

How medical schools can transform curriculums to undo racial biases

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Medical school curriculums may misuse race and play a role in perpetuating physician bias, a team led by Penn Medicine researchers found in an analysis of curriculum from the preclinical phase of medical

education. In a perspective piece published Tuesday in the *New England Journal of Medicine*, the researchers identified five key categories in which curriculum misrepresented race in class discussions, presentations, and assessments. The authors recommend that rather than oversimplifying conversations about how race affects diseases' prevalence, diagnosis, and treatment, medical school faculty must widen the lens to "impart an adequate and accurate understanding of the complexity of these relationships."

"In [medical school](#), 20 years ago, we often learned that higher rates of hypertension in certain racial and ethnic groups, was due to genetic predisposition, personal behaviors, or unfortunate circumstances. Now we know this is not true. There are no characteristics innate to racial and ethnic groups, biological or otherwise, that adequately explains these differences. They stem, instead, from differential experiences in our society—it's structural racism, not race," said the study's senior author Jaya Aysola, MD, MPH, assistant dean of Inclusion and Diversity in the Perelman School of Medicine and executive director at the Penn Medicine Center for Health Equity Advancement. "When we speak of dismantling structural racism, we must begin with medical education, where these sorts of race-based biases are still being reinforced in the classroom."

Though the researchers focused on lectures from a single medical school, the study authors from other institutions found similar misrepresentations of race in their preclinical medical curriculums. The five categories of biases that the research team identified were: semantics, prevalence of disparities without context, race-based diagnostic bias, pathologizing race, and race-based clinical guidelines.

For example, the study authors noted the use of "African American," is a socially and politically meaningful identity for many people, but not for all people of African descent. Moreover, they write, it is a poor proxy

for genetic difference, since it lumps people from many different ancestral populations together. The researchers also found that students were taught about the disproportionate burden of type 2 diabetes among the U.S. Akimel O'odham (formerly known as Pima) people, without sufficient historical and social context. Despite high degrees of genetic similarity, the Akimel O'odham living in Mexico have significantly lower rates of diabetes and obesity than those living in the U.S. The authors explain that a the construction of the Hoover Dam in 1930 that pushed the Akimel O'odham from their lands and into poverty, not a genetic predisposition, explains this pattern. The researchers also highlighted the teaching of guidelines that endorse the use of racial categories in the diagnosis and treatment of diseases. One course they analyzed, for instance, encouraged the use of race-adjusted glomerular filtration rate, or GFR, equations, which many experts now say limits care for Black patients and exacerbates health disparities.

"Race is not a biomedical term, and it is a poor proxy for ancestry. Yet, we continue to generate, impart, and assess medical knowledge with this imprecision. In doing so, we perpetuate biases and ignore the actual contributors to the race-based differences we see," Aysola said. "There are several aspects of the medical education apparatus that we have to fundamentally change in order to get to the ideal state where we're dismantling the structures that perpetuate racism."

The authors recommend that medical schools:

- Standardize language to describe race and ethnicity, such as using a country of origin to discuss [genetic predisposition](#) to disease, rather than "Asian" or "African American."
- Appropriately contextualize racial and ethnic differences in disease burden, including always considering the structural and social determinants of disease.
- Generate and impart evidence-based medical knowledge when it

comes to race, such as reforming board examinations to avoid testing students on race-based clinical guidelines and racial heuristics.

"We are not arguing that race is irrelevant, and our framework is not meant to trigger discussion of the advantages and disadvantages of using race in medicine," the authors write in closing. "Rather, we wish to provide evidence-based guidelines for defining and using [race](#) in generating and imparting medical knowledge."

More information: Christina Amutah et al, Misrepresenting Race—The Role of Medical Schools in Propagating Physician Bias, *New England Journal of Medicine* (2021). [DOI: 10.1056/NEJMms2025768](https://doi.org/10.1056/NEJMms2025768)

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