



Since January 2020 Elsevier has created a COVID-19 resource centre with free information in English and Mandarin on the novel coronavirus COVID-19. The COVID-19 resource centre is hosted on Elsevier Connect, the company's public news and information website.

Elsevier hereby grants permission to make all its COVID-19-related research that is available on the COVID-19 resource centre - including this research content - immediately available in PubMed Central and other publicly funded repositories, such as the WHO COVID database with rights for unrestricted research re-use and analyses in any form or by any means with acknowledgement of the original source. These permissions are granted for free by Elsevier for as long as the COVID-19 resource centre remains active.

The United States' reckoning with racism during the COVID-19 pandemic: What can we learn and do as allergist-immunologists?



Lakiea S. Wright, MD, MAT, MPH,^{a,b,c,d,*} Margee Louisias, MD, MPH,^{a,b,c,*} and Wanda Phipatanakul, MD, MS^{a,c} Boston and Waltham, Mass

Key words: COVID-19, pandemic, disparities, asthma, racism, structural racism

The coronavirus disease 2019 (COVID-19) pandemic magnified and mirrored the racial disparities we see across numerous health conditions, including asthma. In the United States, we had to confront 2 crises concurrently, the pandemic and systemic racial injustice due to the recent murders of unarmed Black Americans.¹ These intersecting issues had a synergistic effect that propelled racism into the forefront of our national conversation. As allergists and immunologists, we must confront racism within our specialty and address how it negatively impacts our patients. In this article, we will discuss how biopsychosocial mechanisms of racism contribute to health disparities (using asthma as an example) and offer solutions for dismantling racism to eliminate inequities.

Racism, both structural and interpersonal, is a fundamental cause of health disparities in the United States.² Structural racism, described as the integration of historically rooted and culturally enforced discriminatory practices and policies into societal systems, is the main driver of health disparities in the United States. Residential segregation is a prime example of structural racism. Segregation is a byproduct of historic redlining, which consists of discriminatory federal and private housing policies created in 1934.² These policies shaped American neighborhoods, leading to disinvestment in communities of color, and resulting in present-day concentrated poverty, poorly funded schools, increased exposure to industrial pollution and hazardous waste, and food and medical deserts. These neighborhood characteristics have been shown to contribute to poor health outcomes.²

Structural racism has shaped the social determinants of health, which underscore many health disparities.² Studies have shown how social, biological, and environmental factors may contribute to health inequities observed in asthma management and control.

There is a paucity of studies that have directly examined associations of racism and asthma. In a study of several California cities, historically redlined census tracts were associated with higher percentages of Blacks and Latinos in poverty, higher mean levels of pollution, and increased rates of emergency department visits, compared with other census tracts.³ As it relates to interpersonal racism, in one study, perceived racism was associated with adult onset of asthma among Black women,⁴ and in a pediatric study, perceived discrimination was associated with greater odds of asthma and poor control in Blacks.⁵ Racism is associated with biological effects such as stress, which may have harmful effects on homeostasis and disrupt the functioning of interrelated immune, neuroendocrine, and autonomic systems.⁶ In addition, stress has been implicated in the development of atopic disease including asthma through neuroimmune programming *in utero*.⁷

During these unprecedented times, we must acknowledge the biopsychosocial mechanisms and detrimental health consequences of racism. In Fig 1, we provide a conceptual framework for a multilevel approach to dismantling racism, providing suggestions for individual and collective actions with an emphasis on policy reform to effect change on a national level. We cannot be complicit. We must act urgently and swiftly to dismantle racism, to move beyond questioning whether it exists, and to transition from the denial to transformative zone (Fig 1). We must proactively implement solutions to reform systems and structures that perpetuate the existence of racism in society and medicine including our specialty. We recognize that this is a process and many individuals may enter at different stages/zones. Although Fig 1 provides a general framework, below we offer specific suggestions, as it relates to our specialty, which fit into the active learning and transformative zones.

1. Access to health care in minority communities

A. Specialty care access

- Form partnerships with federally qualified health centers and community health centers to improve access to our specialty services.
- Partner with faith-based leaders/organizations, salons, and barbershops to provide education about asthma and allergies.

B. Telemedicine⁸

- Advocate for continuation of insurance coverage for telemedicine services.
- Address the “digital divide”—advocate for the equity of broadband internet services.⁸

From ^athe Division of Immunology, Boston Children's Hospital, ^bthe Division of Allergy and Clinical Immunology, Brigham and Women's Hospital, ^cHarvard Medical School, and ^dThermoFisher Scientific, Waltham.

*Co-first authors.

This study was conducted with support from the BWH H. Richard Nesson Fellowship (grant nos. K24 AI 106822 and U01 AI 110397) and NHLBI L30 HL143781.

