

## Race-Based eGFR

### Dropping Modifier Gains Traction in U.S.

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A small number of U.S. health systems, as well as some individual physicians, have begun dropping the African American-specific modifier when recording estimated glomerular filtration rate (eGFR), a measure of renal function.

The move aims to correct a race-based health access inequity that's been in place for more than 2 decades, say advocates, while others voice concern that the change threatens over-diagnosis of both chronic and end-stage kidney disease in some patients.

In late June, the Boston-based Massachusetts General Brigham health system stopped noting the race-based modifier when its laboratories reported eGFR, and the leadership sent its staff a message discouraging them from applying the modifier. A similar change in eGFR reporting started on June 1 at the University of Washington health system, UW Medicine, Seattle.

These steps followed what is widely regarded as the first institutional change away from race-based adjustment of eGFR, which began in March 2017 at Beth Israel Deaconess Medical Center in Boston, and they have come amid a growing movement by some individual U.S. physicians to drop the modifier from their practice.

"Momentum is clearly building," said Nwamaka D. Eneanya, MD, a nephrologist at the University of Pennsylvania in Philadelphia and lead author of a commentary published a little more than a year ago that laid out the case for reconsidering how to calculate eGFR in African Americans (JAMA. 2019;322:113-4).

"Many discussions are happening at other [U.S.] academic medical centers," Dr. Eneanya added, including the system where she works.

### Reason for the Decision to Modify eGFR in African Americans Explored

The concept is that the formula used to calculate eGFR systematically underestimates the

value in African Americans. Hence, it requires a small but meaningful up-adjustment, which can be traced back to the introduction of the Modification of Diet in Renal Disease (MDRD) study equation in 1999 (Ann Intern Med. 1999;130:461-70).

The idea was perpetuated in an improved calculation formula, the Chronic Kidney Disease Epidemiology Collaboration (CKD-EPI), that came out a decade later (Ann Intern Med. 2009;150:604-12).

These are the most widely used U.S. approaches to eGFR calculation, with the newer CKD-EPI formula predominating.

The rationale for including a modifier for Blacks in the 2009 formula was for improved accuracy relative to the standard reference measure based on iothalamate clearance.

The data used to develop the CKD-EPI formula showed that Black individuals in the data set had, on average, GFR levels that were 16% higher than people of other races with the same age, sex, and serum creatinine level, according to a recent commentary (Clin J Am Soc Nephrol. 2020;CJN.12791019). The first author, Andrew S. Levey, MD, was also lead author of the reports that introduced both the MDRD and CKD-EPI equations.

But the argument withers in the light of both its flimsy underpinning — race assessment — and the medical and social consequences of its application, say those who have sought change.

### Reporting eGFR by Race Might Do More Harm Than Good

"Race is a social, not a biological, construct and the kidney-function race multiplier ignores the substantial genetic diversity within self-identified Black patients," said Thomas D. Sequist, MD, professor of medicine at Harvard Medical School in Boston and chief patient experience and equity officer for Mass General Brigham, who spearheaded the policy change for that system.

"Do we really believe that the population breaks down into just 'Black' and 'not Black,' as the CKD-EPI equation asks us to believe?" he said in an interview. "The equation was developed from a few thousand patients, and we now apply it to millions of people using a very imprecise measure — race."

“Reporting-eGFR by race perpetuates a notion that race is a biologic construct when it’s not,” agreed Rajnish Mehrotra, MD, a professor and chief of nephrology at the University of Washington in Seattle and leader of the eGFR change within his medical system.

Equally compelling, said Dr. Mehrotra, Dr. Sequist, and others, are the health inequities that have resulted from routinely raising the eGFR in African Americans.

This has led to “withholding treatment from people longer than needed. We arrived at the conclusion that reporting eGFR by race does more harm than good,” Dr. Mehrotra said in an interview.

Dr. Sequist added: “Researchers across Mass General Brigham have demonstrated that use of these race multipliers can lead to important delays in care for Black patients, such as timely evaluation for kidney transplantation.

“Our main concern is that race correction is creating harm.”

Dr. Eneanya concurs: “It was never designed to oppress patients, but that’s where we are. No one ever thought about the repercussions of using race.”

And while the movement to eliminate the race modifier is clearly gaining steam, it’s also receiving push-back from those who see benefit from the modification and have concern that its abolition could lead to overestimates of kidney disease severity.

Some clinicians “have a hard time letting the race modifier go,” Dr. Eneanya noted.

### **‘In the nephrology community, it’s pretty controversial’**

In their 2020 commentary, Levey and coauthors wrote: “We propose a more cautious approach that maintains and improves accuracy of GFR estimates and avoids disadvantaging any racial group.”

Their suggested remedies included full disclosure of use of race, accommodation of people who decline to self-identify themselves that way, shared decision-making, and “mindful” use of cystatin C, an alternative to serum creatinine for calculating eGFR.

The latter is regarded as more precise and accurate than serum creatinine across populations but is often not as readily available to many clinicians.

Their article also supported looking for even better and more accessible ways to calculate eGFR.

“In the nephrology community, it’s pretty controversial,” said Mallika L. Mendu, MD, a nephrologist at Brigham and Women’s Hospital in Boston, Massachusetts, who has studied the effects of using the modifier on patient assessment.

Her recent review of Mass General Brigham patients found that close to a third of African Americans would have been reclassified with a more severe form of kidney disease if their eGFR had remained unmodified.

“That raised concerns that, by using race adjustment we’re potentially leading to less equitable outcomes for African American patients,” she said. “I’d rather over diagnose than not diagnose in a timely way.”

The research that led to development of the MDRD and CKD-EPI equations “are gold-standard studies” that “saw a real difference,” Dr. Mendu acknowledged in an interview. “There were issues with how race was defined -in those studies and the: generalizability to millions of African Americans across the country.” Despite that, “many nephrologists” agree with the position taken by Dr. Levey and coauthors in their recent commentary, she said.

She added that she stopped using the modifier about a year ago in her own practice, well before the system where she works adopted the same approach.

### **Consensus Takes Time**

In one sign of the controversy, a quartet of clinicians affiliated with San Francisco General Hospital recently posted an online petition in which they noted that the race modifier had been eliminated in eGFR reports from the hospital’s laboratory in October 2019, but more recently had been slated for reinstatement. “We were deeply distressed to recently discover the intended plan to revert back to race-based eGFR reporting at SFGH,” they noted.

The same four clinicians also wrote an opinion piece calling for elimination of the modifier in November 2019 in the San Francisco Examiner.

There is no clear agreement on what to do in lieu of using the race modifier.

Dr. Mehrotra said he’s received inquiries about his system’s experience from clinicians at several U.S.

medical centers and systems, and he remains comfortable applying the unadjusted CKD-EPI formula to all adults, an approach he called “sufficient.”

Other physicians, like nephrologist Vanessa Grubbs, MD, call for a rapid shift to a cystatin C-based, fully race-neutral method for calculating eGFR, a position she detailed in a recent editorial (Clin J Am Soc Nephrol. 2020. doi: 10.2215/CJN.00690120).

At the University of Pennsylvania, where the health system continues to issue eGFR reports with the race modifier, Dr. Eneanya says that she stopped using the modifier “some time” ago.

“People have a hard time letting it go because it is so important in clinical care. Getting everyone to come to a consensus takes time,” she said.

Dr. Eneanya, Dr. Sequist, and Dr. Mendu have reported no relevant financial relationships. Dr. Mehrotra has been a consultant for Baxter Healthcare.

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