

Advancing Transplant Equity by Closing the Gaps in Policy, Practice, and Research

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Patients trust us, and that comes with the responsibility to do everything we can to ensure the systems they depend on give them a chance to live their best lives.
—US Rep. Lauren A. Underwood, MSN/MPH, RN¹

Despite longstanding recognition of the need to improve transplant access and equity, systemic barriers continue to drive suboptimal access to transplantation.^{2,3} To increase efficiency and redress inequities in organ allocation through

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policy changes, the Organ Procurement and Transplantation Network (OPTN) Kidney Allocation System (KAS) dramatically changed deceased-donor kidney allocation, effective December 4, 2014.⁴ This new KAS policy change was designed in response to national calls to improve efficiency and equity in organ allocation. A key component of the policy change is that waiting time for patients now includes time elapsed after initiating treatment for kidney failure, even before being officially registered on the waitlist.⁴ Subsequent to the implementation of KAS, studies have been conducted to assess whether these changes have helped to improve transplant access and equity. These early studies reported improvements in overall access to deceased-donor kidney transplantation for younger, highly sensitized, and racial and ethnic minority patients who were registered on the waitlist.^{5,6}

In this issue of *AJKD*, Patzer et al evaluated the impact of the new KAS on referral and evaluation for transplantation among a population with incident and prevalent kidney failure.⁷ The authors sought to test whether the national decrease in waitlisting may have resulted in part from a decrease in referrals for transplant or is a result of practice changes by transplant centers during the early steps in the transplant evaluation process. The authors leveraged a novel dataset, the Southeastern Kidney Transplant Coalition Early Transplant Access Registry, which encompasses patient data in Georgia, North Carolina, and South Carolina and data from all 9 adult kidney transplant centers in this tristate area. The authors linked data from the registry with patient data from the US Renal Data System and 5-digit ZIP code data from the 2014 American Community Survey. They hypothesized that the implementation of KAS may have resulted in reduced urgency to waitlist incident dialysis patients compared with prevalent cases (ie, patients who have been receiving dialysis longer) as a result of how KAS reassigned allocation time to include time since kidney failure.

Within the study, Patzer et al analyzed data from 37,676 new patients who initiated maintenance dialysis in

2012-2016 in dialysis facilities in the tristate area. The authors found that 43.4% of patients were referred, 52.4% of those referred started the evaluation, and 35.2% of evaluated patients were waitlisted during the study period. Among incident cases, the post-KAS era was associated with increased referrals and evaluation starts, but decreased overall waitlisting and lower rates of active waitlisting among those evaluated, compared with the pre-KAS era. Among prevalent cases, the post-KAS era was associated with increases in overall and active waitlisting among those evaluated, but there was no significant association with referral or evaluation starts, compared with the pre-KAS era. The authors found minimal sociodemographic and clinical differences among patients before versus after KAS. Notably, post-KAS patients were slightly more likely to be non-Hispanic White. Black patients accounted for 62.4% of incident patients referred before KAS versus 61.9% referred after KAS and 56.8% of waitlisted incident patients before KAS versus 62.7% after KAS.

Overall, results from this study suggest that lower rates of waitlisting among the incident patient population after KAS are not due to lower rates of referral or evaluation of these patients, but result from less waitlisting among evaluated patients at transplant centers. In addition, the authors found that, among the prevalent population, there were higher rates of waitlisting among those who were referred and began the evaluation; however, KAS had no significant effect on referral and evaluation start. These results complement other recent reports of how performance oversight influences transplant center behavior and how center behavior influences transplant access.⁸

What might explain lower rates of waitlisting after KAS among incident patients despite increased rates of referral and evaluation? It is difficult to know for certain because of a lack of national data examining each step of the transplant referral and evaluation processes. One hypothesis is that dialysis facilities may be referring more patients with a higher burden of disease, which may ultimately influence lower rates of waitlisting among incident patients evaluated since the implementation of KAS. This theory is supported by the study findings of higher rates of post-KAS referrals and evaluation starts, as well as increases in the fraction of referred patients aged at least 70 years, with body mass index ≥ 35 kg/m², and with more comorbidities. This important study by Patzer et al emphasizes the importance of understanding the ways in which changes in policy may influence health system- and provider-level behavior changes among dialysis facilities and transplant centers. As pointed out by



Individual Level	Incorporate patient and broader stakeholder engagement in the design and implementation of approaches to improve transplant access and outcomes.
Interpersonal Level	Identify and adopt best practices to provide transplant care that is respectful of cultural differences in family decision-making and social network dynamics.
Health System Level	Design interventions to promote shared decision making, cultural competence, and communication skills to reduce the impact of racism and bias in transplant decisions.
Community Level	Build, strengthen, and sustain linkages between health systems and community resources to address the social determinants influencing disparities in transplantation.
Societal Level	Develop and test the comparative effectiveness of national, state, and local policies that target structural racism and other key barriers to transplant equity.

Figure 1. Recommendations for closing the gaps in transplant policy, practice, and research.

Patzer et al, it is also possible that longer expected waiting times overall and wait time credit from dialysis start date following KAS implementation has affected center listing practice by reducing the urgency to list incident dialysis patients for time even before they complete their evaluation requirements.

Importantly, policy changes alone may not be sufficient to advance transplant equity. In addition, universal policies such as the new KAS may be more effective when combined with other targeted approaches that help to address current gaps in transplant policy, practice, and research.⁹⁻¹¹ For instance, patients may face numerous barriers during their transplant journey, and these barriers act at multiple levels related to potential recipients and donors, health care providers, health system structures, and communities. If effective solutions to increase transplant equity are to be successfully formulated, adopted, and implemented, it is vital to address the complex, multilevel barriers that influence the presence of inequities.

As highlighted in Fig 1, strategies are needed to address gaps in transplant practice, research, and policy to successfully overcome barriers at multiple levels of influence, including the individual, interpersonal, health-system, community, and societal levels.⁹⁻¹⁴ At the individual level, there is a need for targeted interventions designed to reduce transplant disparities through appropriate and respectful engagement of diverse communities and patients with lived experiences. Specifically, it is important to incorporate individual patient engagement in the design and implementation of approaches to overcome barriers to transplant access and outcomes (eg, transportation, financial resources, knowledge). At the interpersonal and health system levels, there are several existing gaps in knowledge regarding the identification of best practices for enhancing nephrology and transplant professionals' communication skills and cultural competence to reduce the potential impact of implicit and explicit biases experienced by minoritized groups (eg, timely education, transplant re-

errals, and perceptions about social support).^{9,11,13} Provider and center practices that promote shared decision making and that are respectful of cultural differences in family and social-network dynamics are crucial. At the health-system level, organizational efforts are also needed to increase focus on reducing biases in estimating kidney function, as well as prioritizing health equity as an essential element in quality improvement for dialysis and transplant centers.^{11,12} At the broader societal and community levels, targeted policies, coupled with meaningful partnerships between health systems and community resources to address social determinants, are also paramount.¹⁴

In summary, despite early post-KAS improvements in overall access to deceased-donor kidney transplantation for some waitlisted patients, additional efforts are needed to address barriers driving lower rates of waitlisting among the post-KAS incident patient population. Strategies are also needed to better understand transplant center and provider behavior changes regarding waitlisting for incident patients. Efforts to couple universal transplant policies with targeted approaches to address multilevel barriers for at-risk groups will add immense value to current efforts to promote equity while also improving overall access to transplantation.

Article Information

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