

## ***Introduction to Racism in Medicine***

Those of different races and ethnicities frequently have disparities in their health outcomes when suffering from the same conditions. For example, compared to white patients, black patients are four-times more likely to develop chronic kidney disease (CKD). A little over a third of people on dialysis are black despite being only an eighth of the general population in the United States. Black patients are less likely to receive medication adjustments when their kidney function declines and receive later referrals to dialysis and kidney specialists compared to their white counterparts. As a result, blacks have a 76% increased mortality compared to whites suffering from CKD. [1]

It was not until recently when our society determined the major causes for these disparities.

One of the ways in medicine we estimate someone's kidney function is through a glomerular filtration rate (GFR), or in other words, the rate in the blood is filtered to generate urine at the glomerulus. To accomplish this, researchers have created equations that look at compounds that are filtered at the level of the glomerulus and are not later reabsorbed or secreted. The molecule most used that meets this criterion is creatinine. Creatinine is the metabolic waste product of creatine, a molecule used by our muscles to make energy. In general, someone's creatinine levels correlate with their baseline lean muscle mass. For instance, a body builder has a much higher baseline creatinine level as opposed to a marathon runner.

The two equations that are most used to estimate someone's GFR are the CKD-EPI and MDRD equations. These equations estimate someone's GFR using one's sex (male/female), age and creatinine level. Historically, the other factor is identifying as black as the calculation would increase one's GFR by about 16%. The 16% increase comes from the notion that black patients as a population have about similar increased lean muscle mass compared to white patients. The calculations correct for this and estimate a black patient's GFR as higher compared to a white patient with similar reported creatinine levels.

Many institutions have since removed black race from calculators when estimating GFR as recent studies have not demonstrated these muscle mass differences. Recent evidence argues that we have been over-estimating GFR in the black population. These errors are the major contributor the disparities described earlier.

I spent a lot of time reflecting on how I contributed to those statistics indirectly. I remember throughout my training being told and educating others about this 16% correction factor. I never once questioned if it was correct nor spent time researching where it came from. As a result, I decided to investigate myself to better understand why medicine has been claiming this fact. The statement comes from an article written in 1963 looking at potassium levels in the body. They had found that compared to whites, blacks had about a 16% increased muscle

mass for both males and females. Although their conclusions for the most part made sense, there was one quote that shocked me:

*"It is possible that our white male and female subjects represent a higher economic status distribution than would be expected in the general population." [2]*

Is it possible that countless patients were harmed due to us using the results of a study that did not normalize based on socioeconomic status? How often are we using antiquated to wrong data in patient care that adversely effects patient outcomes? Back in the early 1960's, a wealthy white person did not work a physically demanding job. This also outdates the gym movements where many wealthy patients will incorporate weight lifting into their exercise routines. The opposite was true with black patients where often they only had options of physical jobs.

The most disturbing finding is that there are race correction factors present in so much of medicine. Most of the time when asked, providers are unaware of both their existence and also their origin. I have included at the end of this article a recent paper that highlights other examples of race corrections in medicine.

***Racism*** is defined as prejudice, discrimination, or antagonism directed against a person or people on the basis of their membership in a particular racial or ethnic group, typically one that is a minority or marginalized. All definitions make clear that racism is not simply the result of private prejudices held by individuals, but is also produced and reproduced by laws, rules, and practices, sanctioned and even implemented by various levels of government, and embedded in the economic system as well as in cultural and societal norms. In many cases, racism occurs due to historical examples that are still promoted, whether conscious or not, by individuals in society.

More than ever, physicians need to take a stance in promoting equity and inclusion within medicine. Within our field, minority populations have been victim to incidences such as Tuskegee Syphilis Study, which has led to a long and troubled history that has challenged the doctor-patient relationship. Other examples are the lack of representation of minorities in our fields or our medical literature leaving out examples of pathology in darker skinned patients leading to delayed diagnosis and treatment. Some of our diagnostic treatment such as pulmonary function tests use a correction factor that historically are rooted in a popular idea from the 19th century that blacks have inferior lung function to whites. (<https://www.ncbi.nlm.nih.gov/pmc/articles/PMC4631137/>)

There are four types of racism.

1. **Internalized Racism:** These are private beliefs about a particular race that lead to a certain prejudice that are internalized and not verbally expressed. Frequently these beliefs from social

messages about race that we later adopt as personal beliefs, biases and prejudices. Examples of this would be a person believing one race is superior to another.

**2. Individual or overt racism:** This is the stereotypical definition of racism where one acts upon their prejudices or unconscious bias — whether intentionally, visibly, verbally or not. Interpersonal racism also can be willful and overt, taking the form of bigotry, hate speech or racial violence.

The most likely examples a provider will encounter are ***microaggressions***, or subtle, stunning, often automatic, and nonverbal exchanges which are 'put downs. Examples of this would be a patient assuming a physician cannot speak English because they are of darker skin or another country and wanting another doctor.

### **3. Institutional racism:**

Institutional racism is racial inequity within institutions and systems of power, such as places of employment, government agencies and social services. It can take the form of unfair policies and practices, discriminatory treatment and inequitable opportunities and outcomes. An example of this would be the Tuskegee Study where the researchers did not offer black patients treatment for syphilis to understand the long-term effects of the disease.

### **4. Structural racism:**

Structural racism (or structural racialization) is the racial bias across institutions and society. It describes the cumulative and compounding effects of an array of factors that systematically privilege white people and disadvantage people of color. An example of this is the one discussed about muscle mass in black patients.

Confronting racism requires not only changing individual attitudes, but also transforming and dismantling the policies and institutions that undergird the U.S. racial hierarchy. Our first steps to achieve more equitable health care for all races and ethnicities is to identify challenge our own and institutional biases.

### **Article Highlights Race Corrections in Medicine:**

Vyas DA et al. Hidden in Plain Sight — Reconsidering the Use of Race Correction in Clinical Algorithms. N Engl J Med 2020; 383:874-882.

<https://www.nejm.org/doi/full/10.1056/NEJMms2004740>

[1] Mehrotra R, Kermah D, Fried L, Adler S, Norris K. Racial differences in mortality among those with CKD. J Am Soc Nephrol. 2008 Jul;19(7):1403-10

[2] Meneely GR et al. Analysis of factors affecting body composition determined by potassium content in 915 normal subjects. Ann N Y Acad Sci 1963; 110:271-81.

