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Social Determinants of Health: Going Beyond the Basics to Explore Racial Disparities in Kidney Transplantation

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ABBREVIATION

VA, Veterans Affairs

Though the standardized incidence rate of end-stage renal disease in the United States has been steady or declining among all races since 2000, the incidence rate ratio remains highest among African Americans compared to Caucasians, at 2.9 in 2016.[1] This racial disparity in disease burden, along with disparities in access to kidney transplantation for racial and ethnic minorities, persists despite accounting for potential confounders such as comorbid disease, geography, and social determinants of health.[2] The World Health Organization defines social determinants of health as "the conditions in which people are born, grow, live, work, and age."[3] More specifically, social determinants include employment, neighborhood factors, education, social support systems, and healthcare coverage impacting health outcomes. In this issue of *Transplantation*, Ng et al. investigated whether racial differences in listing for transplant remained after adjusting for social determinants of health in a single-center cohort of 1055 patients evaluated for kidney transplantation.[4]

This was a prospective cohort study of adult patients evaluated for first-time kidney transplantation. Participants completed semistructured interviews that included validated psychosocial and transplant-specific instruments and were followed until addition to the waiting list, determination of ineligibility for transplant, death, or administrative end of study. The analyses appropriately accounted for the competing risks faced while being evaluated for transplantation using Fine and Gray models, and the authors found that even after adjusting for medical factors and social determinants of health, African Americans were still 25% less likely to be listed for transplantation than Caucasians. Ng et al. concluded that this remaining racial gap represented novel factors yet to be explored, and highlighted "high risk" patients, based on social determinants, who may benefit from targeted interventions in the transplant evaluation process. Importantly, the authors stressed that social determinants helped to explain the relationship

between race and outcome, rather than operating differently for African Americans and Caucasians, as would be the case in the presence of a statistical interaction. This argument was supported by their data demonstrating a greater prevalence of social determinants that were negatively associated with waitlisting among African American participants.

A major strength of this study lies in the breadth of social determinants measured at time of transplant evaluation. The study team administered tools to capture cultural factors, such as feelings of discrimination, racism, and medical mistrust, and psychosocial characteristics, like social support and self-esteem. They also assessed transplant knowledge and concerns. Several social determinants were independently associated with listing for transplant, including age, income, and insurance type, all of which are already captured during standard transplant evaluation. The authors recommended that these factors be used to flag individuals who could benefit from more assistance in completing the evaluation process, further underscoring the role for educational interventions designed around social determinants of health, such as income[5] and social support networks.[6,7]

The fact that racial disparities persisted even after adjusting for comorbidities that might exclude a patient from transplant eligibility suggests that unconscious provider bias may play a role in whether an individual achieves waitlisting and ultimately transplantation.[8] A recent study in *Transplantation* supports this hypothesis, given that after selecting the healthiest cohort of patients on dialysis based on standard transplant eligibility criteria, Non-Hispanic Blacks and Hispanics had lower likelihood of transplantation.[9] However, we cannot rule out unmeasured confounding from other psychosocial factors, such as lack of caregiver involvement. Future analyses might consider the presence of a caregiver and content of the social work evaluation, to account for the role that posttransplant support plays in candidacy for transplantation.

The authors described potential policy implications of their findings and offered the Veterans Affairs (VA) transplant system as the gold standard, given their prior work demonstrating that racial disparities have been eliminated in this system.[10] Benefits of the VA model include the continuum of care permitted by the electronic health record and full coverage of ancillary testing, direct costs associated with the evaluation and transplant, and immunosuppression. Ng and colleagues proposed that the Medicare entitlement for ESRD be expanded to cover these costs in the civilian population, which in turn could reduce racial disparities associated with access to transplantation.

In conjunction with searching for novel risk factors that explain the remaining racial disparity in kidney transplant waitlisting, studies of the impact of social determinants of health on educational interventions would also be of great benefit. Ng and colleagues have laid the groundwork for more formative research in this area, and their work speaks to the importance of incorporating factors that shape how people perceive and access healthcare in analyses of transplant outcomes.

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