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Learning from the Past and Working in the Present to Create an Antiracist Future for Academic Medicine

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The authors have informed the journal that they agree that Paula T. Ross, Monica L. Lypson, and Carrie L. Byington completed the intellectual and other work typical of the first author.

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As concerned members of the *Academic Medicine* Editorial Board and of the academy, we write to express our deep anger, frustration, and exhaustion in the continued existence of systemic racism in our country and in our profession.

The murders of George Floyd, Breonna Taylor, Rayshard Brooks, and others by the police in 2020 sparked demands across the United States and around the world to end systemic racism against Black people. Unfortunately, police brutality against Black citizens is not a new phenomenon. However, these instances of appalling violence occurred during the COVID-19 pandemic, which magnified longstanding health disparities in the Black community. The combination of violence and illness has provided a catalyst for action and an opportunity for change in academic medicine.

Given the hostile and sometimes violent response of society toward many Black people, we worry about the fate of our Black sons and daughters, partners, brothers and sisters, loved ones, and colleagues, and all Black people around the world. The degradation of Black people in the United States has been a historical staple for 4 centuries, carried out through chattel slavery, lynching, Jim Crow segregation, mass incarceration, and police brutality. The shadow of slavery has left a stain that continues to thwart societal advancement and individual achievement for Black people.

We in academic medicine have not been untouched by systemic racism, both as providers caring for the victims of racism and, shamefully, as unwitting perpetrators through our connections to systems that have institutionalized and sustained racism.<sup>2</sup> To overcome such a deeply-rooted problem requires deliberate action, organizational commitment, and most important a shared vision for the future.

Historically, the victims of racism have also carried the burden of addressing this longstanding problem. Their ability to implement change has often been hindered by isolation and the need to convince the majority that a problem actually exists. As members of the *Academic Medicine* Editorial Board who are from groups underrepresented in medicine, we join our voices to strengthen one another and our message of a vision of an antiracist future for academic medicine.

### Individual, Structural, and Symbolic Violence

Here, we have used the term *Black* to reflect one of the primary sources of racial discrimination—skin color—and to support the Black Lives Matter movement (https://blacklivesmatter.com). We have framed this discussion around the concept of *violence* in both the literal and figurative sense to fully expose the ways in which Black people—past and present—have been deprived of dignity and denied opportunities to thrive within the academic medicine community and U.S. society as a whole.

#### **Individual violence**

Black people are subjected to physical violence at the hands of law enforcement and the criminal justice system.<sup>3,4</sup> Too often these acts of violence are dismissed as isolated incidents or justified by the "few bad apples theory," which suggests that these actions are individual in nature and do not represent the policies or structure of society as a whole. However, when this type of violence is perpetuated with impunity time and time again across multiple contexts, we must relinquish this theory and look deeper into its root cause. Such violence is not just dismissed with these claims within broader society, it is also dismissed within academic medicine.

#### Structural violence

In addition to this individual physical violence, Black people also face structural violence that precludes them from achieving their basic needs. Structural violence manifests as a lack of access to drinkable water, healthy food, safe neighborhoods, quality schools, and employment opportunities—much of what we in medicine refer to as the *social determinants of health*. Structural violence in health and health care is evident in disparities in access to quality medical treatment, for example disparities in appropriate interventions in cardiac care, pain management, cancer treatment, and diabetes care, to name a few.<sup>6</sup> These unrelenting disparities result in shorter life expectancies and a lower quality of life for Black people and have been recognized for decades.<sup>7</sup>

## **Symbolic violence**

Many Black people, even Black professionals who overcome systemic obstacles, regularly face violence in symbolic form. Symbolic violence is an exercise of power that confers legitimacy and "truth" on certain ways of seeing, being, and acting in the world. Symbolic violence underlies differences in health outcomes often attributed to the "biology" of race, which assumes that such social phenomena as crime, poverty, racism, and the disproportionate impact of diseases like COVID-19 on communities of color are due to "natural" differences or differences in social standing that are immutable.

