# Color Is Not a Diagnosis

## — It's high time for an anti-racist transformation of medical education

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December 7, 2022

Pharmacology Lecture 1, Learning Objective #3: "ACE inhibitor-induced angioedema is more common in blacks and smokers." The pre-clinical pharmacology course had hardly started and already we were being taught that there is a distinct association between race and disease.

This type of learning objective is hardly unique; such lessons remain prevalent throughout American medical school curricula. They persist despite the American Medical Association's (AMA) recommendation that medical schools refrain from teaching race as an inherent biological trait. Yet, schools continue to teach that race can be pathologized, with race-based disease associations frequently extending to common ailments including hypertension, cancer, and heart disease.

While we understand that in certain cases there can be value in considering how a patient's skin color may impact their care, the approach American medical schools have taken to educate future doctors about the intersection of race and health needs an overhaul.

### The Consequences of Race-Based Medicine

As we near the conclusion of our pre-clinical training, we have repeatedly been instructed that a patient's skin color can be indicative of them having a particular illness. While we will likely continue to be taught about certain existing associations, it is essential to be aware of and work to mitigate the consequences of teaching race-based medicine.

The patient-clinician interaction is often brief, usually just around 20 minutes. In this critical clinical window, it is easy to add incidents of provider bias or prejudice based on previously taught associations that may or may not be relevant to our patient. Moreover, it has been shown that race correction in medicine -- in which a patient's race influences how they are treated -- can exist without evidence of benefit. So why is it that, despite the AMA's recommendation, race as a biological characteristic is so deeply entrenched in our learning rather than focusing on race as a social construct that can impact health outcomes?

Proponents may argue that race-based medicine or race correction serves the purpose of helping clinicians identify or treat disease. However, these teachings can also serve as potential distractors. Consider sickle cell disease. Our incoming class was advised that if a patient of ostensibly African descent presents with signs of anemia, clinicians must have a higher suspicion of this disease, based on the reasoning that sickle cell is most common in African Americans. While individuals historically exposed to mosquito-infested tropical environments may have developed genetic characteristics that made them resistant to malaria, traditional medical education's framing of sickle cell disease might make a clinician have a greater suspicion simply because the patient *appears* to be African American. But what if the clinician assumes the patient's race without actually confirming? This is how bias and prejudice creep into our medical system. This can lead to unnecessary testing and use of resources, and in extreme cases, even misdiagnosis. On the flipside, a physician may refrain from diagnosing patients with darker skin with a disease such as cystic fibrosis due to the conventional teaching that this disease predominantly affects white patients.

The consequences of race-based medicine are not limited to misdiagnosis or wasted resources. To be consistently and explicitly instructed that a disease typically impacts only a narrow portion of our society propagates the notion that this population is an out-group. A 2017 study explains that humans develop implicit bias most predominantly when the bias negatively impacts an already disadvantaged group. Accordingly, it is perhaps intuitive that physicians would have an implicit bias against minority groups, primarily when taught that

these groups are prone to a specific disease. Thus, it is unsurprising that there exists a pro-white bias among most physicians. This bias has been found to impact critical medical decision-making, and it is a bias that still exists in our medical institutions.

**Reframing and Teaching Race as a Social Construct**

As a practitioner, it is essential to understand that race is not rooted in biology. Instead, it is a sociopolitical construct that has promoted discrimination against non-white groups based on preconceived biological inferiority. As previously mentioned, in 2020 the AMA urged medical schools to incorporate the idea that race is not a biological trait, but instead a social construct, into their curricula. Yet, medical schools have largely failed to do so.

We're not advocating for medical schools to pretend race does not exist. Rather, we aim to make it clear that the discussion of race in medical curricula should be framed in a different way. For instance, it should be made clear to students that when a clinician uses race as a tool to make a quick diagnosis, it can contribute to implicit biases and institutional inequity. Using examples of how this has happened in the past can further improve students' awareness and understanding. Moreover, schools can instruct students that race is only to be considered after confirming the patient's race directly, to remove any potential biases.

We also fully acknowledge the instances in which careful consideration of a patient's skin color *is* important to their treatment. For example, medical students are often under-exposed to dermatological patterns of disease on darker skin, which can lead to worse health outcomes for patients of minority groups. This phenomenon is well-documented. Yet, medical schools have failed to incorporate images of darker skin into their dermatology lectures, even though most medical students indicate it would be beneficial to their learning. Thus, again, we pose the question: why have so many medical schools failed to adapt their curriculum in a more constructive manner to oppose the obvious racial biases in medicine?

An anti-racist transformation of medical education is long overdue, with medicine itself having deep roots in racial injustice. Reshaping how we teach future generations about racism, race-based disease associations, and bias in medicine will play an instrumental role in the path to abolishing institutional racism in medicine. One clear step in the right

direction is for medical schools to adhere to the new guidelines set by the AMA that race is not a placeholder for biology. We must be aware of the limitations of race correction to prevent the propagation of implicit bias among future clinicians.

Furthermore, teaching how race-based medicine can contribute to implicit bias and institutional racism should become an institutional norm. The concept of race and its place in medical education needs to be reconsidered and revised, with schools being held accountable for changing their curriculums. Recommendations have proved not to be enough: medical schools should have mandatory reporting of curricula changes to organizations such as the AMA and the Association of American Medical Colleges. We must place significantly less emphasis on the color of our patient's skin and a greater emphasis on the holistic approach to treating the person sitting in front of us. Color is not a diagnosis.

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