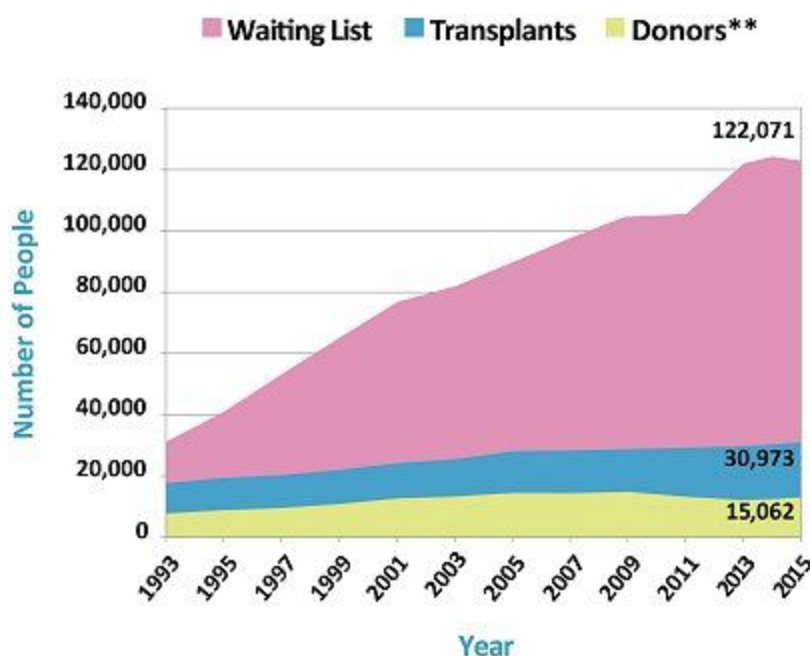


The Problem: The Donor Shortage

According to the National Kidney Foundation, over 120,000 Americans require an organ transplantation [12]. In 2016 alone, 52,000 people were added to the list, equating to one every 10 minutes. However, only approximately 30,000 people received a new organ - meaning in 2016 alone, the organ donation system faces a deficit of more than 20,000 people¹. This unfortunate and worrying trend is not new - organ donation systems in both the United States and the world have traditionally faced severe shortages of life-saving organ for transplantation, even



though over 95 per cent of Americans support organ donation [1]. Although research traditionally has correlated increased donor rates with more organs donated, less than half of all eligible adults in the U.S. are registered deceased organ donors [1]. In Kansas alone, over 600 people currently need life-saving organ transplants, thereby necessitating the

implementation of such a productive and efficient system. About 60 per cent of those people needing organs will die while waiting - a death rate comparable to smallpox, untreated tetanus, or anthrax. Most scientists and behavioral economists generally agree that a small change to current organ donation laws can and will save thousands of lives (as demonstrated through the systems of other countries), generate millions of dollars in state income, and serve as an example

¹ It is worth noting that not every registered donor has their organs donated. Only about 3 in 1,000 registered donors eventually die in a way that is conducive to donation (the ideal donor is young, healthy, fit, with no diseases, and died in a way that didn't damage their organs. Not many donors fit this description). Quick estimates confirm this: of the roughly 2,600,000 people who died in the U.S. in 2016, about 7,800 [12] had their organs donated (and $7,800/2,600,000=0.003$).

for other states to do the same. Most countries have one of four types of systems: Explicit Consent, Presumed (or Implied) Consent, Mandated Choice, and/or Routine Removal

Explicit Consent

Explicit consent is a system by which a willing donor must ‘explicitly’ register their consent for organ donation, typically done during driver’s license renewal. Many explicit consent countries (U.S. included) also ban the buying and selling of organs, established a national (or state) organ registry, and allow citizens to state their support and willingness to become a living organ donor or a deceased organ donor (where some or all organs may be donated if a person is declared dead) in a manner approved by the state. However, Explicit Consent systems usually have a major ‘disconnect’ between supporters of organ donation and those who are actually registered as organ donors. For example, in the United States, more than 95 per cent of Americans support organ donation. However, only approximately 45 per cent have taken the measures necessary for medical personnel to legally remove any organs. While this discrepancy is concerning, legislators can realize Americans overly support organ donation, and therefore probably a more comprehensive solution.