Disclosure of potential conflict of interest: L. S. Wright is US Medical Director, ImmunoDiagnostics-Clinical Affairs, ThermoFisher Scientific. W. Phipatanakul provided/received advisory/clinical trial support from Genentech/Novartis and Sanofi/Regeneron; provided advisory support to Teva and AstraZeneca; and received clinical trial support from GlaxoSmithKline, ThermoFisher, Monaghan, Alk Abello, Lincoln diagnostics, Circassia, Merck, and Kaleo. M. Louisias has no relevant conflicts of interest.

Received for publication May 27, 2020; revised October 23, 2020; accepted for publication October 28, 2020.

Available online November 5, 2020.

Corresponding author: Wanda Phipatanakul, MD, MS, Boston Children's Hospital, 300 Longwood Ave, Boston, MA 02115. E-mail: wanda.phipatanakul@childrens.harvard.edu. J Allergy Clin Immunol 2021;147:504-6. 0091-6749/\$36.00

© 2020 American Academy of Allergy, Asthma & Immunology
<https://doi.org/10.1016/j.jaci.2020.10.034>

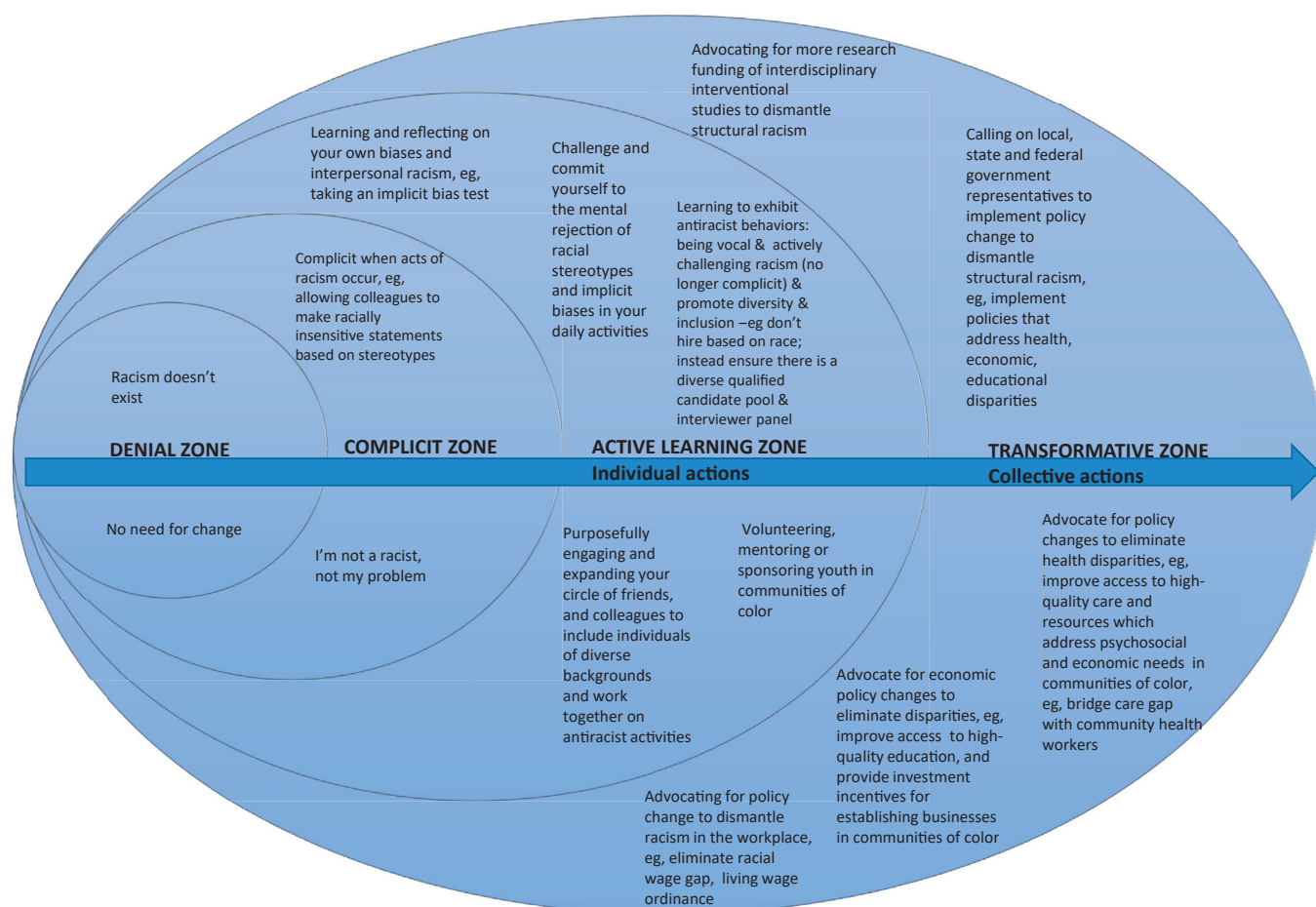


FIG 1. Multilevel approach to dismantling racism. Approach to dismantling racism from the individual to the policy level.

