

# ORGAN DONATION IN AMERICA: WHO CHOOSES TO BE A DONOR?

## Background

In the United States today, roughly 100,000 people are waiting for a donated organ, and thousands die each year before a matching organ becomes available. Despite the fact that for the past two decades, all fifty states have offered a donor opt-in on driver's license applications and renewals, nearly half of Americans still choose not to register as donors. As a result, a significant shortfall in available organs persists.

To make matters worse, a spate of recent articles in highly respected publications have caused public concern. In Feb 2025, *The New York Times* published an article titled "Organ Transplant System in Chaos as Waiting Lists Are Ignored." Several months later, the same paper published "Doctors Were Preparing To Remove Their Organs. Then They Woke Up." Organ donation associations refuted the salacious headlines and clamored for accurate reporting.

Unfortunately, the damage was done. The second *New York Times* article prompted thousands of registered donors to remove themselves from state registries. According to a letter issued by the Association of Organ Procurement Organizations, "These stories have directly led to the biggest increase in people removing themselves from donor registries ever recorded, putting patients waiting for transplants at greater risk," the letter stated.

To counter misinformation and sensationalized reporting, we need a clearer picture of the donor landscape—and a deeper understanding of why some people choose to register as donors in the event of death, while others do not. By examining the differences between these groups and the beliefs that shape their decisions, we can rebuild trust, revitalize donor-registration rates, and better meet the growing demand for lifesaving transplants.

## Research Questions

Given the supply / demand imbalance within the organ procurement system, public policy analysts need to better understand the demographic and psychographic profiles of donors and non-donors. Fortunately, the 2019 National Survey of Organ Donation Attitudes and Practices offers an excellent source of information. Published by the Health Resources and Services Administration, an arm of the U.S. Department of Health and Human Services, the NSODAP team surveyed 10,000 Americans by phone and online about their backgrounds and beliefs.

Using the survey microdata, I have chosen to address the following two questions:

- Which demographic characteristics – age, income, gender, race, education level, and insurance coverage – are most strongly associated with a person's likelihood to be an organ donor upon death?
- What particular beliefs about organ donation – related to equity, cost, medical attention, bodily integrity, etc. – are most predictive of a person's willingness to be an organ donor upon death?

## Methodology

This inquiry employs two main lines of analysis: multivariate logistic regression to identify the demographic characteristics most predictive of willingness to donate, and a nonparametric test (specifically the Mann-Whitney test) and multivariate logistic regression to assess how opinions tend to differ between the willing vs. not willing population.

### Demographic Analysis

To obtain the dependent variable of willingness to donate (a binary outcome), I joined two variables: respondents who were registered as organ donors and respondents who had not registered but claimed they were somewhat or very likely to donate. For the independent variables consisting of various demographic data, I removed all observations where the respondent didn't know or chose not to answer. In addition, for certain demographic categories (e.g. household income), I created larger bins of data to yield fewer categories. I was then able to do a multivariate logistic regression to determine which demographic characteristics were most highly correlated with willingness to donate.

### Belief Analysis

For the analysis of beliefs, I was interested in knowing how opinions differed, on average, between willing and unwilling respondents. In the survey, respondents were asked to characterize their reaction to a number of statements in the following way: (1) strongly agree, (2) somewhat agree, (3) somewhat disagree, and (4) strongly disagree. I made sure that RStudio read each response as an ordinal number on the 1-4 scale, and, as with the demographic data, I discarded observations with responses where the respondent didn't know or chose not to answer. I then used the Mann-Whitney (Wilcoxon rank-sum) tests rather than t-tests to compare willing versus unwilling respondents on each belief statement. I computed the mean and median response separately for respondents who were willing to donate and those who were not willing, and then tested whether these distributions differed using the Mann-Whitney test. Finally, I ran a multivariate logistic regression and generated odds ratios.

## References

Health Resources and Services Administration. National Survey of Organ Donation Attitudes and Practices (NSODAP) – Organ Donation Opinion Survey Data, U.S. Dept. of Health and Human Services. Feb. 2020.

Miller, Joshua Rhett. "Mass Exodus From Organ Donor Registries Following Media Coverage. Newsweek, 7 Aug. 2025.

Organ Procurement and Transplantation Network (OPTN) and Scientific Registry of Transplant Recipients (SRTR). OPTN/SRTR 2023 Annual Data Report. U.S. Department of Health and Human Services, Health Resources and Services Administration, 12 Feb. 2025.

