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### Debating the Cause of Health Disparities: Implications for Bioethics and Racial Equality

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## *Debating the Cause of Health Disparities*

### *Implications for Bioethics and Racial Equality*

DOROTHY ROBERTS

In 2002, the health arm of the National Academy of Sciences, the Institute of Medicine (IOM), scientifically documented widespread racial disparities in health-care and suggested that they stemmed, at least in part, from physician bias. Its 562-page report, *Unequal Treatment: Confronting Racial and Ethnic Disparities in Health-care*, noted that, although these disparities are associated with socioeconomic status, the majority of studies it surveyed “find that racial and ethnic disparities remain even after adjustment for socioeconomic differences and other healthcare access-related factors.”<sup>1</sup> As directed by Congress, the IOM committee defined “disparities” in healthcare as “racial or ethnic differences in the quality of health care that are not due to access-related factors or clinical needs, preferences, and appropriateness of intervention” (pp. 3–4). *Unequal Treatment* concludes that, after factoring out these access-related differences, remaining disparities can be attributed in part to discrimination by the medical profession—physician prejudices, biases, or stereotyping of their minority patients.

Some commentators took offense at the report’s charge of racial bias. It was unfair, they argued, to suggest that blatant racial prejudice, as was demonstrated in the Tuskegee syphilis experiment, for example, still lingered in contemporary medical care. “I would stress that the attitudes of physicians today have shown a true revolution from those that permeated the generation or two ago,” wrote University of Chicago law and economics professor Richard Epstein. “It is a shame to attack so many people of good will on evidence that admits a much more benign interpretation.”<sup>2</sup> The “benign” interpretations offered by critics were that racial disparities stem from patient behavior, cultural difference, biological difference, and economic inequality. Each of these explanations sounds familiar to historians of race and health in America.

Although racial disparities in health are firmly established, pinpointing their cause has been controversial. In this article, I challenge recent claims that racial health disparities are caused by race-based genetic difference or race-neutral economic difference on grounds that both explanations ignore the roots of health disparities in social inequality. I develop my argument by examining the controversy surrounding the Institute of Medicine report on racial bias in healthcare,

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biomedical research on race-based genetic difference, and advocacy for BiDil, the first race-specific drug approved by the Food and Drug Administration, which asserted that the therapy addressed racial disparities in heart failure. I argue that focusing on race-neutral economic difference or race-based genetic difference obscures the social inequalities that lead to poorer health among people of color, as well as the need for social change.

### **Race-Neutral Economic Difference**

In *The Health Disparities Myth: Diagnosing the Treatment Gap*, published by the American Enterprise Institute in response to the IOM report, Sally Satel and Jonathan Klick argue that variations in insurance coverage, medical practices, and quality of physicians that are “correlated” with race are not evidence of racial bias or injustice.<sup>3</sup> Instead, they state that these are race-neutral factors that result in inferior care that happens more often to people who are black. They note, for example, that “as a rule, the quality of care received by blacks is inversely related to the concentration of black residents in the local population” but caution that “by focusing on race we miss a very important cause of health-care difference: geography.”<sup>4</sup> In their view, geography independent of racism determines the quality of healthcare, and black people happen to live in locations where health-care is the worst.

In my view, it makes more sense to interpret the geography of healthcare as evidence of racism: government and private business have developed inadequate and inferior healthcare resources where black people are concentrated.<sup>5</sup> Yet providing equal access to healthcare would not be enough to close the racial divide. Racial inequality causes health disparities apart from blocking access to high-quality care. It makes people of color sicker in the first place—before they get to a doctor’s office or a hospital emergency room. Access to healthcare alone does not determine an individual’s health, because health is affected primarily by the social environment. The way society is organized drives group disparities in health. Because they reflect social inequality, a more accurate word for the racial gaps is health *inequities*. As British public health champion Margaret Whitehead defines them, health inequities are “systematic, socially produced (and therefore modifiable) and unfair,” and result from the unjust distribution of social, economic, political, and environmental conditions that determine health.<sup>6</sup>

It has been firmly established that the best predictor of health is an individual’s position in the social hierarchy. Hundreds of studies tracking the health of people along the social ladder show that health gradually worsens as status declines.<sup>7</sup> In any society, people with low socioeconomic status have poorer health than people with higher socioeconomic status. The classic Whitehall Study of British Civil Servants, lasting for more than two decades, published in 1978, compared heart disease and mortality in employees at four civil service levels: administrators, professional and executive employees, clerical staff, and menial workers. The study found not only that the administrators at the top had far better health than the janitors at the bottom, but also that health got worse and mortality increased with each step down the occupational ladder.<sup>8</sup> These social gradients in disease occurred despite everyone’s access to the British universal healthcare system.

