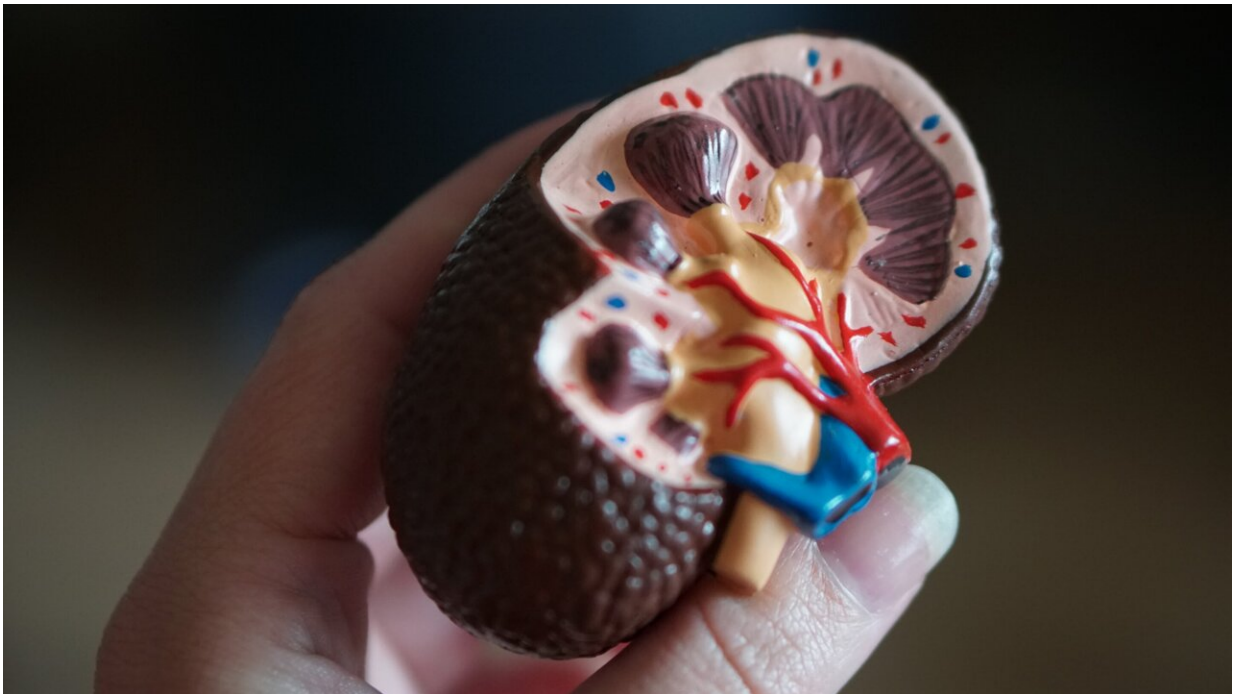


Measures of kidney function delay Black patients' treatment

November 23 2021, by Mallory Locklear



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To assess kidney function and track chronic kidney disease, health care providers commonly use a measure called eGFR (estimated glomerular filtration rate). But the two predominant equations used in the United States to calculate eGFR have come under increased scrutiny because they incorporate race-specific adjustments applied only to Black patients.

In a new study, Yale researchers calculate the inequitable health care outcomes these adjustments create—and call into question the fairness of the scores.

Writing in the journal *eClinicalMedicine*, they estimate that if the most widely used eGFR equation did not include a race adjustment, 31,000 more Black Americans would become eligible for kidney transplant consideration, 300,000 more would qualify for a nephrologist referral, and 3.3 million more would reach the threshold for stage 3 [chronic kidney disease](#).

"As [medical students](#), we're explicitly taught to think about race in this way, that there's some underlying biological difference at a population level," said Jennifer Tsai, a resident in Yale's Department of Emergency Medicine and lead author of the study. "As we show in this study, there are many reasons why we think this is not valid."

The results are based on data collected by the United States National Health and Nutrition Examination Survey between 2015 and 2018. The eGFR values of 2,401 Black patients were calculated with and without race adjustments. The researchers then used the results from the dataset to extrapolate the estimated effect of race adjustment on the full U.S. population.

Before eGFR equations were developed, physicians collected patients' urine over a 24-hour period to get an accurate assessment of [kidney function](#). It was a rigorous process that was impractical for both the patients and the physicians.

The emergence of eGFR equations have made assessing kidney function much easier and faster.

Typically, eGFR equations take into account a patient's blood levels of

creatinine (a waste product filtered out by kidneys), age, and sex. According to the measure, a higher rate signals healthier kidneys. But for Black people, the race adjustment adds points to this score, making them appear healthier than patients of other races with the same levels of creatinine.

According to Tsai, however, these race adjustments simply aren't valid. The studies used to develop these equations found that the creatinine levels of their Black participants were, on average, higher than those of their white participants. "But these studies did not control for a lot of factors that are completely relevant to why creatinine levels might differ between groups of patients," she said. "Things like [socioeconomic status](#), geography, education, insurance access, comorbidities, past [medical history](#), issues like hypertension, diabetes, and cardiovascular disease—these can all affect kidney function and yet they were not controlled for in these studies."

Instead, the studies attributed the observed differences to race. And by not considering these other relevant factors, the studies may have missed the real reasons behind the differences observed between these groups, she said.

For example, Tsai tells the story of a young biracial man who was born with one kidney. Though the function of his kidney was deteriorating, he wasn't eligible for a transplant because his eGFR, which was being calculated with the race adjustment, was too high. His parents took him to multiple hospitals asking them to treat their son as a white patient, which would have reduced his eGFR value and allowed him to be evaluated for transplant. Each of the hospitals said no, delaying his transplant consideration by years.

These sorts of race adjustments, which are also used to assess lung function, for example, stand to reinforce the false idea that Black people

are fundamentally different physiologically from other populations, Tsai said. "That's harmful," she said. "And this idea that all Black people are not only different from other races but the same as each other is so unfair to the individuality and the humanity of every single patient."

And eGFRs aren't just used to monitor [kidney](#) disease, said Tsai. "It's an important measure used for many different things, including choosing medications and treatments," she said. Therefore, the way eGFR values are calculated affects many aspects of patient care.

Further, attributing health inequities to race and not the social and economic factors that might drive those inequities limits the ability to solve the real problems. "You displace the ability to imagine relevant and effective solutions," said Tsai.

Some in the medical field are advocating for an end to the use of such race adjustments. The National Kidney Foundation and the American Society of Nephrology have recommended an eGFR calculation that does not use a race adjustment and U.S. lawmakers have launched an inquiry into why these adjustments exist and whether they should continue to be used. This growing attention to this issue—the topic was recently featured on the show "Grey's Anatomy"—is a sign of progress, Tsai said.

"I think more exposure, more attention, more discussion is so important," said Tsai. "For the National Kidney Foundation and the American Society of Nephrology to formally recommend against these [race](#) adjustments is a huge win. But I don't want to get distracted by this win because now we have to implement it."

More information: Jennifer W. Tsai et al, Evaluating the Impact and Rationale of Race-Specific Estimations of Kidney Function: Estimations from U.S. NHANES, 2015-2018, *EClinicalMedicine* (2021). [DOI:](#)

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