

Wide variability in organ donation rates: Midwest leads nation in highest rates of donations

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More than 123,000 Americans are currently waiting for lifesaving organ transplants, but 21 patients die each day because there aren't enough organs to go around. New research shows wide variation in the number of eligible organ donors whose loved ones consent to organ donation across the country. Donation consent rates are highest in the Midwest and lowest in New York State, according to a study by researchers from the Perelman School of Medicine at the University of Pennsylvania and the University of Kansas Hospital in the new issue of the *American Journal of Transplantation*.

"These findings dispute the commonly held notion that the gap in [donor](#) supply in certain geographic areas is due to large populations of racial and ethnic minorities who are less likely to consent for donation, thus affecting the geography of available organs," said the study's lead author, David Goldberg, MD, MSCE, an assistant professor in the division of Gastroenterology at Penn.

The researchers examined data from the Organ Procurement and Transplantation Network (OPTN)/United Network for Organ Sharing (UNOS), the nation's organ transplant network, on all reported "eligible deaths," - defined as potential brain-dead organ donors age 70 years or less without any medical conditions precluding donation - from 2008 to 2013. Of 52,571 eligible patient deaths reported to UNOS, consent for donation was obtained in 73 percent of cases. Consent rates were highest among potential donors under the age of 55, patients of white race, and when the referral from the local hospital was made in a "timely" manner.

Consent rates along racial lines echoed findings from earlier studies: lower among African Americans, Hispanics, and Asians, when

compared to Caucasian patients. Yet these lower consent rates among racial and ethnic minorities did not explain the overall geographic variability in consent rates. Even after accounting for patient and geographic factors of the potential donors, the study found that the donor consent rates among the 58 donor service areas (DSA) ranged from a 64 percent to 90 percent. Although the average consent rate within each donor service area, when accounting for the race/ethnicity and other factors among the eligible deaths, was between 75 and 80 percent, the consent rates fell below 70 percent in nearly a quarter of the donor service areas. Even when examining only one racial group at a time, the researchers found wide variation in donation rates across the nation's donor service areas: consent rates among Caucasian patients, for example, ranged from 72 to 92 percent across the 58 donor service areas.

"These data demonstrate that although the underlying demographics of the donor population may contribute to geographic differences in organ consent rates, it clearly is not the major driving factor," Goldberg said. "Although there may be underlying cultural or religious differences leading to variable consent rates, the dramatic differences in consent rates among younger Caucasians clearly show that race alone cannot explain geographic differences in organ donor consent rates."

The authors note that if consent rates over five and a half years in the geographic areas with the lowest consent rates were to increase to the current level of the geographic area with the median level of donors identified, there could potentially be 773 more donors available. That pool could yield nearly 2,700 lifesaving kidney, liver, lung, heart, pancreas, and/or intestine transplants. "Importantly, nearly one third of these increased donors would come

from the donor service areas in New York State," Goldberg said. "This is of critical importance to the liver transplant community, the OPTN, and HRSA, as there are proposals currently being evaluated to redraw the maps for how organs are distributed. Yet efforts to increase donation rates, most notably in New York, would save more lives, increase the number of transplants, and potentially cost much less than efforts to more broadly share organs across the nation."

Provided by University of Pennsylvania School of Medicine

"With over 10,000 patients a year dying on a transplant waiting list or becoming too sick to undergo a transplant, these data highlight the potential opportunity to save hundreds of more lives each year by increasing consent rates among potential organ donors," says senior author Richard Gilroy, MD, medical director of Liver Transplantation at the University of Kansas Hospital. "By increasing organ donor consent rates, and optimizing how we utilize a scarce resource, the transplant community can help OPTN achieve its highest priority of increasing the number of transplants each year in the US."

The researchers note that these data alone do not capture all potential deceased organ donors in the U.S., as the current definition of an eligible death excludes potential donors over age 70, and those classified as a "donation after cardiac death" donor, both of which broaden the pool of available donors. "However," Goldberg pointed out, "this group of patients represents the vast majority of actual organ donors in the United States."

The researchers conclude that the best way to boost organ donation rates is a multi-pronged approach that includes education and engagement with potential donors and their families, broader community engagement, concerted efforts by hospitals caring for potential donors, and optimized performance of organ procurement organizations who manage [organ donation](#) in this country. "Efforts to increase [organ donor](#) consent rates by all parties should be a major focus of the transplant community and the general public," Goldberg said. "This is the only mechanism that will allow us to prevent waitlist deaths while increasing the number of transplants."

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