Rosenthal, Brian M. "Doctors Were Preparing to Remove Their Organs. Then They Woke Up." The New York Times, 6 June 2025. (Link no longer available.)

Rosenthal, Brian M., Mark Hansen, and Jeremy White. "Organ Transplant System 'in Chaos' as Waiting Lists Are Ignored." The New York Times, 26 Feb. 2025.

### Demographic Analysis

#### Overall Model Fit

Null deviance = 8364.8 (df = 8048); Residual deviance = 8071.3 (df = 8028); AIC = 8113.3; N = 8049

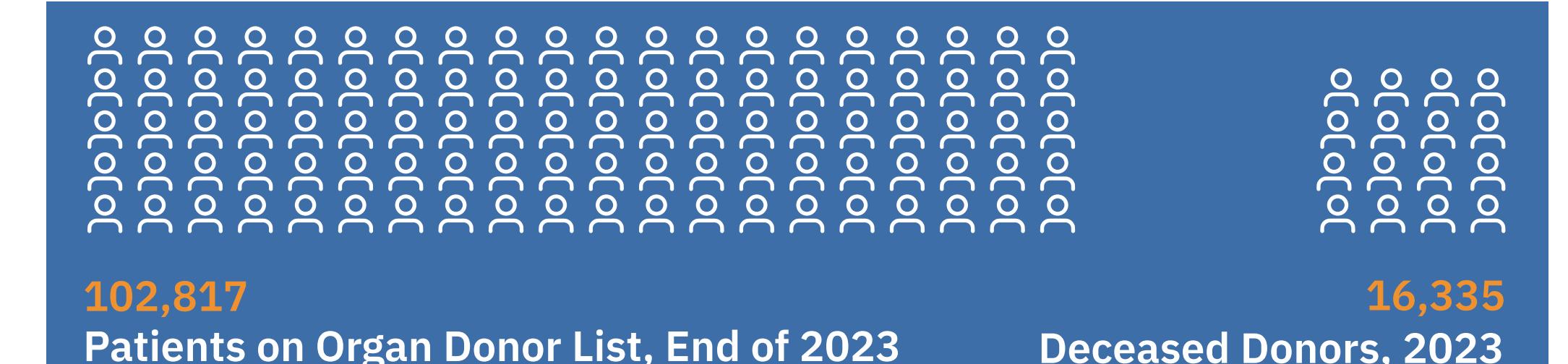
Variable	Df	Deviance	AIC	LRT	p_value
RaceCat	3	8137.7	8173.7	66.39	2.53E-14
AgeCat	3	8135.3	8171.3	63.99	8.24E-14
EduCat	3	8099.2	8135.2	27.88	3.85E-06
Income	8	8138.4	8164.4	67.03	1.91E-11
Coverage	1	8104	8144	32.65	1.10E-08
Sex	1	8079.5	8119.5	8.14	0.004327
Urban	1	8072.8	8112.8	1.51	0.218719

Predictor	Category	Adj_OR	CI_low	CI_high	p_value
Race	White (ref)	1.0000			
	Black	0.6110	0.5165	0.7227	0.0000
	Asian	0.5544	0.4676	0.6574	0.0000
	Native Amer.	0.9176	0.7573	1.1119	0.3804
Age	18-34 (ref)	1.0000			
	35-49	0.7927	0.6755	0.9302	0.0044
	50-64	0.6307	0.5447	0.7303	0.0000
	65+	0.5575	0.4757	0.6535	0.0000
Education	HS or less (ref)	1.0000			
	Some coll/tech/voc	1.3590	1.1680	1.5814	0.0001
	College grad	1.4766	1.2596	1.7310	0.0000
	Postgraduate	1.5393	1.2661	1.8714	0.0000
Income	< \$20K (ref)	1.0000			
	\$20-30K	1.3532	1.1114	1.6477	0.0026
	\$30-40K	1.9161	1.5395	2.3847	0.0000
	\$40-50K	1.7636	1.4017	2.2191	0.0000
	\$50-60K	1.6227	1.3072	2.0144	0.0000
	\$60-75K	1.7645	1.4133	2.2030	0.0000
	\$75-100K	2.0655	1.6631	2.5653	0.0000
	\$100-150K	1.9271	1.5459	2.4021	0.0000
	\$150K+	1.9140	1.4875	2.4629	0.0000
Coverage	Has insurance (ref)	1.0000			
	No insurance	0.6101	0.5167	0.7205	0.0000
Sex	Female (ref)	1.0000			
	Male	1.1748	1.0517	1.3123	0.0043
Urban	Suburban/rural (ref)	1.0000			
	Urban	0.9090	0.7801	1.0592	0.2212

