Medical Xpress

Removing race from human genetic research

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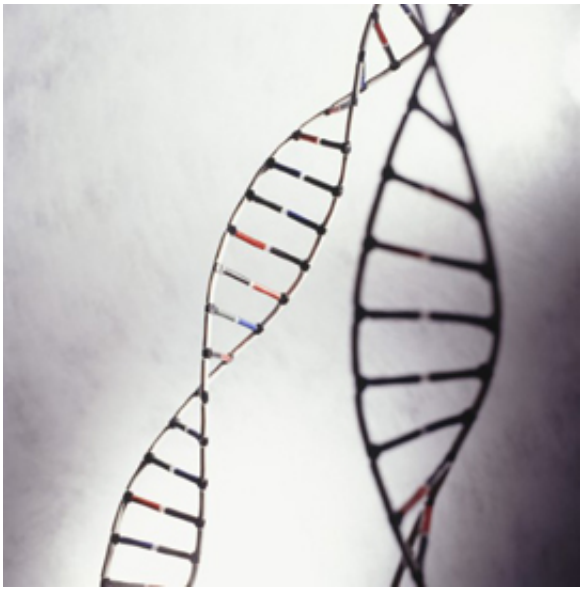

Credit: NIH

A group of scientists are urging their colleagues to take a step forward and stop using racial categories when researching and studying human genetics.

"It is time for biologists to find a better way," concludes the opening passage of a recently published paper in *Science*, written by Drexel School of Public Health's Michael Yudell, the University of Pennsylvania's Dorothy Roberts and Sarah Tishkoff, and the American Museum of Natural History's Robert DeSalle.

Yudell and his co-authors point to evidence from phylogenetics and population genetics "that racial classifications do not makes sense in terms of genetics." When applying simple biological methods, the co-authors contend that commonly defined racial groups "lack clear-cut genetic boundaries."

One clear problem with using race as a distinguishing factor in modern biology and medicine is that "racial assumptions are not the biological guideposts some believe them to be," the co-authors said. Furthermore, they point to how the continued use of race in genetic studies has fueled racist beliefs, so much so that leading biologists were forced, in 2014, to refute claims about "the genetic basis of social differences between races."

It's also important to not confuse ancestry with the concept of race, the co-authors point out.

"Ancestry is a statement about an individual's relationship to other individuals in their genealogical history; thus, it is a very personal understanding of one's genomic heritage," they said. "Race, on the other hand, is a pattern-based concept that has led scientists and laypersons alike to draw conclusions about hierarchical organization of humans."

As such, the team of experts believes that race should be phased out from genetic research and more deliberate language like "ancestry or population" used to describe the grouping for studies. Those terms should also be "clearly define[d]."

"Language matters, and the scientific language of race has a significant influence on how the public (which includes scientists) understands human diversity," the co-authors wrote. "Having journals rationalize the use of classificatory terminology in studying human genetic diversity would force scientists to clarify their use and allow researchers to

understand and interpret data across studies."

Such an effort would allow for less confusion across studies and also "send out an important message to scientists and the public alike: historical racial categories that are treated as natural and infused with notions of superiority and inferiority have no place in biology."

That's not to say that race as a construct has no value at all when it comes to scientific study. Yudell and his co-authors agree that, although it contains it's own set of issues, race can be used as a social and political category to better understand inequities and the health disparities therein.

But using race as a category in genomics should be a thing of the past, and Yudell, Roberts, Tishkoff, and DeSalle urge the United State National Academies of Sciences to convene a panel of experts to figure out new tools for looking into human diversity without utilizing the race concept.

"We believe that genetics continues to operate in a paradox: The belief that race is a tool to elucidate human genetic diversity and believing that race is a poorly defined marker of that diversity and an imprecise proxy for the relation between ancestry and genetics," Yudell said. "It is time that scientists find a way to resolve to improve the study of human diversity."

More information: "Taking race out of human genetics," *Science*, DOI: 10.1126/science.aac4951

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