The question, then, becomes whether this relationship between economic inequality and health applies equally to America’s glaring racial disparities.

Racial inequality also produces huge gaps in advantage and disadvantage that parallel the relative health of people in different racial groups. A growing number of scientists from a variety of disciplines, including medicine, biology, psychology, anthropology, and epidemiology, are investigating how racial inequities in income, housing, and education, along with experiences of stigma and discrimination, translate into bad health. More than one hundred studies now document the adverse effects of racial discrimination on health.<sup>9</sup> Three of the main biology-related pathways these researchers have identified are chronic exposure to stress, segregation in unhealthy neighborhoods, and transmission of harms from one generation to the next through the fetal environment.<sup>10</sup> Their effects on health stem specifically from racism that is separate from, and added to, the harmful consequences of lower socioeconomic status.

A recent study of health in a racially integrated, low-income neighborhood of southwest Baltimore, Maryland, highlighted the causal link between health disparities and residential segregation, which leaves racial groups “exposed to different health risks and with variable access to health services based on where they live.”<sup>11</sup> The researchers found that when black and white Americans lived in an integrated setting, the nationally reported gaps in hypertension, diabetes, obesity among women, and use of health services either vanished or substantially narrowed. The researchers did not interpret the study as showing that racial inequality does not matter to health disparities; rather, they concluded that racial differences in social environments explain a significant portion of the health disparities revealed in national statistics.

The economic approach ignores the role of residential segregation in maintaining inequitable treatment for blacks and fails to question why whites have the privilege of living where there is better access to high-quality care. Instead of explaining away race by adjusting for the myriad of factors that add up to inferior healthcare, researchers should be asking why it is that being a person of color in America is linked to all these negative factors. It is not bad luck: as the studies mentioned previously show, blacks and other minorities are systematically denied access to equal treatment and exposed to conditions that are harmful to their health. A proposed market solution will only reproduce—if not worsen—disparities based on race, because it avoids the need to eliminate individual and institutional bias.

### **Race-Based Genetic Difference**

Whereas the economic explanation for health disparities ignores the impact of race, another explanation focuses on race as a biological category. Countless research projects at universities and biotech firms around the country search for the genetic cause of health disparities in the United States. They are supplementing a large body of published studies that claim to show that racial gaps in disease prevalence or mortality are caused by genetic differences. Disparities in asthma, infant mortality, diabetes, cancer, and hypertension have all been attributed in the scientific literature to genetic vulnerability that varies according to race. Most of these studies never even examined the genotypes of research subjects; they inferred a genetic source of racial differences when they failed to find another explanation.<sup>12</sup>

Consider an effort to explain the enduring black–white gap in premature births and low birth weight. A team of obstetric researchers examined all births in Missouri between 1989 and 1997 to test the hypothesis that “black race independent of other factors increases the risk of extreme preterm birth and its frequency of recurrence.” The researchers used statistical methods to calculate the independent influence of race, socioeconomic status (whether the mother was a recipient of Medicaid, food stamps, or the WIC program), and maternal medical risk factors such as lack of prenatal care and cigarette smoking. An article published in 2007 in the *American Journal of Obstetrics and Gynecology* reported that black women were more likely not only to deliver preterm babies but also to have preterm births in subsequent pregnancies. Because this overrepresentation occurred even when they controlled for medical and socioeconomic factors, the researchers concluded that their findings “suggest a probable genetic component that may underlie the public health problem presented by the racial disparity in preterm birth.” Although conceding that they may have overlooked “hidden variables” that also contribute, they nevertheless speculated about an unproven genetic mechanism operating in “the black race”:

We postulate that although preterm birth is a detrimental outcome in pregnancy, it may be a result of a selective advantage, conferring inflammatory protection against other disease processes. This selective advantage phenomenon has been well described for diseases afflicting the black race, particularly sickle cell disease, glucose-6-phosphate dehydrogenase deficiency, and nitrous oxide synthase polymorphisms and their effects on the incidence of malaria.

