

Issue At A Glance:

Racial Disparities in Kidney Transplants

Kidney transplant rates differ based on race, and certain groups facing higher rates of end-stage renal disease (ESRD) experience lower transplant rates. This issue brief aims to highlight the persistent racial disparities in kidney transplants, while exploring existing policies and potential recommendations to address these inequities.

Introduction

In the United States, an estimated 37 million individuals have kidney disease, and around 807,000 individuals are currently living with kidney failure.¹ Many of these people rely on dialysis and, at some point, may require a kidney transplant to survive. Unfortunately, the process of getting a transplant can be quite lengthy, depending on your race, socioeconomic status, and where you reside.

Kidney transplant rates between Whites, Blacks and Native Americans expose inequalities based on race. Despite having the lowest occurrence of end-stage renal disease (ESRD), Whites have the highest transplant rate.² To address this disparity, policy changes have been implemented, enhancing the region for organ allocation and eliminating race-based estimated glomerular filtration rate (eGFR) correction.^{3,4} These policy adjustments aim to improve the racial gap in kidney transplant rates and create more transplant opportunities for racially diverse populations. Despite these efforts, additional work is still needed to ensure that the waitlist accurately represents individuals affected by ESRD.

Policy Changes

- 2014** The Organ Procurement and Transplantation Network (OPTN) implemented a new kidney allocation system with new Kidney Donor Profile Index, Expected Post Transplant Survival, and revised rules.⁵
- 2021** OPTN removed the use of Donor Service Area and region in kidney allocation.⁴
- 2022** OPTN Board unanimously approved race-neutral eGFR calculation requirement which was implemented in July.³
- 2023** Kidney programs were required to correct waiting times for Black candidates disadvantaged by overestimation of eGFR.⁶

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Data Evidence

As we observe the racial composition of the United States, with the White population representing 59.3%, Black individuals making up 13.6%, and Native Americans comprising 1.3%, a significant pattern emerges when considering the rates of end-stage renal disease.⁷ Despite Blacks and Native Americans accounting for only 13.6% and 1.3% of the population, respectively, they experience the highest and second-highest rates of ESRD. Specifically, the prevalence of ESRD among Blacks compared to the number of people in the US with ESRD is 37.1%, while Native Americans face a rate of 20.4%. These figures starkly contrast with the lowest rate of 8.7% observed among the White population.²

The transplant rate based on race is even more remarkable. According to the most recent data from the Organ Procurement and Transplantation Network (OPTN) as of June 26, 2023, the kidney transplant waitlist distribution by ethnicity reveals intriguing patterns. Whites constitute the largest proportion at 36%, followed by Blacks at 31%, Hispanics at 22%, Asians at 9%, Native Americans at 1%, and other ethnicities at 2%. Surprisingly, despite having the lowest ESRD rate, based on the most recent data by the United Network for Organ Sharing (UNOS) in 2020, Whites have the highest transplant rate at 38.9%, while Blacks follow closely at 32.1%. In contrast, Native Americans have the lowest transplant rate at 0.9%. These findings raise essential questions regarding equity in healthcare and emphasize the need for a thorough examination of the factors contributing to transplant evaluation, waitlisting, and candidacy.⁸

Race as a Persistent Factor in Evaluating Donor Kidneys

Despite some progress being made, such as the removal of the race factor for calculating eGFR in waitlist criteria as of 2022, race still plays a significant role in certain aspects of transplants. As of June 29, 2023, OPTN policies still retain the ethnicity specific Kidney Donor Risk Index (KDRI) coefficient of 0.1790 for donors who are African American only.⁹ The KDRI is used to calculate the Kidney Donor Profile Index (KDPI). This means that all African American donors are assigned a higher estimation of graft failure, resulting in an increased discard rate for their kidneys.



