

# Racism, Not Race: the Root of Racial Disparities in Penicillin Allergy Labeling

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Penicillin allergy is the most common drug allergy in children, with a prevalence of 5% to 10%; however, most children with a penicillin allergy label are not actually allergic.<sup>1–3</sup> In children, these allergy labels force clinicians to prescribe alternative antibiotics which are more broad and associated with a number of adverse outcomes, including increased length of hospital admissions.<sup>4,5</sup> Given the adverse outcomes associated with penicillin allergy labels, it is important to understand risk factors for acquiring a label.

In this issue of *Hospital Pediatrics*, Hampton et al sought to describe the association of sociodemographic factors with penicillin allergy labels in hospitalized children.<sup>6</sup> In this retrospective cohort study of 3890 general pediatric inpatients, 7.7% reported a penicillin allergy. After controlling for potential confounders, Black race and young age were the only demographic factors associated with lower odds of reporting a penicillin allergy label. The majority of children acquire penicillin allergy labels at a young age, but because few allergy labels are ever removed, these persist indefinitely, resulting in increasing prevalence with age.<sup>2,7</sup> The association of Black race and decreased odds of having a penicillin allergy label has been noted in other studies, although the explanation for these findings is unclear.<sup>2</sup> One hypothesis put forward by Hampton and colleagues is that Black children receive fewer antibiotics and therefore have lower risk of becoming labeled as penicillin-allergic. Although several studies have shown that Black children receive fewer antibiotics than their white peers, a recent study of pediatric outpatients controlled for the number of antibiotic prescriptions a child received and still demonstrated racial disparities in penicillin allergy labeling.<sup>2,8,9</sup> Another potential possibility for the association between Black race and lower odds of penicillin allergy labeling is decreased ability to identify rashes on dark-skinned children by medical providers whose textbooks predominantly contain pictures of rashes on light-skinned children.<sup>10</sup> Finally, Hampton also suggests that differential access to health care may be another explanation for the racial disparity in penicillin allergy labeling. What needs to be explicitly stated is that all of the described potential explanations for this racial disparity in allergy labeling stem from racism, and not race.

Medicine has a long history of attributing blame to the biology and genetics of racial and ethnic marginalized populations for observed differences. Race is a social–political construction, and it is society's treatment of individuals that is a more likely culprit for observed disparities often found in research.<sup>11,12</sup> Racism, not race, is intertwined with inequities in health outcomes such as poverty, access to health care, and the quality of care received, and thus is a critical contributor to this racial disparity found and needs to be interrogated further.<sup>12–14</sup> The analytical framing of describing race-based disparities without discussion of racism allows for subtle implications that racial categorizations have biological implications.<sup>15,16</sup>

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Racism is a system of power that restructures an inequitable distribution of opportunity, benefit, resources, or capacity, and assigns value on the basis of social interpretation of how one looks (“race”). It unfairly disadvantages some individuals and communities and unfairly advantages other individuals and communities. Racism is also a social determinant of health that has a profound impact on the health status of children and their families.<sup>17</sup> As a research community, we continue to work toward health equity; however, Hampton et al provides ongoing evidence to support the continued impact of racism on health outcomes through implicit and explicit biases, institutional structures, and interpersonal relationships.

Specific areas where Hampton et al discuss the potential impact of racism and discrimination include the quality of clinician–family communication and access to health care. The authors state, “Allergy documentation reflects multiple health care system encounters. Consider that, in order to have a documented penicillin allergy in the [electronic medical record], one must have previously received a prescription for penicillin, taken the medication, developed a reaction, and subsequently sought care at a point in time after the reaction.” This important call-out demonstrates the complexity of obtaining a penicillin allergy label. One can see how, in the face of intentional structural limitations in access to health care systems, it would be less likely for a member of a historically marginalized group to obtain a penicillin allergy label. In addition, personal mediated racism, in the form of implicit or explicit bias, can contribute to poor clinician–family relationships of marginalized groups, perpetuating racial disparities.

There is also growing data on the benefits of avoiding overtreatment and overtesting by safely doing less.<sup>18</sup> This framework allows us to critically think through how we can avoid harm for our patients. The authors call attention to this by discussing that the observed racial disparities with

penicillin allergy could possibly be associated with the racial and ethnic disparities in the prescribing of antimicrobial agents. Previous work demonstrates that Black children receive fewer antibiotics than non-Black children and Hampton et al hypothesize this leads to lower odds of penicillin allergy labeling.<sup>6,8</sup> In 2012, a prospective cohort study examining cranial computed tomography (CT) in children with minor blunt head trauma demonstrated similar racial disparities.<sup>19</sup> Children of Black non-Hispanic or Hispanic race/ethnicity had lower odds of undergoing cranial CT among those who were at intermediate risk for clinically important traumatic brain injury. Regardless of risk for clinically important traumatic brain injury, parental anxiety and request were commonly cited by physicians as an important influence for ordering cranial CT in children of White non-Hispanic race/ethnicity. This study, similarly, to Hampton et al adds to the child health literature that health care disparities are pervasive, extensive, and persistent for historically marginalized children and families. Dowd describes that, in health equity research, the question, “Who is not getting what they should?” has been the traditionally used. The converse is also important. “Who is getting what they should not?” Early discussions of health equity research tended to downplay overuse as the source of health disparities.<sup>20</sup> Both of these examples demonstrate that safely doing less is also affected by racism and multilevel systems of oppression, and thus can lead to inequitable care. Non-Hispanic White children receive potentially unnecessary head CTs, more antibiotics, and acquire more penicillin allergy labels than their Black peers. Inequities hurt all children when their care is dictated by the color of their skin as opposed to the underlying pathology of their disease.

Closing the gap in racial inequities in the health care system requires rigorous research calling attention to the systems of power, oppression, and racism. These systems are at the root of racial disparities and need to be explicitly named. The authors call for future studies

investigating clinician-prescribing patterns stratified by patient race and sociodemographic factors. To work toward racial health equity, we need to go a step further beyond description and start to dismantle by action.

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