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Removing Race from Kidney Disease Diagnosis

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The disproportionate effect of kidney diseases on under-represented communities, particularly individuals who identify as Black or African American, is readily apparent on walking through many dialysis units, including those where we work. Patients who are Black are markedly over-represented among patients on dialysis but are less likely to be referred for or receive a kidney transplant. Although the reasons are complex, they demand an examination and change of any current practices that contribute to disparities. In this issue of *AJKD* and the *Journal of the American Society of Nephrology*, the National Kidney Foundation (NKF)–American Society of Nephrology (ASN) Task Force on Reassessing the Inclusion of Race in Diagnosing Kidney Diseases publishes its final report and recommendations, providing an important first step in this process.[1,2]

During the past 2 decades, automated reporting of estimated glomerular filtration rate (eGFR) to accompany serum creatinine has increased awareness, diagnosis, and staging of chronic kidney disease (CKD). However, equations using patient age, sex, race, and serum creatinine report higher eGFRs for individuals who are identified as Black as compared with non-Black individuals with the same characteristics. Over the past half decade, there has been an increasing re-examination of the effects of racism in medicine and the use of race in clinical algorithms.[3] Fundamental to this re-examination is the recognition that race is a social construct and not a biological determinant.[4] In nephrology, led in large part by medical students and trainees, there have been loud calls to remove race from the calculation of eGFR.[5] The inclusion of race in the calculation of eGFR has been linked to disparities in care, including delays in both the diagnosis of kidney disease and the eligibility

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for listing for kidney transplantation.[6] A more fundamental concern is that the inclusion of a social construct such as race normalizes and perpetuates nonscientific and harmful beliefs regarding race and biology in our training of the next generation of health care professionals.[7]

In July 2020, NKF and ASN formed a joint task force to reassess the inclusion of race in diagnosing kidney diseases. We charged the task force with examining the inclusion of race in the estimation of GFR and its implication for the diagnosis and management of kidney disease; considering the broad implications of any change; basing their recommendations on rigorous science while incorporating the concerns of patients and the public, especially in marginalized and disadvantaged communities; and ensuring that GFR estimation provides an unbiased assessment of kidney function. Task force members included both patients and health care professionals with a wide range of expertise. In April 2021, the task force issued an interim report detailing its processes, initial assessment of evidence, values, options, and desired attributes that it would use in making a final recommendation.[8,9]

The task force has now released its final report, providing 3 recommendations.[1,2] First, current eGFR reporting should be immediately replaced by the new 2021 Chronic Kidney Disease Epidemiology Collaboration (CKD-EPI) creatinine eGFR equation that was developed without consideration of race as a variable.[10] This equation was developed and evaluated in diverse populations encompassing both prior and new cohorts; is solely on the basis of age, sex, and serum creatinine; provides a level of precision and accuracy that is not dissimilar to existing equations; and does not disproportionately affect any one group of individuals. Most importantly, this equation can be rapidly implemented by all laboratories and health care systems.

Second, cystatin C testing should be more available and more widely utilized for assessment of kidney function. Evidence demonstrates that cystatin C, especially when combined with creatinine, provides a more accurate assessment of kidney function.[10,11] However, as the task force delineates, there are significant barriers that must be addressed prior to wide-scale implementation of cystatin C testing, including lack of availability across all clinical laboratories, high cost, and inappropriately restrictive coverage by insurance, including Medicare. Laboratory equipment manufacturers, clinical laboratories, and other stakeholders must rapidly increase the availability and decrease the cost of cystatin C testing, and payors must expand coverage for testing. Once these barriers are removed, the benefit of adding cystatin C to routine laboratory profiles should be determined.

Finally, the task force recommended additional research to develop better methods for estimation of GFR. Kidney disease research is markedly underfunded. Despite the Medicare program spending >$130 billion annually treating people with kidney diseases, including >$50 billion for people with kidney failure, the National Institutes of Health (NIH) spends <$700 million annually on kidney research.[12] This is <$20 per patient with kidney disease as compared with >$300 per patient spent on cancer research and >$2,500 per patient spent on HIV/AIDS research. That NIH spends so little on diseases that disproportionately affect minority populations and even less on achieving health equity in diagnosis and treatment of kidney disease is evidence of systemic racism in United States health care.

As the presidents of ASN and NKF and on behalf of both organizations, we congratulate the task force on their outstanding efforts. However, there is still much more that must be accomplished to realize the ultimate goals of ensuring accurate and unbiased diagnosis of kidney disease. NKF and ASN have already begun collaboration with the laboratory medicine community to implement the 2021 CKD-EPI creatinine equation as the standard for eGFR reporting, and NKF's online eGFR calculator (https://www.kidney.org/professionals/kdoqi/gfr_calculator) has already been updated. In addition to implementation of the new equation, we need to educate both our patients and our colleagues in primary care, endocrinology, cardiology, and other specialties so that they understand the implications of this change. It is worthwhile to note that the kidney community is the first to remove race from a widely used clinical algorithm and has provided a path for other specialties to follow. We must harness the current attention on this issue to demand additional change.

