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Teaching medical students to challenge ‘unscientific’ racial categories

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Dr. Brooke Cunningham talks about race to medical students at the University of Minnesota.

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MINNEAPOLIS, Minn. — Medical students looking to score high on their board exams sometimes get a bit of uncomfortable advice: Embrace racial stereotypes.

"You see 'African American,' automatically just circle 'sickle cell,'" said Nermine Abdelwahab, a first-year student at the University of Minnesota Medical School, recounting tips she's heard from older classmates describing the "sad reality" of the tests.

Medical school curricula traditionally leave little room for nuanced discussions about the impact of race and racism on health, physicians and sociologists say. Instead, students learn to see race as a diagnostic shortcut, as lectures, textbooks, and scientific journal articles divide patients by racial categories, reinforcing the idea that race is biological. That mind-set can lead to misdiagnoses, such as treating sickle cell anemia as a largely "black" disease.

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"Right now, students are learning an inaccurate and unscientific definition of race," said Dorothy Roberts, a law and sociology professor at the University of Pennsylvania, who coauthored a recent paper in Science arguing for an end to the use of biological concepts of race in human genetics research.

"It's simply not true that human beings are naturally divided into genetically distinct races," Roberts said. "So it is not good medical practice to treat patients that way."

Change is starting to come, but slowly.

"White Coats for Black Lives," a medical student group born out of the Black Lives Matter movement, has a curriculum task force to press schools to teach more about racial justice. A new medical school launching soon at the University of Texas at Austin has included leading scholars of race and medicine, including Roberts, in curriculum discussions.

And here in Minnesota, Dr. Brooke Cunningham, a physician and sociologist on faculty at the medical school, recently gave a lecture to first-year students in an effort to get them thinking

about race as a system of social stratification, not a biologically valid category. Many of the students said they'd heard similar ideas before, but never presented from a medical doctor — who is also a social scientist and a woman of color.

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Dr. Brooke Cunningham gives a lecture to first year medical students about race in health care.

"People have been talking about race as a social construction for years and years and years and years and years and years and years," Cunningham told STAT after the lecture, the words rapidly tumbling out of her mouth. "But there's been a slow uptake of that understanding in medicine."

Cunningham told the students that the concept of race emerged in colonial America as a way to rationalize the difference between indentured servants and slaves. She explained that race is not based on genetics — which was driven home by the Human Genome Project more than a decade ago — but noted that many scientists still group people by race to look for genetic differences.

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Cunningham also traced racial stereotypes through centuries of medical science, from an 1850s medical definition of drapetomania — "the disease causing Negroes to run away" — to the modern day, when a mainstream formula to measure kidney function and a common test of lung capacity differ for "whites" and "blacks."

"I think it's revolutionary to be teaching that way to first-year medical students," said Dr. Helena Hansen, a professor with dual appointments in both New York University's anthropology department and the medical school's psychiatry department. She said Cunningham is one of a small but growing number of faculty members challenging the status quo.

Hansen said Cunningham's lecture "fundamentally challenges" a central premise in clinical medicine: that racial categories are well-defined and universally applicable.

That concept is baked into more than just the board exams that aspiring doctors must pass.

Clinical research funded by the National Institutes of Health must collect data broken out by racial and ethnic groups. That means the information medical students learn is organized in categories that experts in race and medicine consider flawed at best.

Cunningham pointed out in her lecture that race can hardly be seen as a fixed scientific category, given that it's defined differently in different places and times. In 1910 and 1920, "Mulatto" was a distinct category from "Black" on the US Census. "Korean" was a distinct category, separate from other Asian ancestries, from 1920 through 1940 — and then again from 1970 to the present.

Professors pushing for reform argue that students should interpret these categories critically, focusing on how being labeled "black" or "Asian" might affect a patient's lived experiences and, therefore, his physical or emotional well-being.

"It's not that race is irrelevant to health, but it's not relevant to health because of innate differences," Roberts said. "It's relevant because racism affects people's health."

More than a dozen students who attended Cunningham's lecture said they were never explicitly told what racial categories mean, despite being exposed to them repeatedly throughout their

education.

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It can be challenging to overhaul the curriculum at medical schools, but small tweaks can go a long way, said Deborah Bolnick, an associate professor of anthropology at the University of Texas at Austin, who has been involved in discussions about integrating race into the new medical school's curriculum.

In a lecture involving sickle cell disease, for example, she suggests that professors take five minutes to explain that, contrary to some popular beliefs, the disease does not occur only in certain racial groups. If someone has the recessive form of the genetic mutation that causes sickle cell, they are less susceptible to malaria. So sickle cell disease is seen more often in malarial regions. This includes some African countries — but also Mediterranean countries like Greece.

Another reform, pioneered in part by Hansen, that's gaining steam: Urge physicians (and physicians-in-training) to think about how structures in society impact patients' health. For example, if a public housing project isn't close to a grocery store that sells fresh produce, its residents will have a hard time eating well. If there are no sidewalks, they might have trouble exercising outside. But researchers might falsely conclude there's a biological relationship between the residents' race and their health.

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Cunningham speaks to a first year medical student after her lecture.

Cunningham comes to the subject with a personal passion.

She spent her teens in a neighborhood of Richmond, Va., that was largely white but just a block away from a much lower-income and heavily African-American part of the city. In her early teens, gunshots rang out at night. A nearby hospital treated the victims — but Cunningham thought doctors weren't getting at the root of the problem. Her mother, who served 12 years as a representative in Virginia's legislature, fought gun violence by working with law enforcement, not medical professionals.

A voracious reader, Cunningham did well in chemistry and anatomy class, attracting the attention of her science teacher, Ram Bhagat, who encouraged her to think about the role doctors play in

society.

“Think about the power of physicians,” she remembers him telling her. “Think about the power of medicine.”

Those words stuck with her as she pursued a medical degree and eventually a PhD in sociology at the University of Pennsylvania.

Students who attended her recent lecture on race said Cunningham’s medical degree gave her added credibility.

“I think if she was just a social scientist, I would be more skeptical of whatever perspective she would bring to the conversation,” said Mac Garrett, a first-year medical student.

“It was very refreshing to have a medical professional acknowledge that people are being assigned races, and that it’s problematic,” student Rachel Kay said.

Dr. David Satin, who directs the course that included the lecture on race, said he initially wondered how Cunningham would handle the challenge of teaching such a complex topic to students. Now, he said, the challenge is on the students, who will have to convey what they’ve learned to other professors — and to more senior physicians — as they embark on their medical careers.

Students got a taste of that about a week after Cunningham’s lecture. A pulmonary physiologist told a class that “black people, on average, have lower lung volume compared to other populations,” student Sofia Dar said.

“There were a number of us in class whom that didn’t sit so well with,” Garrett said. Several students asked questions. The professor plans to meet with one of them next week to address concerns.

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