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Structural and Scientific Racism, Science, and Health — Evidence versus Ideology

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In spite of decades of rigorous work documenting the harmful effects of structural racism on health, health care, and scientific knowledge and research,[1] the current executive branch of the U.S. government and its political appointees have deemed work on structural racism and health to be ideological and "not scientific."[2,3] As a result, the government has terminated National Institutes of Health (NIH) and other federal grants funding work it considers to be focused on "DEI," or diversity, equity, and inclusion. These moves conflate research on health equity with work that aims to change the composition and climate of the scientific workforce and institutions.[2,3]

Opposition to these government actions now extends from the scientific community to the legal arena,[2,3] with a federal judge ruling on June 16, 2025, that the grant terminations are discriminatory and illegal.[3] Judge William G. Young of the U.S. District Court for the District of Massachusetts — an appointee of former President Ronald Reagan — asked during the initial hearing in a lawsuit challenging the terminations: "If putting these words together, DEI, is somehow offensive … does that mean [the government's] policy is homogeneity, inequity, and exclusion?"[3] He later stated that the federal government's decision to end the grants "represents racial discrimination and discrimination against America's LGBTQ community. I would be blind not to call it out," adding, "I've been on the bench for 40 years — I've never seen government racial discrimination like this."[3] On July 24, 2025, the administration appealed this decision to the U.S. Supreme Court, and on August 21, 2025, the Supreme Court issued a split verdict: it let stand the lower court's ruling that the NIH's directives to terminate the grants were unlawful and unreasonable, but it ruled that the matter should have been litigated in the Court of Federal Claims, not the district court, allowing the administration to proceed with canceling the more than $780 million in grants at issue.

The contradictory stances of current NIH leaders,[2,3] on one side, and a broader scientific community and the district court,[1-3] on the other, aren't merely a matter of opinion or "viewpoint diversity." The difference is evidence: only the latter position is informed by high-quality research conducted over the course of a generation.

During the past 25 years, drawing on the historical and contemporary facts of structural racism (see box),[1,4,5] health scientists have made enormous strides in elucidating the many pathways by which past legacies and present realities of racial injustice have shaped and continue to shape racialized inequities in health and health care.[4,5] They have repeatedly refuted the deeply ingrained and centuries-old ideology of scientific racism,[4,5] which is premised on the notion that people can be categorized into genetically distinct "races," whose alleged innate differences cause differences in health, intelligence, and social standing among groups.[4,5] A hallmark of scientific racism is the advancement of theories that ignore or deflect attention from the ways in which social injustice harms health.[1,4,5]

Challenging the premise and politics of scientific racism, a burgeoning body of empirical research is using rigorous methods to measure exposure to interpersonal discrimination and its ad-

Historical Facts Relevant to the Analysis of Structural Racism, Scientific Racism, and Health.*

Facts Relevant to Structural Racism and Health

The colonial American government and the subsequent U.S. federal government and many state governments implemented laws and policies — upheld by use of state force and extrajudicial violence — that were explicitly designed to discriminate on the basis of the racial categories they imposed and to benefit, economically and socially, people deemed racially superior.

