Editorials

Primary Care's Role in Eliminating Inequities in Kidney Transplant

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Black individuals make up 13% of the population in the United States but account for 30% of people living with end-stage renal disease (ESRD).[1] Black patients with chronic kidney disease (CKD) are almost four times more likely to progress to ESRD than their White counterparts.[1] A 2023 article in *American Family Physician* discusses the prevention, diagnosis, and treatment of CKD.[2] The article highlights the racial and ethnic disparities in the prevalence of CKD, but inequities extend to treatments offered and received. Black patients are less likely to receive optimal renal replacement therapy (i.e., kidney transplant).[3] Dialysis is a life-prolonging therapy, but it is time intensive, physically exhausting, sometimes painful, and costly. For most people, a kidney transplant improves quality of life and reduces morbidity and mortality. Family physicians can help rectify CKD and ESRD treatment inequities by educating patients, advocating in health systems, and preparing patients with CKD or ESRD for a kidney transplant.

Black patients face challenges at each stage of the CKD and ESRD continuum, from prevention to receiving a kidney transplant and beyond.[4] The inequity in access to quality CKD and ESRD management and kidney transplants is multifactorial.[5] The systemic practice of calculating estimated glomerular filtration rate (eGFR) with a race variable is biased and can lead to a delay in diagnosis and referral for specialized care and a kidney transplant for Black patients. Using race as a factor in the calculation of eGFR can cause test results that are 16% higher in Black patients compared with other races.[5] The race adjustment was originally implemented to account for differences between Black individuals and other races, such as muscle mass, but those theories of differences have been debunked.[5]

Race is a social, not genetic or scientific, classification that has evolved over time. The use of race-based eGFR calculations for transplant purposes was prohibited in July 2022, but the impact of this practice will reverberate for years to come.[6] In December 2022, the Organ Procurement and Transplantation Network approved a policy intended to backdate wait times for Black kidney transplant candidates who were disadvantaged by race-based eGFR calculations.[6] The backdating policy is a step toward accounting for the systemic inequities Black patients encounter in the kidney transplant process.

Black patients are more likely to experience social barriers that adversely impact health. However, even after accounting for social drivers of health, they are less likely to be placed on the transplant list.[7] The transplant-selection process can be subjective and explicitly or implicitly biased. Black Americans face discrimination in society, which can lead to medical mistrust. The continuity pillar of family medicine positions primary care physicians to build trust with patients, but physicians must first understand and acknowledge how the system fails Black patients.

Primary care physicians are often first to recognize and manage CKD. The *American Family Physician* article on CKD provides prevention and management best practices and recommendations for timely nephrology referral, which is essential.[2] Patients can be placed on the transplant list and receive a transplant preemptively, before needing dialysis. In 2016, White patients received 65% of the preemptive kidney transplants from deceased donors, whereas Black patients received 16% of these transplants.[8] Tools such as the Kidney Failure Risk Equation (https://kidneyfailurerisk.com) can be used to aid family physicians in counseling patients and prompt closer monitoring for those at higher risk.

Patients who are expected to develop ESRD should be educated about kidney transplant and, when their eGFR is less than 30 mL per minute per 1.73 m^2, considered for transplant referral.[9] When their eGFR is less than 20 mL per minute per 1.73 m^2, qualified patients are eligible for listing and can accrue wait time.[9] This minimizes time on dialysis or avoids it altogether. *Table 1* provides recommendations to prepare patients for listing, which can expedite the process.[9,10] Because transplant referral practices vary, primary care physicians can advocate for patients who may benefit from a transplant evaluation. Family physicians are skilled in care coordination and often have established continuity with patients. We should be empowered to collaborate with our patients and other specialists involved in their care to ensure that kidney transplant conversations take place and patients are properly prepared for the transplant journey.