In parallel with implementation, NKF and ASN are working on a policy and regulatory agenda that is critical to eliminating disparities. This agenda includes a focus on identification and removal of criteria that lead to racial and ethnic inequity in kidney transplantation, including the use of race in the kidney donor profile index (KDPI) algorithm. Additionally, work is underway to mandate the inclusion of appropriate screening for kidney diseases to enable earlier diagnosis and intervention, particularly in underserved communities; to expand the kidney disease education benefit; to remove the dual-insurance requirement for kidney transplantation; and to increase access to nutritional resources and medical nutrition therapy, especially kidney-specific diets.

The implementation of the new equation affords us an additional opportunity to remind ourselves and our colleagues of what eGFR is and is not. Although eGFR is far superior to serum creatinine alone in assessing kidney function and is integral to both diagnosis and staging of CKD, we must never forget that the "e" in eGFR is for estimate. Similar to the prior eGFR equations, in using this new equation approximately 1 in 6 patients will have a reported eGFR that differs by >30% from the corresponding measured value. For the majority of patients, this will not affect clinical care; however, cystatin C or other assessment of kidney function should be used when a more accurate determination of kidney function is required. In addition, eGFR is only one dimension in the assessment of kidney function, and we must ensure more widespread testing of urine albumin excretion in high-risk patients. The development of panels of kidney function tests that include both blood and urine assays will facilitate this goal.

The elimination of race from the calculation of eGFR is an important step in our efforts to eliminate disparities in the care of patients with kidney disease. We must recognize, however, that there are multiple factors contributing to these disparities. Many are societal and may not be readily addressed at the bedside. However, those factors do not account for why a Black person with an eGFR of <20 mL/min/1.73 m^2 is still less likely to be referred, listed, and ultimately, transplanted than a White patient with the same eGFR. We must look inward at how our own actions and biases contribute to disparities in care and outcomes, and we must each be accountable.

The work of the task force in eliminating race from the calculation of eGFR is an important step demonstrating our commitment to providing more equitable care. NKF and ASN are committed to redoubling our efforts to identify, address, and eliminate the more fundamental causes for the unacceptable disparities that negatively affect the kidney health and care of Black and other under-represented populations.

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References

1. Delgado C, Baweja M, Crews DC, et al. A unifying approach for GFR estimation: Recommendations of the NKF-ASN Task Force on Reassessing the Inclusion of Race in Diagnosing Kidney Disease. Am J Kidney Dis. 2022;79(2): 268–288. [PubMed: 34563581]
2. Delgado C, Baweja M, Crews DC, et al. A unifying approach for GFR estimation: Recommendations of the NKF-ASN Task Force on Reassessing the Inclusion of Race in Diagnosing Kidney Disease. J Am Soc Nephrol. Published online September 22, 2021. doi:10.1681/ASN.2021070988
3. Vyas DA, Eisenstein LG, Jones DS. Hidden in plain sight reconsidering the use of race correction in clinical algorithms. N Engl J Med. 2020;383:874–882. [PubMed: 32853499]
4. Maglo KN, Mersha TB, Martin LJ. Population genomics and the statistical values of race: An interdisciplinary perspective on the biological classification of human populations and implications for clinical genetic epidemiological research. Front Genet. 2016;7:22. [PubMed: 26925096]
5. Powe NR. Black kidney function matters: Use or misuse of race? JAMA. 2020;324:737–738. [PubMed: 32761164]
6. Eneanya ND, Yang W, Reese PP. Reconsidering the consequences of using race to estimate kidney function. JAMA. 2019;322:113–114. [PubMed: 31169890]
7. Schmidt IM, Waikar SS. Separate and unequal: Race-based algorithms and implications for nephrology. J Am Soc Nephrol. 2021;32:529–533. [PubMed: 33510038]
8. Delgado C, Baweja M, Burrows NR, et al. Reassessing the inclusion of race in diagnosing kidney diseases: An interim report from the NKF-ASN Task Force. J Am Soc Nephrol. 2021;32:1305–1317. [PubMed: 33837122]
9. Delgado C, Baweja M, Burrows NR, et al. Reassessing the inclusion of race in diagnosing kidney diseases: An interim report from the NKF-ASN Task Force. Am J Kidney Dis. 2021;78:103–115. [PubMed: 33845065]
10. Inker LA, Eneanya ND, Coresh J, et al. Chronic Kidney Disease Epidemiology Collaboration: New creatinine and cystatin c-based equations to estimate GFR without race. N Engl J Med. Published online September 23, 2021. doi:10.1056/NEJMoa2102953
11. Hsu CY, Yang W, Parikh RV, Anderson AH, Chen TK, Cohen DL, et al. CRIC Study Investigators: Race, genetic ancestry, and estimating kidney function in CKD. N Engl J Med. Published online September 23, 2021. doi:10.1056/NEJMoa2103753
12. National Institutes of Health. Estimates of Funding for Various Research, Condition, and Disease Categories (RCDC), 2021. Accessed September 26, 2021. Available at: https://report.nih.gov/funding/categorical-spending#