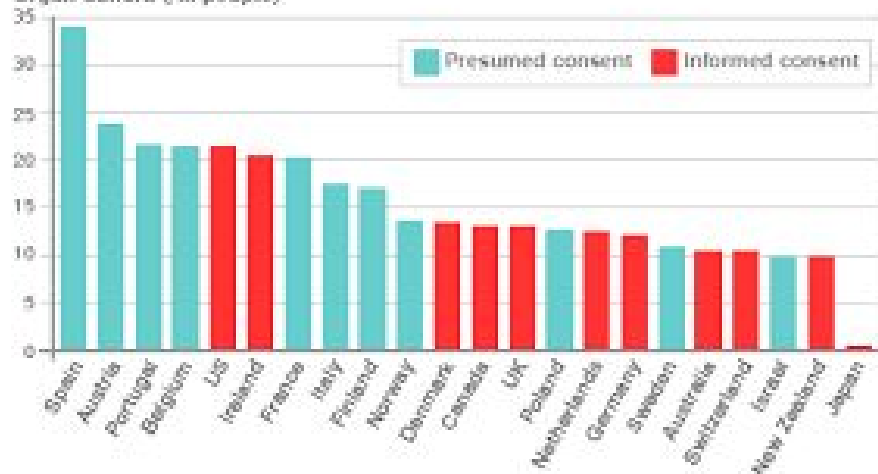
Presumed Consent

Presumed consent, or an “opt-out” system, is commonly defined as a system in which every eligible donor (normally those over 18) is “presumed” to give their support and automatically classified by the state as a deceased organ donor. Those who wish to not be a donor can register their opposition (thereby “opting-out”). Considering an overwhelming majority of Americans support organ donation, proponents say this allows people to avoid and paperwork associated with registration and instead move the burden from those who wish to better society (organ donors) to those who choose otherwise (objectors). Perhaps the most salient example of presumed consent as an alternative to explicit consent is the organ donation systems of Germany and Austria. The two nations are very similar in most respects. However, Germany uses an explicit consent system, while Austria uses a presumed consent system. According to a 2003 study conducted by Eric Johnson and Dan Goldstein, just 12 per cent gave of eligible Germans their consent to be organ donors. However, 99.98 per cent of Austrians gave theirs [4].

This, coupled with extremely limited maintenance and legislative costs to change systems, makes Presumed Consent a low-cost and low-maintenance system utilized by many countries today.

ORGAN DONATIONS AROUND THE WORLD (2002)

Organ donors (/m people)



SOURCE: Journal of Health Economics

Mandated Choice (or Required Response)

The states of New York and Illinois use a system commonly known as Mandated Choice. In this system, people who wish to renew their driver's license (or other

frequent, statewide application, such as a tax return or voter registration form) must answer the questions pertaining to organ donation. This would capitalize on the near-unanimous support of organ donation by forcing the issue (or merely notifying donors of it). The positive effects of this could also be significantly augmented by ensuring that the will of the deceased cannot be overruled by the next of kin (which is discussed below).

Routine Removal

No countries or states currently use routine removal for all organs, which is a system in which all needed organs are taken from deceased or 'hopelessly compromised' (e.g. brain dead patients) people. The next-of-kin has no say in the fate of their relative's organs. Despite this likely solving global organ donation crises within a few short years, a great majority of people object to such systems for all organs. However, some organs or tissues are routinely removed. The state of Georgia, for a period, routinely removed all available corneas for transplantation (as some types of blindness can be reversed). This increased the number of cornea donations from as mere 23 to over 1,000 in a year, which cleared Georgia's cornea waiting list. In Singapore, all persons who do not register their objections to donation will have their organs transplanted. After

enactment of this law in 2009, cadaveric kidney donations tripled. While Singapore's system is not one of Routine Removal (as objectors can register their consent and avoid donation), it espouses many of the extremely successful traits associated with these systems.

The Next of Kin Problem

However, the arguably-breakthrough effects demonstrated by Presumed Consent are often dulled by the next of kin. Descendants of the deceased donor, in most countries, are given the option to decide the fate of their relative's organs if there is no record of registration (some countries allow them to decide even if the deceased expressed their willingness to donate). Families in the United States reject organ donation requests just about half the time. However, this figure is much lower in countries with presumed consent, as presumed consent can be applied, in a sense, a second time. Presumed consent nations can interpret a descendant's silence as agreement with donation instead of disagreement with donation. The results are notable: In France, rejection rates are near 30%; in Spain, rejection rates hover around 20% [1]. By creating an environment where decedents have less pressure to say 'yes' because the state can make that decision for them if they wish, descendants are (as in the cases of France, Spain, and Austria) more likely to allow deceased organ donations to occur.

Past Application in the United States

As discussed earlier, many states have realized the benefit these simple changes can supply. Among a vast majority of American economists, scientists, and doctors, most agree the system of Presumed Consent is more effective than the status quo. Florida, Georgia, and Oklahoma have or once had a routine removal system for corneas. The state of Texas implemented a similar system for deceased persons without a next of kin. The states of Illinois and New York have laws requiring people who wish to renew their driver's license to fill out the organ donation section as opposed to merely "skipping" the question.. Bills proposed in Maryland and Pennsylvania in the early 1990's contain clauses that would define them as "Presumed Consent." Even as recently as 2016 (and into 2017) have the two states continually discussed the idea and await final report from their research groups. However, a comprehensive and sweeping solution (similar to prominent European ones) has never been implemented in the

United States. With the variety of solutions proposed, discussed, and implemented around the world and in the United States, surely the state of Kansas can find a suitable solution.