The article ended by downplaying “disparate access to medical care or other environmental factors,” arguing that “our data suggest that the proposed genetic component to preterm birth may be a greater etiological contributor than previously recognized”—despite presenting no genetic data whatsoever.<sup>13</sup>

Despite its weaknesses, the Missouri birth study was dignified with a published round table discussion in which commentators granted that “the genetic link is very strong” and that the disparity “may best be explained by a genetic etiology.”<sup>14</sup> The research also led to the headline “Study Points to Genetics in Disparities in Preterm Births” in the *New York Times*, which repeated the totally unsubstantiated conjecture that premature births may provide some evolutionary advantage to black women. Neil Risch, a molecular biologist at the University of California–San Francisco, criticized the study’s inference of a genetic cause without ever examining genes. “They’re inferring something is genetic by elimination of other factors,” he told the *New York Times*. “But geneticists believe that to implicate something as genetic requires direct evidence, as opposed to evidence of absence.”<sup>15</sup>

Until recently, virtually every study of black hypertension accepted the premise that blacks have higher rates of the disease than whites because of inherited susceptibility.<sup>16</sup> In volumes 27 through 30 of the scientific journal *Hypertension*, published in 1996 and 1997, thirty articles hypothesized the existence of innate physiological differences between racial groups.<sup>17</sup> Since then, theories about the precise genetic mechanism behind the hypertension gap are legion. Authors of one study published in the *Journal of Hypertension* in 2000, for example, “postulate

that the genetic factor increasing the propensity of black people of sub-Saharan African descent to develop high blood pressure is the relatively high activity of creatine kinase, predominantly in vascular and cardiac muscle tissue."<sup>18</sup>

A landmark study led by Richard Cooper contested the conventional wisdom that blacks have an inherent predisposition to hypertension.<sup>19</sup> Comparing hypertension rates around the world, Cooper analyzed three surveys of blacks from Africa, the Caribbean, and the United States and eight surveys of whites from the United States, Canada, and Europe. Collectively, the studies enrolled 85,000 participants. If African Americans' higher hypertension risk were genetic, we would expect that people of African descent are more likely to have high blood pressure than people of European descent. Instead, after pooling the global data, Cooper found just the opposite. White populations on average have a substantially higher burden of hypertension. Germans have the highest. Nigerians have the lowest. U.S. whites come close to black Nigerians and Jamaicans, whereas U.S. blacks come close to whites from England and Spain.

The whole body of genetic explanations for health disparities, both those that infer a genetic cause and those that identify specific genes, is questionable. First, most of these studies suffer from serious methodological flaws. They group research subjects into conventional racial categories, fail to explain the relationship between these social categories and genetic traits, and then reach conclusions about genetic difference among the subjects. A survey published in the *Journal of Medical Ethics* in 2006 examined 268 published reports of genetic research that used race as an independent variable.<sup>20</sup> The research team found that 72 percent of the studies failed to explain their methods for assigning race to research subjects. Despite this glaring flaw, 67 percent of the same studies drew conclusions associating genetics, health outcomes, and race.

Second, genetic explanations for health disparities are basically implausible. Remember, the issue is not whether genes affect health—of course they do—but whether *genetic difference* explains *racial disparities* in health. We would expect social groups that have been systematically deprived for centuries to have worse health than social groups that have been systematically privileged. The logical cause is the social distance between them and all the ways societal advantage and disadvantage affect people's experiences, environments, and access to resources, including healthcare. Likewise, it is implausible for a large group of people as genetically diverse as African Americans to have such a concentrated genetic susceptibility to so many common complex diseases. A more plausible hypothesis given the persistence of unequal health outcomes along the social matrix of race is that they are caused by social factors.

