fit to harbor them. This would maximize the potential for life at the disposal of society; UNOS' third and fourth goals neatly parallel this intent. Problematically, however, the allocation of organs necessarily produces "winners" and "losers." There are simply not enough transplantable organs available to everyone in need; therefore, some must die for others to live. As a result, one patient's access to a second lease on life may be incompatible with that of another. This unfortunate fact cannot be reconciled with the first principle, so treatment of organ allocation must be deferred to the second.

For organ allocation – a process that, by nature, produces inequalities – to be justifiable in accordance with Rawl's Second Principle, it must be to the greatest benefit of those that are worst off. However, this intent is problematized by a morbid truth: the wellbeing of the dead cannot be maximized. The least fortunate individuals are those that are denied transplants, and death is often a consequence of rejection. It follows that the allocation of life and death must be unpacked, so that our assessment of justice can move forward. It is more constructive, in this case, to neglect the absolution of death, and instead to weigh outcomes by the probability of life. That is, rather than automatically assigning death to those with the least likelihood of a successful treatment, we should instead assign a probability, however unlikely, that they will receive a transplant. This probability will be

greater for some than for others, but it prevents our discussion of justice from devolving to a point that can no longer be reconciled with Rawls' Second Principle.

Returning to the matter at hand, it should be clear at this time that the allocation of organs is to the highest benefit of those that are worst off. Were allocation (and transplantation) to be neglected completely, everyone would have a zero probability of receiving a second life. Though transplantation produces inequalities, it succeeds at improving prospects even for those that are least likely to receive a successful treatment, as their chances, however slim, are necessarily greater than zero.

However, transplantation must also be justifiable with respect to the second principle's first stipulation: the advantages of the inequality must be equally accessible to all. That is, the distribution of "winners" and "losers" should be blind to most human characteristics, including socioeconomic status, sex, and race. However, Rawls is careful to stipulate that "natural assets," such as talents or certain physical aptitudes, may factor into one's access to unequal advantages (Rawls, 1971). It follows that access to organ transplants should be equal for all people of similar natural ability. In this case, the only ability that is pertinent is that of physical compatibility with a successful transplant.

In conclusion, the inequalities associated with organ allocation are permissible if they are blind to social background, and rationing decisions may only take into account one's natural aptitude. Therefore, it seems probable that the unbiased contractors would agree to such a system of allocation. Given that the first principle places value on maximal liberty, I argue that society would opt to distribute organs such that priority is given to those most medically compatible with the treatment.

*Failure of justice in practice*

It should be apparent, at this time, that the principles accepted by Rawlsian contractors would lead to a system of allocation complimentary with the stated goals of UNOS. Now, let us recall the problem at hand: within the United States' current system, poverty disadvantages access to organ transplants. This represents an appalling and unnecessary violation of equal opportunity (as in the second principle). Moreover, the significance of wealth to the incidence of waitlisting means that, in many cases, medical compatibility is relegated to secondary importance. For example, a patient with highest likelihood of successful treatment may be rejected based on financial inadequacy alone; this skews the allocation of organs away from the most efficient distribution. Indeed, both Rawlsian principles (and all of UNOS' first four objectives) are neglected by the current status quo.

In the next section, I will go on to argue for a variety of policies and reforms that promote equal opportunity to receive organ transplants. It will be my goal to show that these proposals not only avoid adding to the waste of organs, but in fact may increase the efficiency of organ allocation, so that both general societal benefit and minimal inequality are achieved.

## **VI. Towards Justice and Fairness**

For policy reform to be legitimate within the constraints of justice, it should reduce the socioeconomic disparities of access to transplants without increasing the waste of potentially lifesaving organs. Let us first reject an obvious, though flawed, proposal, if only to show that good intentions alone will not resolve the problem at hand.

*A flawed policy proposal*

In *Section II*, we discussed the substantial evidence that wealth confers an advantage to patients seeking organ transplants; in *Section V*, I sought to show that this advantage was both unfair and unjust. If you accept the fact of inequality in the United States, and if you value fairness and justice, then perhaps you have already considered a reform that gives socioeconomic status an explicit role in the process of allocation. That is, those responsible for distributing organs would grant a measure of priority to lower income patients; the degree of priority could be tailored to precisely counteract the differences of access to treatment that currently pervade the system. Were such a policy to be implemented correctly, access to transplant would be uniformly distributed across all social classes.

Though well intentioned, it should be clear at this time that such a policy is untenable with respect to efficiency. It sidelines UNOS' concerns for maximizing transplant utility and minimizing waste, by imbuing a factor irrelevant to medical feasibility with primacy. Treatment might be distributed to individuals with slim chances of salvation, simply because they are poor. Meanwhile, those that certainly could have been saved, and may have lived full lives, might instead die needlessly, as their lifeline is wasted on a lost cause.

