

# An Antiracism Approach to Conducting, Reporting, and Evaluating Pediatric Critical Care Research

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**ABSTRACT:** Reporting race and ethnicity without consideration for the complexity of these variables is unfortunately common in research. This practice exacerbates the systemic racism present in healthcare and research, of which pediatric critical care is not immune. Scientifically, this approach lacks rigor, as people are grouped into socially derived categories that are often not scientifically justified, and the field is denied the opportunity to examine closely the true associations between race/ethnicity and clinical outcomes. In this Special Article for *Pediatric Critical Care Medicine*, we introduce an antiracism approach to conducting, reporting, and evaluating pediatric critical care research. We propose four recommendations: 1) race and ethnicity are social constructs that should be evaluated as such, with researchers considering the context and relevance of related social determinants of health; 2) race and ethnicity data should be collected with sufficient detail to allow detection of meaningful results and minimize the risk of overgeneralizing findings; 3) as health equity research evolves, the pediatric critical care research field must adapt and proactively strive for inclusivity; and 4) the research community, including investigators, authors, research ethics committees, funding organizations, professional organizations, and journal editorial boards, are all accountable for rigorously conducting and reporting race/ethnicity in research. Taking an antiracism approach to research requires the field to ask the difficult question of why racial/ethnic differences exist to eliminate healthcare disparities and optimize healthcare outcomes for all children.

**KEY WORDS:** healthcare disparities; pediatric intensive care units; racism; research; social determinants of health

Racism is systemic in healthcare and in research. Within the pediatric critical care field, hundreds of articles have been published describing racial/ethnic healthcare disparities, while only a handful of reports have named racism as a key driver promoting and maintaining disparities. Health disparities along racial/ethnic lines have been persistent, pervasive, and predictable across disciplines, diseases, healthcare settings, and patient populations (1), including pediatric critical care (2). In pediatric critical care, systemic racism can influence clinical outcomes for critically ill children in various ways that go beyond individual provider biases, including: 1) decreased healthcare access; 2) delayed disease recognition due to communication barriers or disparate prioritization based on racially oriented stereotypes; or 3) unequal inpatient resource utilization and referral to outpatient preventative services (3–8).

Antiracism is defined as an active, conscious effort to dismantle systems and practices that promote racism (9). As a field caring for the most vulnerable children, it is imperative that we take an antiracism approach to advance the health of all children and reduce healthcare disparities that lead to worse outcomes for historically marginalized populations. Actively accounting for the

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complexity of race and ethnicity in reporting and conducting research adopts an antiracism approach that adds rigor to research by avoiding grouping subjects into socially derived categories. Furthermore, an antiracist approach compels investigators to perform a deep exploration of the mechanisms underlying the social construct. In this Special Article for *Pediatric Critical Care Medicine*, we describe recommendations for the pediatric critical care field to consider when conducting, reporting, and evaluating race/ethnicity in research using an antiracism approach.

## **ANTIRACISM APPROACH TO CONDUCTING AND REPORTING RESEARCH**

### **Recommendation No. 1: Race and Ethnicity Should Be Evaluated As Social Constructs**

Race is a social construct and racial/ethnic disparities must be contextualized by the impact of racism on health outcomes. As an example, the increased impact of the severe acute respiratory syndrome coronavirus 2 pandemic on Hispanic and Black children can be explained by socioeconomic factors secondary to systemic racism (3). Studies that include race/ethnicity as the only social variable risk missing actionable findings that affect health outcomes. Researchers must give consideration toward socioeconomic status, access to healthcare resources and racism when describing health disparities.

When designing databases for prospective studies, additional sociologic factors including but not limited to education, gender, sexuality, income, geographic community, and limited English proficiency (LEP) deserve consideration. Researchers must evaluate why collecting race/ethnicity is important for their work and report those reasons in their methods. Despite evidence indicating the lack of significant genetic differences between people of different races (10), race is commonly used in diagnostic algorithms, such as in calculating glomerular filtration rates, cardiovascular severity risks, and spirometry (11). These racialized algorithms often result in biased treatment decisions that worsen healthcare disparities (12, 13). As we move toward more personalized medicine that relies upon algorithms and artificial intelligence, researchers will need to use caution when using race in algorithms without a strong genetic or biologic justification.

Retrospective and secondary analyses using established databases do not have the luxury of controlling the variables that have been collected. In these designs, the primary consideration for deciding when, why, and how to include race and ethnicity as variables in regression models relies on researchers confirming whether race and ethnicity are central to addressing the research question. Researchers must ask, “Did we a priori hypothesize that race/ethnicity will be associated with the outcome of interest?” If the answer to this question is no, then researchers need to ask: “Are we using race/ethnicity as a proxy for social experiences (such as geography, access to care, poverty, food insecurity, etc.)?” If the database lacks other social variables, reliance on the singular variable of race will have little value and impede efforts to truly understand the mechanisms driving the inequities. In these cases, authors must clearly state the absence of socioeconomic covariates as a limitation. When racial disparities are described, especially in U.S.-based studies, researchers need to acknowledge the influence of systemic racism in their discussion and offer approaches to address these gaps. Regardless of the country where the work was performed, if race/ethnicity is included as a variable, researchers should include discussion of their local demographics and consideration of other variables that may influence disparities.