Studies that infer a genetic cause for health disparities typically control for the socioeconomic status (SES) of the research subjects in an attempt to compare subjects of different races who have the same SES. If there remains a difference in the prevalence or outcome of a disease, the researchers attribute the unexplained variation to genetic distinctions between racial groups. But this conclusion suffers from a basic methodological error. The researchers failed to account for many other unmeasured factors, such as the experience of racial discrimination or differences in wealth, not just income, that are related to health outcomes and differ by race. Any one of these unmeasured factors—and not genes—might explain why the health outcomes vary by race. Statisticians call this the problem of "residual confounding": falsely concluding that there is a causal relationship

between two variables (here, genetics and disparate health outcomes) because other variables are not measured.<sup>21</sup>

The hypothesis that health disparities are caused by genetic difference is founded on a misunderstanding of race as a naturally created biological division instead of a politically invented social division. Understanding race as a political category that affects health requires changing the way we think about the relationship between race and biology. Thomas LaViest, a leading public health expert at Johns Hopkins, surveyed the use of race in epidemiological studies in the 1990s. He found that most of the articles on U.S.-based populations did use race, but the most common use was as a control variable—to filter out the impact of race. So while geneticists were homing in on the biological impact of race, epidemiologists were ignoring it. “What is needed is not simply *more* research on race,” LaViest concluded, “but *better* research on race.”<sup>22</sup>

Thinking on this issue tends to fall into two camps: either race is a social category that has nothing to do with the biological causes of disease or race is a biological category that causes differences in disease. Both approaches fail to grasp the way in which race as a social grouping can affect health—because of different life experiences based on race, not because of race-based genetic difference.<sup>23</sup> According to sociologist Troy Duster, “the task is to determine how the social meaning of race can affect biological outcomes.”<sup>24</sup> Understanding race as a political category does not erase its impact on biology; instead, it redirects attention from genetic explanations to social ones.

### **Race-Specific Medicine as a Cure for Health Disparities**

In June 2005, the Food and Drug Administration (FDA) announced a historic decision: it approved the first pharmaceutical indicated for a specific race.<sup>25</sup> BiDil, a combination drug that relaxes the blood vessels, was authorized to treat heart failure in self-identified black patients. BiDil had been tested in the African-American Heart Failure Trial, or A-HeFT, launched in 2001.<sup>26</sup> A-HeFT enrolled 1,050 subjects suffering from advanced heart failure, all self-identified African Americans. A-HeFT showed that BiDil worked; in fact, it worked so spectacularly that the trial was stopped ahead of schedule. BiDil increased survival by an astonishing 43 percent.<sup>27</sup> Hospitalizations were reduced by 39 percent.<sup>28</sup> Given evidence of BiDil’s efficacy but little evidence that race mattered to its efficacy, the FDA should have made one of two decisions: either reject the request for race-specific approval or approve BiDil for all heart failure patients, regardless of race. Instead, the FDA put race at the center of its decision, sparking controversy and paving the way for a new generation of racial medicines.

The FDA explained its decision to approve BiDil specifically for black patients by suggesting that race serves as a proxy for some underlying physiological difference that might be genetic. In a January 2007 article in *Annals of Internal Medicine*, two FDA scientists wrote, “We hope that further research elucidates the genetic or other factors that predict the usefulness of hydralazine hydrochloride-isosorbide dinitrate [the ingredients in BiDil]. Until then, we are pleased that one defined group has access to a dramatically life-prolonging therapy.”<sup>29</sup> In other words, a racially defined group could serve as a temporary substitute for the yet-undiscovered genetic or other biological factor that identifies who will benefit from BiDil.<sup>30</sup>

Supporters of BiDil countered criticism of its racial label by arguing that race-specific medicine is critical to advancing health by addressing health disparities based on race.<sup>31</sup> They claim that the health benefits outweigh the label's power to reinforce race as a biological category. Prominent African American scientists, doctors, and advocates endorsed BiDil to redress past discrimination against African Americans in medical treatment and access to healthcare. Ever since their enslavement in the United States, African Americans have been victims of both medical abuse, such as the infamous syphilis study in Tuskegee, Alabama, and medical neglect.<sup>32</sup> BiDil supporters argued that a race-specific drug fulfilled a long-standing demand that science attend to the particular needs of African Americans, who historically had been excluded from good medical care and clinical trials while suffering disproportionately from heart disease. Representative Donna Christensen implored the FDA to approve BiDil as a remedy for medical wrongs against African Americans "for whom treatment has been denied and deferred for 400 years."<sup>33</sup>