No doubt, such a proposal should be discarded from any further consideration, but its failure may highlight a path forward. As it stands, candidate selection places primary importance on the optimization of medical outcomes. Every factor that is pertinent to medical feasibility, no matter how obscure, is considered. *Section IV* describes four factors seen as barriers to transplant success that are more likely to affect the poor than the wealthy. These include 1) ability to pay, 2) geographic access, 3) substance abuse, and 4) psychosocial factors. Because each is inseparable from its medical consequences, none

should be neglected as valid criteria for patient selection. Instead, *the socioeconomic differences of vulnerability to these factors should be reduced (but not necessarily eliminated) so that their assessment will no longer exclude the poor alone.* We will proceed to discuss each medium of transplant inequality in turn, so that policy responses can be tailored to address the problem as effectively and prudently as possible.

### *Responsible reform*

Let us first examine the problem of financial limitations; in the United States today, many of the poor are simply unable to afford expensive post-transplant medications. As a result, there is high risk of organ failure after Medicare's three years of transplant coverage has expired. This risk is factored into medical professionals' determination of who should receive organs; as poverty is a likely barrier to successful transplant, many of the poor are denied treatment. In the event of kidney failure, dialysis is the only affordable option that remains. Patients of heart and liver disease are not so lucky; those that cannot afford treatment are sometimes precluded from the most basic of liberties: life.

In this case, a path forward is rather clear. Were post-transplant medications to be covered more extensively by Medicare, most patients could feasibly afford the treatment. It follows that financial inadequacy would no longer be a barrier to transplant selection, since the distributors themselves would have no reason to fear medication noncompliance. Notably, such a policy would not only ameliorate the inequity of access to transplants; it may also improve the overall efficiency of organ allocation. Those with high probability of successful transplant, but without the means to pay for it, could at last receive organs that might otherwise be wasted on someone less medically fit for treatment. Therefore, we have

what I consider to be a "*perfect policy*;" it is compatible with our interests in justice, fairness, and general societal beneficence.

Geographic access is a second obstacle to organ transplant that is likely to disparately burden the poor. Unlike the other agencies of inequality, which present as barriers to selection by distributors, transportation inadequacies exclude patients from applying for transplant to begin with. Importantly, issues of geographic access have nothing to do with the expected medical outcome of treatment, were it to occur. Therefore, society has only to provide reliable transportation to those in need of treatment, and it will have secured another *perfect policy*. Again, both equality of allocation and maximal transplant utility are achieved; any appreciation for justice, fairness, or societal benefit is in defense of such a proposal.

Thirdly, we must address the more complicated problem of psychosocial factors. The most worrisome facet of this issue involves the valuation of social support groups by those responsible for allocating organs. Reliable access to support from family, friends, churches, and other social groups is a positive selector for transplant candidacy, because social support is demonstrably beneficial to recovery and long-term transplant success. As the poor are more likely to suffer social disintegration, they are more likely to be denied treatment. It follows that society can mitigate the inequity of organ distribution simply by installing institutions that contribute whatever services a healthy social support group otherwise would. The provision of improved outpatient treatment programs or home health care visitations could therefore remove any need for a strong social support group. Again, it is a *perfect policy*; the poor would have a fair chance at securing a transplant, and organs would be distributed to those that are most medically fit for treatment. As with the

other policies I've defended, a just and forward-thinking society should have good reason to consider such a reform.

Last is the matter of substance abuse, which is understandably a contraindication to most organ transplants. It is well known that substance abuse is likelier to affect those of lower socioeconomic status; as a result, criteria that select against patterns of drug use are most exclusive to the poor. Unfortunately, the problems associated with substance abuse are more difficult to resolve than failures of finance, transportation, and social support. A history of cigarette smoking, alcoholism, or use of illicit substances cannot merely be erased; those that have fallen victim to drug addiction often need continued treatment and support for the rest of their lives.

However, the societal burden of widespread substance abuse is *extensive*, so any reform that seeks to alleviate it should no doubt be considered. I argue that drug and alcohol rehab or support centers should be installed to mitigate socioeconomic disparities in access to transplant, since they would empower individuals with histories of drug abuse to improve their medical compatibilities with treatment. Moreover, they would promote societal wellbeing by attenuating the scourge of substance abuse, without increasing the needless waste of organs on "lost-cause" candidates. Although this proposal lacks the promise of perfect equality that the others maintain (since selectors may remain averse to backgrounds involving substance abuse), it would give many patients a fighting chance at securing a longer, and substance free, life.

## **VII. Conclusion**

In compliance with our moral obligation to ensure justice (as defined in *Section V*), I have now described four distinct policy measures that succeed both in improving

socioeconomic equality of access to organs and at maximizing overall transplant utility. In the interest of fairness, I argue that it is our duty to ensure that such reforms are forwarded as substantially as possible. Yet, I acknowledge that it remains for you, the reader, to decide if you will do something about it.

Perhaps you will agree with me that you cannot put a price on life. However, if you have experienced the elation of someone given a second chance, or witnessed the tears of joy and relief of a family at the bedside, then you must have some appreciation for its gravity. An organ transplant can be the greatest gift one can give, and they must be shared with as much concern for equity and beneficence as is possible. In the United States today, life is rationed with callous disregard for its worth, as if we belong to a society that takes it for granted. I leave you with the substantial burden of proving me wrong.

*Aegroto, dum anima est, spes esse dicitur.*

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