Noteworthy Transplant Policies over the Past 10 Years

2014 KAS: KDPI and First Day on Dialysis

The Kidney Allocation System underwent changes in kidney quality evaluation, as well as recipient criteria. The introduction of new rules enhanced access for blood type B candidates accepting compatible donors and incorporated waiting time from the first dialysis treatment, making the waitlist somewhat more representative compared to previous years. However, concerns arose regarding the measurement of kidney quality through the Kidney Donor Profile Index (KDPI). The KDPI considers multiple factors, including race, which can lead to higher estimate of graft failure for Black donor kidneys and a higher likelihood of them being discarded.^{9,10}

2021 OPTN: Adjusted Distance

The removal of donation service areas (DSA) and OPTN regions in favor of a fixed-distance circle of 250 nautical miles around the donor hospital resulted in increased access to transplants. This change led to a notable rise in the number of transplanted individuals from Black and Native American populations. These revisions aimed to prioritize patient access, eliminate location-based barriers, and provide equitable opportunities for all eligible candidates to receive life-saving organs.^{4,11}

2022 OPTN: Race-Neutral eGFR

eGFR is a measure used to assess how well kidneys are working. The use of the Black Race

Coefficient in specific eGFR calculations raised concerns about its reliability and validity, as highlighted by recent research. This coefficient has been shown to overestimate kidney function in Black patients by up to 16% and has significantly influenced the waitlisting and transplant opportunities available to them. To address these inequities, the OPTN Board of Directors approved the "Establish OPTN Requirement for Race-Neutral eGFR Calculations" proposal on June 27, 2022. Implemented on July 27, 2022, this policy mandates the use of race-neutral eGFR calculations across all transplant hospitals. As of January 5, 2023, kidney programs were directed to assess their waiting lists and rectify waiting times for Black kidney candidates who may have been adversely affected by the race-inclusive calculations.^{3,6}

Future Direction

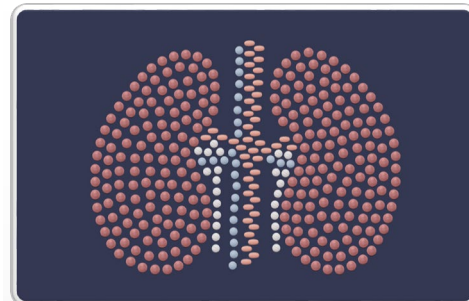
A new continuous distribution system is set to revolutionize transplant evaluations. This system considers multiple factors simultaneously to generate an overall score for prioritizing patients on the waiting list. It has already been implemented for lung transplants in March 2023, and its development for kidney allocation is currently underway, with a policy notice expected in 2024. The goal is to create a more inclusive and effective transplant process where comprehensive and unbiased evaluation criteria determine patients' chances of receiving a transplant.¹²

Conclusion

While strides have been made to address racial disparities in organ allocation, the journey towards equity remains ongoing. Past injustices in organ allocation policies have played a role in creating these inequalities. To achieve fair access to transplants, ongoing research, policy reforms, and collaboration among healthcare institutions are essential. By actively advocating for fairness, adopting culturally sensitive approaches, and embracing progressive allocation policies, we can work towards a future where every patient has an equitable chance of receiving a transplant. It is critical to reassess existing policies and reject practices that perpetuate racial divisions, fostering a more inclusive and just system.

References

1. <https://www.kidneyfund.org/all-about-kidneys/quick-kidney-disease-facts-and-stats#:~:text=37%20million%20Americans%20have%20kidney,are%20living%20with%20kidney%20failure.>
2. <https://usrds-adr.niddk.nih.gov/2022/end-stage-renal-disease/7-transplantation>
3. <https://optn.transplant.hrsa.gov/patients/by-organ/kidney/understanding-the-proposal-to-require-race-neutral-egfr-calculations/>
4. <https://optn.transplant.hrsa.gov/professionals/by-organ/kidney-pancreas/kidney-allocation-system/removal-of-dsa-and-region-from-kidney-allocation-policy/>
5. <https://optn.transplant.hrsa.gov/professionals/by-topic/guidance/the-new-kidney-allocation-system-kas-frequently-asked-questions/>
6. <https://optn.transplant.hrsa.gov/news/optn-board-approves-waiting-time-adjustment-for-kidney-transplant-candidates-affected-by-race-based-calculation/>
7. <https://www.census.gov/quickfacts/fact/table/US/PST045222>
8. <https://optn.transplant.hrsa.gov/data/view-data-reports/build-advanced>
9. https://optn.transplant.hrsa.gov/media/eavh5bf3/optn_policies.pdf
10. <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC10057682/>
11. https://optn.transplant.hrsa.gov/media/p2oc3ada/data_report_kidney_full_2_0220624_1.pdf
12. <https://unos.org/policy/organ-distribution/>



Did you know?

While receiving regular dialysis or having an eGFR of 20 mL/min is often the threshold for accruing waiting time, the specific criteria for waitlisting can differ based on factors like underlying causes of ESRD, center policies, patient's overall health, support system, and compliance.



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