- Slavery (1619–1865) enriched not only slaveholders but the entire colonial economy and the subsequent U.S. economy, improving the health of the free population at the expense of the enslaved Black population.
- The growth of the United States was fueled by wars against, and displacement and enslavement of, members of North American Indigenous nations, with devastating effects on their health.
- The Confederacy instigated and fought the Civil War for the stated aim of preserving slavery and White supremacy.
- The Union's defeat of the Confederacy led to the brief period of Reconstruction, which enabled previously enslaved Black Americans to begin gaining political, social, and economic standing; concurrently, the U.S. government waged often-genocidal wars against American Indians.
- Violent backlash to Reconstruction by those who had benefited from slavery led to the imposition of racially discriminatory Jim Crow regimes, enforced by terror, primarily in the U.S. South (late 1870s–1965).
- The U.S. Bureau of Indian Affairs (BIA) established boarding schools intended to "kill the Indian and save the man," a policy of forced assimilation (1870s–1978). The BIA also instituted "blood quantum" classifications (1880s), in effect racializing American Indian tribes, and used these classifications to implement the Dawes Act (1887), which redistributed small parcels of land to "blood quantum" Indian families and sold the remainder to White purchasers; as a result, American Indians lost about 100 million acres of land, having already lost millions of acres because of the Homestead Act (1862).
- Decades of organizing coalesced in the Civil Rights Movement, which won passage of the U.S. Civil Rights Act (1964) and related legislation that outlawed previously legal racial discrimination. Organizing for Indigenous self-determination similarly brought about recognition of tribal sovereignty, with the Indian Self-Determination and Education Assistance Act (1975) enabling federally recognized tribes to manage previously federally administered education, health care, housing, and social service programs.
- The legacies of these regimes and related illegal discrimination, referred to as "structural racism," continue to shape U.S. property ownership, political power, political beliefs, wealth, education, employment, housing, health care, incarceration, and community resources, as does the history of government–tribal relations, thereby structuring racialized inequities in health and health care.

Facts Relevant to Scientific Racism and Health

What became the dominant "race science," with its European roots in the slave trade and colonialism (1600s), was deepened and extended during the U.S. regimes of slavery, Jim Crow, and tribal conquest and bolstered by the rise of initially European and increasingly global eugenic "science" (late 1800s). This scientific racism informed U.S. sterilization and antiimmigration policies (1920s) and Nazi "racial hygiene" policy (1930s–1940s). Scientific research and clinical practice predicated on assumed "racial differences" continued after the post-WWII scientific repudiation of eugenically justified genocide.

- Scientific racism has shaped scientific training, scientific research, political attitudes, and cultural beliefs, affecting research questions and the causes that are considered or ignored.
- The fundamental premise of scientific racism is that "races" (and, by extension, immigrant groups, ethnoreligious groups, Indigenous peoples, and poor people) are genetically distinct groups and that their respective "superiority" and "inferiority," biologically and culturally, are genetically determined. The corollary is that racialized differences in health status reflect genetically determined innate biologic differences, not injustice, and that it is "ideological" to suggest otherwise.
- Contemporary examples of how scientific racism harms health include research focused solely on "racial differences," without data on relevant adverse economic and social exposures; "race-based" clinical algorithms that differentiate treatment on the basis of "race"; assumptions of varying "racial" pain thresholds; continued reliance on the repeatedly refuted "thrifty gene" hypothesis to explain higher rates of diabetes among Indigenous Americans; and causal inference approaches that focus on "race" as an exposure and a trait that cannot be analyzed as a modifiable cause, while ignoring how racism harms health.

* Information is from Ford and Griffith,[1] Foner et al.,[4] and Saini.[5]

verse effects on health. Such effects are mediated by pathways involving psychosocial stress, adverse coping practices (e.g., use of psychoactive substances), and poor treatment by the health care system.[1] Recent studies have used spatial and econometric methods to examine the ways in which past and present racial segregation of neighborhoods, schools, and workplaces contribute to racialized health inequities, including by concentrating economic deprivation among communities and workers of color and increasing their exposure to air pollution, other environmental pollution, and occupational hazards.[1] Still other studies have employed rigorous methods used by political scientists and policy analysts to examine the contributions of various recent social and economic policies — which, despite legal prohibitions against explicit racial discrimination, are rooted in racially discriminatory beliefs — to racialized health inequities. Examples of such policies include opposition by state lawmakers to Medicaid expansion and differences between the sentences imposed for the possession or sale of "crack" cocaine and of powdered cocaine.[1]

Also accumulating is evidence regarding the beneficial effects of practice changes by public health departments and hospitals to promote racial equity in the design and delivery of public health programs and medical care.[1] For example, informed by an analysis of structural racism, as tied to the distribution of community resources and services directed by both the government and the private sector, in 2016, the New York City Department of Health and Mental Hygiene transformed its district health office buildings, which are located in high-burden neighborhoods that are home to predominantly low-income communities of color, into Neighborhood Health Action Centers. These facilities colocated supports and services from social service agencies, health and dental care organizations, and community-based organizations under one roof, which enabled efficient and effective deployment of resources to address critical issues, such as inequities in maternal health and vaccine distribution.[1]

