PEDIATRICS PERSPECTIVES

An Antiracist Framework for Racial and Ethnic Health Disparities Research

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Striking racial and ethnic disparities in childhood health conditions, such as prematurity, obesity, and asthma, have persisted despite decades of research focused on reducing these disparities. Although major advances in the treatment of chronic health conditions are difficult to achieve, an understanding of the underlying biology of disease has led to breakthroughs in the treatment of common childhood diseases such as asthma. It is notable, however, that despite the successes of biology-focused research, racial and ethnic disparities persist across many pediatric health conditions, suggesting that an exclusive focus on biology is a failed strategy for reducing these disparities. To make meaningful progress in improving minority health and disparities, the biomedical framework of health sciences must be recast so that it explicitly incorporates social context,[1] which includes factors such as socioeconomic status, environmental exposures, access to high quality health care, and racism. Because the pediatric field has long understood that contextual factors have profound effects on health, it is best positioned to lead this recasting of health disparities research.

Much health disparities research has been misguided in its framing of race and ethnicity as biological concepts, when socioeconomic and other contextual factors dwarf potential effects of innate biology.[2–4] We have relied on a framework of biomedical research that tends to be uninterested in context and, instead, obsessed with using the latest technology to measure more easily quantifiable biological characteristics, which may not underpin differences in the expression of disease among populations. In addition, observed associations between biological measures and disease among racial or ethnic minority populations are often misconstrued as evidence that innate biological differences play an important causal role in health disparities, even when there is no scientific basis to make such claims.[5] The explanation that biological measures are more likely a manifestation of context than of genetics is often not considered. The narrow framing of research questions and interpretation of study results have emerged from the exclusively biomedical framing of health and race in the health sciences. This gaping deficit is compounded by the lack of diversity in expertise on research teams (eg, social scientists,

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racial and ethnic studies scholars, etc) and lack of community member input, which would otherwise serve to promote a more broadly construed view of race and ethnicity.[6]

The biologization of race threatens the validity of health disparities of research by leading researchers off the mark when research questions are conceived, study populations are defined, study methods are developed, and data are collected, analyzed, and interpreted. In a study reporting higher fractional exhaled nitric oxide (FENO) concentrations in Black, compared with non-Black, study participants, the authors advocated for creating a higher cut-point for an abnormal FENO concentration for Black children, instead of focusing on why FENO concentrations were higher among Black participants.[2] The implementation of this recommendation could institutionalize the normalization of higher levels of pulmonary eosinophilic inflammation, allergic sensitization, and/or environmental exposures among Black children. Because research informs clinical guidelines, the (mis)treatment of race in research can be propagated to clinical care,[7] resulting in differential treatment by race because of assumed biological differences among racial groups.

In another study, researchers concluded that its results extended "the finding of an increase in asthma burden in Black compared with white children to a phenotype with severe or difficult-to-treat asthma"[3] because Black race remained a statistically significant predictor of emergency department visit risk after adjustment for socioeconomic status. The authors conclude that a more severe or difficult-to-treat phenotype is not due to contextual factors associated with race and, instead, suggest that this phenotype is inherent to Black race, thereby conflating race and biology. Explicit or implicit descriptions of racial phenotypes extend to other diseases as well. The authors of a study of atopic dermatitis (AD) described differences in inflammatory markers in skin between African Americans and European Americans with AD and did not discuss the potential role of contextual factors in causing these differences. Instead, they concluded that AD among African Americans has a distinct immunologic phenotype, without discussing the substantive research pointing to the role of contextual factors.[4] Although these examples are focused on Black-white disparities, the conflation of race and biology also extends to research focused on other ethnic minority populations.[8] Our biological framing of race has also supported the conduct of countless studies seeking genetic causes of differences among racial and ethnic groups, even when any identified genetic differences between racial groups are meaningless and impossible to disentangle from context.[9,10]

The biological framing of race in health sciences research is not only short-sighted but distracts and absolves us from grappling with how structural problems in society are far stronger causes of disparities than genetics. Although science is among the most important tools we have to reduce health disparities, its operationalization in our research enterprise disadvantages racial and ethnic minority children and their families by de-emphasizing the role of structural racism and contextual factors as causes of health disparities. Until we recast the research that is focused on minority health and disparities so that its explicit premise is that race and ethnicity are social (not biological) constructs, we will see little progress. To this end, we are advocating for a research framework that is antiracist, which is the only path by which racial and ethnic health disparities can be shrunk.

Features of an antiracist research agenda are set forth by the National Institute of Minority Health and Health Disparities. Its strategic plan emphasizes capacity building by training scientists from disparities populations, engaging the community affected by the health condition, and prioritizing the funding of institutions that have a track record of promoting diversity, inclusion, and equity. Building on the framework of the National Institute of Minority Health and Health Disparities, we propose the following principles be transformed to actions that are embedded in our systems that fund, evaluate, disseminate, and promote health sciences research. Such systems exist across multiple sectors, including universities, funding agencies, the biotechnology and pharmaceutical industry, professional societies, and biomedical journals so that all of these entities will need to critically evaluate and overhaul their processes that facilitate or promote research on any health condition that disproportionately affects racial and ethnic minority populations. The principles for an antiracist research agenda are as follows:

1. Race, ethnicity, disparities, and contextual factors must be explicitly considered in the study's design and interpretation.
2. The treatment of race, ethnicity, disparities, and contextual factors in proposals must be explicitly and systematically evaluated by reviewers with appropriate expertise, and the evaluation should be used to inform funding decisions. Examples of disciplines with the needed expertise are provided in item 7 below. The National Institutes of Health sex as a biological variable policy is a useful model to consider because it was associated with an increase in the number of grant applications that appropriately considered sex as a biological variable and does not appear to be

an onerous burden on applicants.[11] However, the improvements have been modest, suggesting that an National Institutes of Health policy change alone will not be sufficient to realize meaningful change with regard to the treatment of race and ethnicity.

3. The potential for racism in measurement must be assessed and addressed. For example, survey tools may not be validated for racial or ethnic minority populations, or racial "correction" factors may be applied to biological or physiologic measurements.
4. In research focused on genetics and ancestry, researchers must consider historical and contextual factors in their design and interpretation.
5. The potential bias in source data for artificial intelligence and machine learning methods must be assessed, and a strategy for eliminating the bias must be developed.
6. The community that is disproportionately affected by the health conditions must be engaged. The definition of "community" will vary among studies but will need to be determined to determine the types of community members to engage and how best to engage them.
7. The investigator team must include expertise in race, ethnicity, disparities, and their related contextual factors. These experts include social scientists, race scholars, environmental health scientists, epidemiologists, population geneticists, behavioral scientists, and others.

These principles must be embedded and propagated in systems to be most effective, but they are also useful for individual researchers and reviewers. Although this agenda is ambitious, these steps are absolutely essential to have a meaningful impact on minority health and disparities. Because the issues of structural racism and health disparities are at the forefront and calls for dismantling racist systems are growing louder, the opportunity for the pediatric community to lead the implementation of an antiracist research agenda has never been greater.

ABBREVIATIONS

AD: atopic dermatitis
FENO: fractional exhaled nitric oxide

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