### Belief Analysis

Belief Statement	OR_est	CI_low	CI_high	p_value
Belief_body. It is important for a person's body to have all of its parts when it is buried.	2.38	2.23	2.53	8.64E-153
Belief_Minorities. Minority patients are less likely to receive organ transplants than White patients.	0.803	0.75	0.86	4.25E-10
Belief_Costs. People who choose to donate a family member's organs end up paying extra medical bills.	0.874	0.81	0.943	0.000531
Belief_Need. Every year, thousands of people die because there are not enough donated organs available.	0.649	0.604	0.698	9.59E-32
Belief_Doctors. If you indicate you intend to be a donor, doctors will be less likely to try to save your life.	1.08	1.01	1.16	0.0344
Belief_Undeserving. Transplants often go to undeserving people.	0.911	0.845	0.981	0.0138
Belief_Fair. The U.S. transplant system uses a fair approach to distribute organs to those in need.	0.545	0.507	0.586	9.70E-61



Source: OPT/SRTR 2023 Annual Data Report

## Conclusion

### Demographic Analysis

Willingness to donate was relatively high across all demographic segments (between 70-83%), with two exceptions: individuals with income less than \$20K (67.8% willing) and those with no insurance coverage (69.5% willing). In simple percentages, younger adults, people with more education and higher incomes, those with health insurance, and men were more likely to say they were willing donors, while Black and Asian respondents, older adults, the least educated, the lowest-income, and the uninsured were less likely. The multivariate logistic regression identified race (#1), age (#2), and education (#3) as significant predictors of willingness to donate; to a more modest extent, income (#4) and coverage (#5) were predictive; finally, sex (#6) had a tiny effect. Urbanicity (living in a city vs. rural/suburban area) was not statistically significant.

### Belief Analysis

Across all seven belief statements, willing and unwilling respondents differed significantly (all Mann-Whitney p < .001), but a few beliefs yielded especially strong effects. In the multivariate logistic regression including all seven beliefs at once, the strongest predictors of willingness were:

- Body integrity.** People who *disagreed* with the statement that "the body should remain intact after death" were far more likely to be willing donors (OR ≈ 2.4). Each step of disagreement more than doubled the odds of willingness.
- Perceived need.** Respondents who more strongly agreed that "many people die because there are not enough available organs" had substantially higher odds of being willing donors (OR ≈ 0.65). Those who downplayed the need were much less willing.
- Fairness of the system.** People who believed the donation system fairly distributes organs were also much more likely to be willing donors (OR ≈ 0.55). Greater disagreement with the belief in system fairness sharply reduced willingness.

Other beliefs were statistically significant but had smaller effects. For example, rejecting the idea that doctors give less effort to save registered donors was associated with only a minor increase in willingness to donate. Likewise, there were only modest associations with beliefs about minority access, costs to donor families, and whether some people are "undeserving" of organs. Ultimately, low concern about preserving bodily integrity after death, recognition of the substantial need for organs, and confidence in the fairness of the system had the greatest influence on willingness to donate.

## Limitations

As with any survey querying sensitive topics like organ donation, this survey may suffer from a degree of social desirability bias, meaning that respondents have provided answers that they think will reflect well upon them, rather than what they actually believe or intend to do. Likewise, there may be a risk of non-response bias: for many questions, some share of respondents chose not to answer, and non-responses may theoretically be associated with disagreement with the statements. Relatedly, the survey's limited 4-point categorical scales for belief statements (strongly agree, somewhat agree, somewhat disagree, and strongly disagree) lack nuance, which could influence results.

At the outset of the analysis, I made the decision to create a binary "willing" and "non-willing" distinction among respondents. To do this, I disaggregated the unregistered respondent group and pulled out those who answered "definitely yes" or "probably yes" to the question, "Would you want your organs donated after death?"; I then grouped them with the registered respondent to create the "willing" category. Another approach might have been to simply run the analysis on "registered" vs. "unregistered", or to create 4 categories: "registered", "unregistered but definitely wants to donate", "unregistered but probably wants to donate", and "unwilling to donate." A different methodology for creating the dependent variable might have yielded different findings.