In the clinical realm, a National Cancer Institute–funded intervention study (Accountability for Cancer Care through Undoing Racism and Equity) that was designed to confront "systems-level racial inequities in cancer care" and to improve quality of care and boost rates of treatment completion for patients with early-stage breast or lung cancer led to increased rates of treatment completion among both Black and White patients and closed the racial gap that had previously existed in treatment completion.[1] This approach to explicitly addressing structural racism in health care institutions is being extended to maternal health care.[1]

What unites all this work is a focus on evidence-based approaches to identifying and addressing the myriad ways in which structural racism harms health by means of historically shaped pathways operating at multiple levels, from societal to institutional to interpersonal to individual.[1] From this standpoint, "structural racism" is not a "thing" that can be measured using a single metric; it is a unifying concept that extends understanding of the origins of racialized variations in health-related exposures and outcomes beyond the individual level and beyond the issue of the composition and beliefs of the scientific and health systems workforce (a focus of DEI work). Researchers assessing the effects of structural racism on health necessarily test specific hypotheses using the types of exposure data that are relevant to the outcomes under study.[1,2,4,5] Similarly, health systems analysts and health economists are united by a common interest in the effects of health systems on health and health care costs — but they don't study the totality of those effects, instead testing specific hypotheses using data that capture particular exposures and outcomes of concern.

Challenging the premise and politics of scientific racism, a burgeoning body of empirical research is using rigorous methods to measure exposure to interpersonal discrimination and its adverse effects on health.

Three additional premises of scientific work related to structural racism and population health warrant attention. The first is that there is not a singular "population" whose members all have an equal risk of exposure to adverse or beneficial conditions; instead, in societies with racialized subpopulations, risk of exposure varies by membership in these social groups because of the realities of the ways in which structural racism affects the conditions in which people are born, live, love, learn, work, play, ail, and die. Second, knowledge gained from this research is often generalizable and can clarify factors that contribute to making all people ill and those that create conditions supporting the ability of all people to be well. Third, ignoring racism's effects on health is not "apolitical" but instead reflects a political stance that, in effect or by design, sweeps racism under the rug.[1,4,5]

An audio interview with Nancy Krieger is available at NEJM.org

It is antiscientific and an abrogation of the government's responsibility for federal officials to prohibit taxpayer dollars from being spent on studying exposures that are potentially relevant to the 40% of the U.S. population that is not categorized as "White, non-Hispanic." As the district court recently made clear, the refusal of the executive branch of the U.S. government and its political appointees to engage with the substantive evidence about — and to fund research on — the harmful effects of racism on health is itself a form of racial discrimination.[3] It is the responsibility of the broader scientific establishment, public health and medical scientists and practitioners, and affected communities and their elected representatives to ensure that the government funds work that enables all people to thrive — work that requires addressing how structural racism harms health.

Disclosure forms provided by the authors are available at NEJM.org.

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From Health to Wealth — Reframing Global Aid through the Gates Foundation's Final Chapter

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Bill Gates announced in May 2025 that the Bill and Melinda Gates Foundation (BMGF) would disburse $200 billion by 2045, culminating in the closure of the institution. This "sunset clause" — uncommon in Big Philanthropy — comes at a moment of major uncertainty for global health finance. In 2024, global health aid — part of official development assistance, which is the international flow of government aid from high-income countries — experienced its steepest decline in a generation, marking a potential inflection point for international development funding. This contraction reflects growing fiscal pressures, geopolitical instability, and donor fatigue.

Long-standing donors, including the United States and the United Kingdom, have downsized their development portfolios. Skepticism regarding foreign aid has grown. Some academics are questioning the efficacy of disease-specific interventions that operate independently of broader structural reform. In an era of rising populism, old arguments that high-income countries have an obligation to low-income countries — whether for moral or humanitarian reasons, because of the global nature of public goods, as a way of exercising soft power, or to improve health equity — no longer ap-