- Create workflows to allow clinic support staff to identify patients without computers or limited internet access and offer alternative virtual platforms such as doxy.me and Dximity caller.⁸
- C. Social services⁹: Advocate for access to community health workers for low-income minorities to connect patients with resources. Help identify any social, psychosocial, and economic barriers to optimizing management of atopic diseases, for example, access to affordable medications, substandard housing, transportation to clinic visits, exposure to neighborhood violence, mental health, and food insecurity.
- 2. Delivery of care for patients with limited English proficiency
 - A. Provide translator services in-person, on phone, or virtually.
 - B. Provide ACAAI and AAAAI Allergy-Immunology educational materials in more languages than Spanish.
- 3. Education, training, research, and professional development¹⁰
 - A. Antiracism training integrated into fellowship curriculum and CME/MOC for faculty. Cultural competence and implicit bias assessment and training are starting points, but there is limited evidence that they alone change explicit behaviors. Seek trainings that focus on (1) how biases develop and become institutionalized and (2) equip learners with skills to combat structural oppression.
- B. Research funding/publications: Advocate for expansion of National Institutes of Health/institution/foundation research funding focusing on interventional studies to address structural racism.
- 4. Diversity in allergy-immunology¹⁰
 - A. Advocating for Science Technology Engineering Mathematics education in schools in minority communities.
 - B. Creating pipeline programs with elementary/high schools, historically Black colleges and universities, and minority undergraduate and graduate student groups to engage interest in allergy-immunology and support entry into our fellowship programs.
 - C. Critically analyzing the racial diversity in the workplace including of our specialty's governance, leadership, and membership and implementing policies and practices to promote equity.
- 5. Strategic political advocacy
 - A. Many of the suggestions mentioned, for example, access to specialty care, housing, education, and food insecurity, afford us opportunities to work with other medical societies to amplify our advocacy efforts and effect change on a larger scale while promoting an antiracism, diversity, and inclusion agenda.

- B. Mandate that Health and Human Services create an interdisciplinary team to address health, educational, environmental, and economic consequences of structural racism and implement comprehensive policy reform.

Although dismantling racism may seem like an insurmountable task, we must all take individual responsibility and work collectively to effect multilevel change with an emphasis on policy reform to have a broader impact. We can use this opportunity to be radical and reimagine our specialty to achieve equity and justice for all.

REFERENCES

1. Galea S, Abdalla SM. COVID-19 pandemic, unemployment, and civil unrest: underlying deep racial and socioeconomic divides. *JAMA* 2020;324:227-8.
2. Bailey ZD, Krieger N, Agenor M, Graves J, Linos N, Bassett MT. Structural racism and health inequities in the USA: evidence and interventions. *Lancet* 2017;389:1453-63.
3. Nardone A, Casey JA, Morello-Frosch R, Mujahid M, Balmes JR, Thakur N. Associations between historical residential redlining and current age-adjusted rates of emergency department visits due to asthma across eight cities in California: an ecological study. *Lancet Planet Health* 2020;4:e24-31.
4. Coogan PF, Yu J, O'Connor GT, Brown TA, Cozier YC, Palmer JR, et al. Experiences of racism and the incidence of adult-onset asthma in the Black Women's Health Study. *Chest* 2014;145:480-5.
5. Thakur N, Barcelo NE, Borrell LN, Singh S, Eng C, Davis A, et al. Perceived discrimination associated with asthma and outcomes in minority youth: the GALA II and SAGE II studies. *Chest* 2017;151:804-12.
6. Lucas T, Wegner R, Pierce J, Lumley MA, Laurent HK, Granger DA. Perceived discrimination, racial identity, and multisystem stress response to social evaluative threat among African American men and women. *Psychosom Med* 2017;79:293-305.
7. Wright RJ. Stress-related programming of autonomic imbalance: role in allergy and asthma. *Chem Immunol Allergy* 2012;98:32-47.
8. Rodriguez JA, Clark CR, Bates DW. Digital health equity as a necessity in the 21st Century Cures Act era. *JAMA* 2020;323:2381-2.
9. Bryant-Stephens T, Reed-Wells S, Canales M, Perez L, Rogers M, Localio AR, et al. Home visits are needed to address asthma health disparities in adults. *J Allergy Clin Immunol* 2016;138:1526-30.
10. Gray DM II, Joseph JJ, Glover AR, Olayiwola JN. How academia should respond to racism. *Nat Rev Gastroenterol Hepatol* 2020;17:589-90.