Many used the health disparities as a reason to ignore the scientific flaws in race-based medicine. Gary Puckrein, executive director of the National Minority Health Month Foundation, has championed BiDil as an important response to high rates of heart disease among African Americans. Although he acknowledged "concern about the medical and scientific validity of the concept of race," he dismissed such concern as "under present circumstances, impractical."<sup>34</sup> Similarly, Keith Ferdinand, chief science officer of the Association of Black Cardiologists, wrote that "race lacks any true biologic definition,"<sup>35</sup> but BiDil is a "life-saving drug"<sup>36</sup> that addresses "evidence of racial and ethnic differences in cardiac care in the United States which may significantly affect health outcomes."<sup>37</sup> In other words, these BiDil advocates argue that the urgency of addressing the African American health crisis with race-specific drugs overrides objections that race is a social and not a genetic grouping.

Portraying BiDil as a solution to a racial gap in mortality implies the gap stems from racial differences in disease and drug response. Adding a physiological explanation for this difference attributes health disparities to flaws inside black people's bodies rather than to flaws in the society in which they live. It supports the increasingly popular but misguided view that the tiny percentage of genetic difference among human beings is distributed by race and that this difference creates inequities in health.

## Global Implications

The debate over the cause of health disparities has global implications. Attributing gaps in health both within countries and among them to economic or genetic differences can obscure the social and political inequalities that lead to poorer health among the world's most disadvantaged people. Perhaps the most powerful evidence of the importance of social determinants is the relationship between an entire nation's health and its level of inequality. Numerous studies tracking the health of people along the social ladder show that health gradually worsens as socioeconomic status, including race, declines.<sup>38</sup> In their recent book, *The Spirit Level*, Richard Wilkinson and Kate Pickett present remarkably consistent evidence of "a very strong tendency for ill-health and social problems [including reduced life expectancy and infant mortality] to occur less frequently in the more

equal countries.”<sup>39</sup> Or to put it another way, “health and social problems are indeed more common in countries with bigger income inequalities.”<sup>40</sup> People in Japan, Sweden, and Norway live longer, are less obese, and have fewer teenage births than people in the United States, the United Kingdom, and Australia, because their societies are more equal.<sup>41</sup>

We must also attend to the striking social and political inequalities between nations to understand the injustice of global health disparities. Gaps in health measures such as mortality, quality of life, and disease incidence endure across nations despite increasing levels of overall wealth.<sup>42</sup> Yet most medical research is devoted to treating people in the wealthiest countries, with only a tiny fraction concerned with illnesses suffered by people in the developing world. Indeed, medical researchers from the United States and Europe have collected biological materials and tested new drugs in these politically disadvantaged regions without distributing the benefits of their research equally.<sup>43</sup> Seeing global health inequities as the result of poverty or unhealthy predispositions of populations in developing countries will hinder efforts to address the power imbalances that maintain unethical gaps in health.

## Conclusion

There is a long history of using a biological definition of race to make social inequities seem natural—the result of inherent difference instead of societal injustice. As Evelyn Hammonds has noted, “the appeal of a story that links race to medical and scientific progress is in the way in which it naturalizes the social order in a racially stratified society such as ours.”<sup>44</sup>

While the racial gap in life expectancy widens,<sup>45</sup> owing largely to the government’s failure to address structural inequities, the poor health of African Americans opens new markets for pharmaceutical companies. The claim that race-based drugs will shrink the gap based on genetic difference is a powerful way to deflect concerns about their unjust social impact and the social inequality that actually drives poor minority health. At the same time, a color-blind perspective rationalizes the persistent gaps between white and minority health, wealth, and status as products of unbiased market operations, not continuing social injustice.<sup>46</sup> Racial minorities have fallen behind whites on every measure, the theory goes, as a result of their own failings, which make them unable to compete with whites in purportedly fair social, political, and economic arenas. Color-blind ideology posits that because racism no longer impedes minority progress, there is no need for social policies to account for race. Both of these approaches—race-neutral economics and race-specific genetics—are at play in explanations for health disparities. It is critical to contest these arguments in order to tackle the roots of health disparities in social inequality based on race and to see the need for social change.

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## Debating the Cause of Health Disparities

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