### **Recommendation No. 2: Collect Race and Ethnicity Data With Sufficient Detail to Detect Meaningful Results**

Although race is an inherently flawed method of categorizing heterogeneous groups, race continues to be an important variable given the extent of existing racial/ethnic disparities (2). Therefore, it is imperative to adopt a structured approach to data collection that is patient-centered, accurate, and inclusive. The world population is growing and becoming increasingly diverse, with an increase in international migration (14, 15). For prospective studies and novel databases, the gold standard is to allow participants to self-select their race/ethnicity and to offer multiple race and free-text options. If health disparities are central to the primary research question, researchers should gather additional details beyond standard race categories, including specific country or region of origin, to mitigate the threat of generalizability to an entire racial group.

For database and retrospective studies that rely on data obtained from the medical record, attention should be paid to standardizing how demographic data are collected, as race/ethnicity or language preference data inputted by hospital staff may be inconsistent and unreliable. Studies that cannot verify the accuracy of participants' demographic data should include this as a limitation.

### **Recommendation No. 3: Inclusivity and Adaptability Are Necessary As Health Equity Research Evolves**

Published reports in the medical literature require use of accurate, equitable terms. Researchers, reviewers, and editors must remain vigilant to ensure the current lexicon of acceptable terms is used in the frequently changing race/ethnicity labeling (16). Research must strive to include all members of the research population in the study sample, which may require additional efforts to recruit diverse and representative samples and ensure research databases capture all relevant variables. To demonstrate a commitment to equitable research methods, researchers should not only report the demographics of their research participants but also a comparison with the demographics of their eligible patient populations and describe reasons for discrepancies (17). Researchers should give thought to how they structure their analyses. Using White, English-speaking patients as the default reference group is not always scientifically appropriate, especially when studying populations where White race does not represent the majority.

It is no longer acceptable for research to ignore the negative health impact of LEP. English proficiency should be included routinely in research datasets, and if these data are missing from medical records, it should be noted as a limitation (18). Studies that involve direct measurement and/or evaluation of family- or patient-level data should factor in the costs of translating research documents and having interpreters available for study-related procedures. Finally, studies that report on findings in LEP populations need to specify the language(s) spoken by their participants, and care should be taken to avoid generalizing findings from one LEP population to another.

## **ANTIRACISM APPROACH TO EVALUATING RESEARCH**

### **Recommendation No. 4: Our Collective Community Relies on Meaningful Research to Optimize Patient Outcomes and Advance Pediatric Critical Care. We Are All Accountable for Rigorously Reporting and Evaluating Race/Ethnicity in Research**

Beyond the actual content of research, the institutions that publish research must commit to being antiracist. Evidence indicates that current research practices are biased toward White scholars and communities, and therefore are not representative (19). Although this evidence is not specific to pediatrics, it is unlikely that pediatric critical care research is immune to the effects of systemic racism. Journal editors and reviewers play a significant role in determining which science is disseminated, and as such must be held accountable for eliminating racist practices to achieve health equity in research.

Scientific societies and their associated journals have an obligation to release strong statements voicing a commitment to antiracism (20). These statements need to include a transparent action plan for change, developed in collaboration with scientists of historically marginalized backgrounds. Deliberate effort should be made to establish diverse and inclusive society leadership, journal editorial boards, and reviewer pools, while being mindful of the minority tax—the concept that the few racial or ethnic minorities in a group may be called upon more frequently to serve in diversity efforts because someone who looks like them needs a seat at the table.

Researchers and reviewers must receive clear expectations and guidelines for reporting race and ethnicity, as well as the use of bias-free language. Peer review should include commentary on whether authors adequately addressed the impact of race and ethnicity on their results. Although all researchers conducting and submitting science should be held to the standards described in this Special Article, the bar for adequately reporting race/ethnicity must be higher for researchers conducting health disparity and health equity work, as this work is the driving force for systemic change.

Finally, funding organizations have a responsibility to set standards by which researchers conduct racially and ethnically responsible science. Research funding

should include support to recruit diverse populations and offer translation services. Funding organizations need to adapt as the field of health equity research grows by encouraging use of more accurate and precise demographic categories in resources such as the Common Data Elements Repository maintained by the National Institutes of Health (21).

## CONCLUSIONS

Racism in healthcare continues to perpetuate healthcare disparities and remains a barrier to conducting equitable research. As healthcare scientists and clinicians, we must acknowledge the systemic nature of racism and actively aim to remove it at its roots within our systems. Although we must all be accountable for accurately conducting, publishing, and consuming research that evaluates race and ethnicity, we must also begin the transition from continually rediscovering racism to enacting strategies to address it.

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