Black patients face challenges in the evaluation, listing, and posttransplant phases. They wait longer for transplants and are less likely to receive a living donor kidney, which is preferred. Awareness of these disparities should make us more proactive in our medical practices. Although this

TABLE 1

Primary Care Preparation for Kidney Transplant

Age and risk-appropriate cancer screenings
Cervical, breast, colorectal, and prostate cancer: per general population guidelines
Lung cancer: chest computed tomography for current or former heavy smokers (≥ 20 pack-year history) per local guidelines
Dental
Screen for and manage periodontal disease
Diabetes mellitus
Optimize blood glucose control; thresholds for transplant listing vary among institutions
Hypertension
Work with nephrology to optimize blood pressure control; optimization of blood pressure can be difficult as kidney disease progresses
Obesity
Offer or refer for weight loss interventions for patients with obesity, especially if body mass index is ≥ 35 kg per m^2
Psychosocial
Coordinate treatment of psychological and behavioral health issues that may impact judgment (e.g., mental illness, substance use disorder)
Assess for social support and refer to available community-based organizations or national disease advocacy groups, such as the National Kidney Foundation
Tobacco
Assess tobacco use and provide cessation counseling if indicated
Offer tobacco cessation programs and evidence-based cessation products
Vaccinations
Inactivated
Diphtheria, pertussis, polio, tetanus, *Haemophilus influenzae* type B
Hepatitis A
Hepatitis B
Human papillomavirus: for all patients, regardless of sex, if not previously given (nine to 45 years of age)
Influenza
Meningococcal B
Meningococcal quadrivalent conjugate (serogroups A, C, Y, W-135)
Pneumococcal conjugate 13 (Prevnar 13), pneumococcal polysaccharide 23
Shingles (herpes zoster subunit): for patients 50 years and older; preferred over live, attenuated vaccine; if patient has been given the live, attenuated vaccine, vaccination should be repeated with the inactivated vaccine after one year
Live, attenuated*
Measles, mumps, rubella
Shingles (herpes zoster live)
Varicella

*—Live, attenuated vaccines should be given before kidney transplant. A four-week delay in the transplant is recommended if a live vaccine is administered.

Information from references 9 and 10.

editorial focuses on the stark health care disparities between Black and White patients living with CKD or ESRD, other minority groups also face inequities. Family physicians can directly address disparities in access to kidney transplants with prompt referral to nephrology, with ongoing discussions on how to prevent progression of CKD, by advocating for transplant as the best treatment, and by preparing patients to be strong transplant candidates.

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References

1. National Institute of Diabetes and Digestive and Kidney Diseases. Kidney disease statistics for the United States. Accessed August 23, 2023. https://www.niddk.nih.gov/health-information/health-statistics/kidney-disease
2. Goodbred AJ, Langan RC. Chronic kidney disease: prevention, diagnosis, and treatment. *Am Fam Physician*. 2023;108(6):554-561.
3. Taber DJ, Gebregziabher M, Hunt KJ, et al. Twenty years of evolving trends in racial disparities for adult kidney transplant recipients. *Kidney Int*. 2016;90(4):878-887.
4. Patzer RE, Perryman JP, Schrager JD, et al. The role of race and poverty on steps to kidney transplantation in the Southeastern United States. *Am J Transplant*. 2012;12(2):358-368.
5. Boulware LE, Purnell TS, Mohottige D. Systemic kidney transplant inequities for Black individuals: examining the contribution of racialized kidney function estimating equations. *JAMA Netw Open*. 2021;4(1):e2034630.
6. United Network for Organ Sharing. Waiting time adjustment approved for kidney transplant candidates affected by race-based calculation. January 5, 2023. Accessed August 23, 2023. https://unos.org/news/waiting-time-adjustment-approved-for-kidney-transplant-candidates-affected-by-race-based-calculation
7. Ng YH, Pankratz VS, Leyva Y, et al. Does racial disparity in kidney transplant waitlisting persist after accounting for social determinants of health? *Transplantation*. 2020;104(7):1445-1455.
8. Reese PP, Mohan S, King KL, et al. Racial disparities in preemptive waitlisting and deceased donor kidney transplantation: ethics and solutions. *Am J Transplant*. 2021;21(3):958-967.
9. Chadban SJ, Ahn C, Axelrod DA, et al. KDIGO clinical practice guideline on the evaluation and management of candidates for kidney transplantation. *Transplantation*. 2020;104(4S1 suppl 1):S11-S103.
10. U.S. Preventive Services Task Force. Lung cancer: screening. March 9, 2021. https://www.uspreventiveservicestaskforce.org/uspstf/recommendation/lung-cancer-screening