A System for Kansas

The following proposals would arguably fit the bill of needing a non-intrusive, cheap, simple, tested, and popular solution. Obviously, the right law for Kansas would need to fulfill as many of the following items (and more):

- ❖ Reduce the number of persons needing an organ transplantation;
- ❖ Reduce the number of deaths caused by a lack of available organs;
- ❖ Decrease the discrepancies between public support and public action;
- ❖ Decrease the costs associated with the current organ donation system;
- ❖ If using “presumed consent,” allows for an easy and simple “opt-out”;

By combining the systems previously discussed, several possibilities abound: Routine Removal, Presumed Consent and Mandated Choice, Mandated Choice, and simply Presumed Consent.

Maryland and Pennsylvania

Before the actual proposal, some context: The Maryland and Pennsylvania state legislatures introduced separate bills which contained the following similarities:

- ❖ If an individual had not expressed an objection during the individual's lifetime, then the individual is presumed to have wished to donate;
- ❖ If a donor has not expressed preference for either compliance or objection, then the next of kin's objection is sufficient to permanently halt all organ donations;
- ❖ If record of the preference of a potential donor is found, then this preference cannot be overridden by the next of kin;
- ❖ All reasonable efforts are to be made to contact the potential donor's next of kin.

This system is beneficial in a variety of ways (other than being Presumed Consent):

- ❖ It allows for those who wish not to be donors to do so;

- ❖ It prohibits the next of kin from overriding the deceased's recorded preference, but simultaneously allows the next of kin to decide in the event that no preference is found.

Organ Donation Myths

Some potential donors do not donate or do not trust the current system to process their organs fairly and quickly. Whether from lack of information, purposeful disinformation, or another cause, many believe certain myths about organ donation and the doctors that perform such operations:

- ❖ Some may believe that celebrities or the rich get preferential treatment. This is *false*. While celebrities or the rich may be able to find organs faster than the average person, this is likely due to things such as travelling outside of the state or country to receive a transplant and not due to bias in the selection process.
- ❖ Another, rather outrageous myth, pertains to doctors in life-saving operations: If you are in the midst of an operation and doctors find out that you're a registered donor, they will not do everything they can to save you. This is *false*.
- ❖ Furthermore, some religions don't encourage donation. Also, you can't donate if you're too old or have a medical condition such as diabetes. All of this is *false*. All major religions support organ donation. In addition, age and medical condition does not directly disqualify donation.
- ❖ Another myth states that if you do donate organs, whether while living or posthumously, your family must pay for the costs. This is *false*.
- ❖ Open casket funerals aren't possible if someone is a donor. This is *false*.

Conclusion: The Tradeoff of a Lifetime

The United States has a donation rate of approximately 20 donors per million people. Yet this above-average rate alone cannot solve the extremely pressing life-and-death matters the United States, and the world, faces. The solutions mentioned here are proven to be effective and efficient while costing almost nothing. More than 600 people in Kansas need life-saving organs. The problem is not available organs; thousands of people die in Kansas a year. The problem is with the disconnect between public support and public action, between the default and proactivity. Kansas stands to benefit greatly from an improved organ donation system, whether it be Presumed Consent or otherwise. Approximately 90 Kansas die every year on the waitlist, or 1 every 4 days². In addition to saving 90 lives or more a year (as this disregarding lives improved but not saved), Kansas stands to gain significant financial benefits. If, for example, 50 of the approximately 90 Kansans who would die per year are saved through this system, and each earns approximately \$66,000 USD a year [15], in the first year alone, Kansas could generate taxes on an extra $66,000(50)=\$3,300,000.00$ USD, meaning Kansas would theoretically generate more than \$140,000 in taxes every year. And because they would produce taxable income for more than one year (let's say, 10 more years), in just a decade, Kansas could generate more than \$1,400,000 in income a year. These estimates, are, of course, very conservative, as they low-ball many variables and disregard medical bills, funeral costs, and more that would be saved, in addition to the added benefit of an increased workforce. Most of those 50 people will probably work for more than 10 years; furthermore, Kansas may implement tax increases, in addition to gaining more income from additional, current taxes. These variables and more could push the figure of \$1,400,000 to more than \$4,000,000 per year. But monetary incentives aside, there still remains the growing problem (and the many solutions to it): a lack of donatable organs. By implementing small, smart changes in state regulation, Kansas can save lives, generate tax income, reduce the size of the government, and create a positive influence for other states to follow Kansas' lead.

² This figure of 90 Kansans per year is also obtained via quick math: assuming equal distribution of the people on the wait list by state, we can divide the population of Kansas (about 2,900,000) by the population of the United States (323,100,000) to get the percentage of $2,900,000/323,100,000=$ about 1%. Then, we take this 1% and multiply it by the number of people in the United States needing a transplant (about 22 die every day, meaning $22*365=$ about 8,000 die in the U.S. per year. Multiply by 1% and we get about 80 per year, or 1 every 4 days).

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