Racism, Not Genetics, Explains Why Black Americans Are Dying of COVID-19

Some scientists and politicians have invoked baseless ideas about unknown genes, ignoring systemic inequality and oppression

By Clarence Gravlee on June 7, 2020

Credit: Getty Images

There is still plenty we don't know about COVID-19, but one fact is inescapable: African Americans are disproportionately represented among the dead. Although the numbers are incomplete, the non-profit APM Research Lab estimates that, as of May 27, the overall death rate from COVID-19 is 2.4 times greater for African Americans than it is for white people.

It is easy to lose sight of what this ratio really means, the human toll it represents. So let's be clear: If Black people were dying at the same rate as white Americans, at least 13,000 mothers, fathers, daughters, sons and other loved ones would still be alive.

One would expect this staggering inequality to provoke outrage. For some, it has. But much of the public and scientific reaction has instead invoked baseless ideas about unknown genes that make African Americans vulnerable to the virus, rather than focusing on abundant evidence for the devastating biological consequences of systemic inequality and oppression.

The racist idea that vulnerability is intrinsic to blackness comes from politicians, scientists, physicians, and others. In an NPR interview, Louisiana Sen. Bill Cassidy, who was a medical doctor before entering politics, claimed, without providing evidence, that "genetic reasons," among other factors, put African Americans at risk of diabetes and, therefore, of serious complications from COVID-19. Scientists writing in the *Lancet*, one of the world's leading medical journals, suggested—also without evidence—that ethnic disparities in COVID-19 mortality may be partly attributable to "genetic make-up" and speculated on a "genomically determined response to viral pathogens." Epidemiologists writing in *Health Affairs* noted that "that there may be some unknown or unmeasured genetic or biological factors that increase the severity of this illness for African Americans."

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This racialized view of biology is not only wrong but harmful. (Nor is it new in medicine, as documented in Dorothy Roberts's *Fatal Invention*, Rana Hogarth's *Medicalizing Blackness* or Harriet Washington's *Medical Apartheid*.) For starters, we know that race is a poor proxy for human genetic variation. Compared to other primates, humans exhibit remarkably little genetic variation—a consequence of our relatively recent origin as a species—and the variation that does exist is patterned geographically but not racially. Consider skin color, which varies gradually from the equator to the poles but never reveals a discrete break corresponding to distinct "races." Genetic variation, moreover, does not come in neatly colored packages. For example, the genes that influence skin color are distributed independently of genes that influence the risk for any particular disease. Given the heterogeneity of groups we call "black" or "white," treating those categories as proxies for genetic variation almost always leads us astray.

How, then, do we explain that "black" and "white" still predict biological endpoints like hypertension, diabetes or—now—COVID-19? The answer is straightforward: Human biology is more than the genome. Our environments, experiences and exposures have profound impacts on how our bodies develop, turning genetic potential into whole beings. Most of us learned this lesson in high school—phenotype is the product of genotype and environment—but we tend to forget it when it comes to race. If we take the lesson seriously, it becomes clear that systemic racism is as much a part of biology as genomes are: The conditions in which we develop—including limited access to healthy food, exposure to toxic pollutants, the threat of police violence or the injurious stress of racial discrimination—influence the likelihood that any one of us will suffer from high blood pressure, diabetes or serious complications from COVID-19.

Unfortunately, this whole-person view of biology remains uncommon even in fields where it should be widespread. Consider a highly cited 2006 paper in Human Genetics by *Hua Tang and colleagues* from the University of Washington and the University of California, San Francisco. The researchers analyzed data from the Family Blood Pressure Program, a sizeable clinical study, to test whether DNA-based estimates of genetic ancestry—which they tellingly dubbed "racial admixture"—predicted body mass index and blood pressure in Mexican American and African American adults. Tang and colleagues concluded that their results were "suggestive of genetic differences between Africans and non-Africans that influence blood pressure," though they acknowledged that genetic effects were likely to be small compared to environmental ones.

In suggesting a genetic basis of racial disparities in blood pressure, Tang and colleagues reprised a long-standing but unsubstantiated assumption that people of African ancestry are predisposed to hypertension. This assumption matters anew because some are invoking it to account for racial inequalities in death rates from COVID-19. Renã Robinson, a professor of chemistry at Vanderbilt University, told NPR that African Americans can be characterized as "potentially having genetic risk factors that make them more salt sensitive," an apparent reference to a widely disseminated yet discredited hypothesis for hypertension, which suggests that the Atlantic slave trade created conditions favoring salt-retaining genotypes among enslaved Africans and their descendants. (Robinson noted there are likely to be additional causes.) In fact, billions of dollars' worth of effort to find alleged genetic contributors to racial disparities in cardiovascular disease has turned up nothing.

The study by Tang and colleagues illustrates two common errors that allow racial-genetic thinking to persist. The first, remarkably, is that the study found no statistically significant relationship between African genetic ancestry and blood pressure. The suggestion of "genetic differences," then, clearly reaches beyond the data. Such unwarranted inferences are not as rare as you'd think. In April, the *Journal of Internal Medicine* published a paper asserting a genetic basis for racial differences in obesity without actual genetic evidence.

The second problem is more subtle. Recall that Tang and colleagues examined two biological variables—genetic ancestry and blood pressure. If they found an association, they assumed it was because of some unidentified genetic variants that (a) increase susceptibility to high blood pressure and (b) were more common in people of African ancestry. Yet they did not test that assumption, nor did they pursue the alternative possibility that biological associations could be driven by sociocultural processes.

It is easy to take the logic used by Tang and colleagues for granted. Most researchers assume that genetic ancestry is related to health through genetic effects. But what if genetic ancestry and blood pressure are linked because of systemic racism, rather than DNA? What if people with more African ancestry in a racist society are more likely to be poor (they are), to experience discrimination (they do), or to face any number of other stressors we know are associated with high blood pressure? Evidence indicates such connections are better explanations than alleged genetic differences.

Not long after the Tang study came out, Amy Non, then a Ph.D. student in anthropology at the University of Florida and now an associate professor at the University of California, San Diego, took a hard look at the underlying data from the Family Blood Pressure Program. She noticed a single, crude proxy for the wide-ranging consequences of systemic racism: educational attainment. Working with myself and Connie Mulligan, a genetic anthropologist and Non's advisor at Florida, she replicated Tang and colleagues' analysis of genetic ancestry and blood pressure but added years of education as another variable. Whatever evidence there might have been for a genetic effect evaporated. Instead, as we reported in the *American Journal of Public Health*, every additional year of education was associated with an 0.51 mmHg drop in blood pressure, on average. Genetic ancestry added nothing.

In the time of COVID-19, this finding is a reminder that genetic ancestry might matter only because we think it should. If we assume that people who are racialized as "black" or "white" are fundamentally different and treat them accordingly, the paradoxical result is that it will produce the very biological differences we presumed to exist in the first place. But it's not because of any deep-seated differences in our DNA. It's because our social structures and attitudes promote the well-being of some and devalue others.

In his NPR interview, Cassidy downplayed the role of systemic racism as a root cause of COVID-19 inequalities. "That's rhetoric, and it may be," he said. "But as a physician, I'm looking at science." However, the science does not say what Cassidy thinks it does. Thanks to decades of careful research, we know that what we gloss as "race" corresponds poorly to genetic variation, and we know that racism is deadly. An ethical, scientific response to COVID-19 demands that we honor the highest standards of evidence in evaluating genetic guesswork, while measuring the biological costs of systemic racism and intervening to stop it.

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