PRESS RELEASE

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STUDY COMPARES STRATEGIES TO ELIMINATE RACE-BASED ADJUSTMENTS IN ESTIMATES OF KIDNEY FUNCTION

Highlights

- Removal of race adjustments to equations that estimate kidney function would increase the number of people categorized as having chronic kidney disease.
- There are several modifications for removing race that vary in their expected impact on predicted kidney function values and associated clinical decisions.
- Among race-free equations, the one based on blood measurements of cystatin C would likely result in the smallest changes.

Washington, DC (July 29, 2021) — Equations that estimate individuals' kidney function currently include an adjustment for race. A study appearing in an upcoming issue of *JASN* compares various race-free equations and their expected impacts on kidney disease diagnoses.

Current methods for assessing individuals' kidney function primarily rely on measuring blood levels of a protein called creatinine to generate what's known as a patient's estimated glomerular filtration rate (eGFR), with a lower eGFR indicating lower kidney function. Calculations typically include an adjustment for Black versus non-Black race, and this adjustment results in higher eGFR values for a Black patient compared with a non-Black patient of the same age, sex, and serum creatinine value. Because race is a social and not a biological construct, however, medical centers are considering race-free equations to improve the reporting of eGFR.

Using data from the National Health and Nutrition Examination Survey, James A. Diao, BS, Arjun K. Manrai, PhD (Boston Children's Hospital and Harvard Medical School), and Neil R. Powe, MD (University of California San Francisco) compared eGFR values determined by various race-free equations with those of equations recommended by current guidelines. The investigators noted that removal of race may be achieved by using an estimate of kidney function based on another blood measurement known as cystatin C or by "blending" (averaging) race-specific outputs equally (50% "if White/Other"—50% "if Black"), blending by population proportions (88% "if

White/Other"—12% "if Black"), or direct removal of race coefficients (100% "if White/Other"— 0% "if Black", or vice versa).

"While institutions are now recognizing the consequences of basing clinical decisions on the social construct of race, there are many paths for moving forward with race-free equations. Our work provides data to compare these alternatives using a nationally representative sample," said Diao.

The team found that increased blending or removal resulted in decreased eGFR estimates and increased chronic kidney disease stage reclassifications. These changes may increase the proportion of patients diagnosed with and treated for chronic kidney disease in all populations.

"Our findings indicate that race-free alternatives may vary considerably in effects on chronic kidney disease classification. We hope these estimates will be useful to the many individuals and groups working to improve kidney function estimation without race," said Dr. Manrai.

Disclosures: Dr. Powe reports Honoraria from Patient Centered Outcomes Research Institute, Robert Wood Johnson Foundation, Vanderbilt University, University of Washington, Yale University; Scientific Advisor or Membership with Patient Centered Outcomes Research Institute, Robert Wood Johnson Foundation, Vanderbilt University, University of Washington, and Yale University. The authors reported no other financial disclosures.

The article, titled "Race-Free Equations for Estimated Glomerular Filtration Rate: Comparing Effects on Chronic Kidney Disease Classification," will appear online at http://jasn.asnjournals.org/ on July 29, 2021, doi: 10.1681/ASN.2021020224.

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