Central to the concept of symbolic violence is the notion that violence is exercised on individuals in society with the complicity of the society.<sup>8</sup> By *complicity*, we mean operating in a society that fails to challenge why Black bodies and lives are less valuable than White bodies and lives, a society that fails to question differences in health outcomes and instead ascribes these differences to race or the social determinants of health, without questioning the root cause. It is this

complicity that serves to perpetuate the violence of racism and the legacy of suffering it causes. Acknowledging the existence of symbolic violence helps us recognize the uncomfortable fact that we are *all* part of the problem. As this concept of symbolic violence may be new to the academic medicine community, in the sections that follow, we discuss several ways in which it has affected and continues to affect Black people.

## **Symbolic Violence in Academic Medicine**

We argue that the individual violence against George Floyd mirrors the longstanding structural and symbolic violence towards Black people that exists within our academic health centers.

Excellence in academic medicine comprises professional development, education, research, and patient care. Each of these missions has been impacted by symbolic violence.

# Exclusion from the profession and professional development

Modern medical education in the United States is historically rooted in symbolic violence. The 1910 Flexner Report established the commonly held view that the practice of medicine should be based in science, and it brought rigor to medical training. While these are laudable goals, prevailing biases held during the early 20th century supported the exclusion from the profession of Black people, women, Native Americans, and others deemed "unfit" to study medicine. Black people also were at one point excluded from membership in professional medical societies. 14-16

In the century after the Flexner Report, those who were not White men struggled to find a place in the profession. Physicians who were Black, women, or from other marginalized and underrepresented groups were often invisible to the profession, the system, and the public.

Symbolic violence is expressed in the devaluation of their identities and positions. Many Black physicians were, and still are, often mistaken for service workers such as custodians, interpreters,

or valets.<sup>17-19</sup> They have even been viewed suspiciously by the very security staff at their own institutions who are meant to protect them.<sup>20</sup>

In addition, Black people face overwhelming obstacles to admission to medical school and residency, recruitment to faculty positions, and promotion to advanced academic ranks or other senior academic roles. <sup>21,22</sup> This systemic exclusion and the absence of role models from historically underrepresented groups are strong deterrents for individuals considering a career in medicine. Affirmative action and Project 3000 by 2000 were laudable efforts to increase access to the field. However, these initiatives were dismantled before their goals were achieved. <sup>23-25</sup> Black people comprise approximately 13% of the U.S. population, yet only 5% of the physician workforce and even less in academic medicine. As Filut and Carnes note in their article in this issue, now more than ever, academic medicine must support, recruit, and retain Black clinicians. <sup>26,27</sup>

Because of symbolic violence and limited access to the profession, Black and other non-White physicians often experience psychological consequences, imposter syndrome, microaggressions, burnout, and the burden of a "Black or minority tax." This "tax" comprises the excessive service requirements and requests that individuals from underrepresented groups face because of their minority status (e.g., committee participation, community outreach, mentoring, etc.), which consumes professional and personal time and may impede career advancement. Physical Medicine in the United States in the post-Flexner period produced some of the greatest scientific advancements in the world. However, we cannot quantify the advances that did not come to fruition because of the exclusion of entire groups of people from the field. Importantly, academic medicine post-Flexner has failed to produce an equitable health system or the health outcomes we expect as a nation.

### Racism in the learning environment

Academic medicine has subjected Black and other non-White trainees to symbolic violence in the learning environment. At the core of racism lies the preservation of White supremacy, which requires 2 basic beliefs: Black inferiority and White superiority.<sup>33</sup> This paradigm manifests for Black people in the United States, including Black trainees, in the constant suggestion, both explicit and implicit, of their inferiority, which is used to justify denying them access to opportunities.<sup>34</sup>

Trainees are subjected to gross misrepresentations of the health issues that Black people face; those with a disease are blamed for their choices without discussion of the systemic forces that caused their conditions (e.g., obesity, diabetes). Educators often highlight biological differences between racial groups as part of their teaching rather than appropriately recognizing race as a social construct. Such misinterpretation perpetuates negative stereotypes about Black people, exacerbates social inequities, and influences care delivery. A recent survey of White medical students and residents demonstrated that 50% held false beliefs about Black bodies, and these beliefs were associated with treatment decisions. The survey of the surve

White patients are used as the base case for learning. An example is found in dermatology, where images of conditions in patients with darker skin are often missing from traditional textbooks and lectures.<sup>38,39</sup> In 2020, a Black medical student created a handbook to help his fellow trainees identify skin conditions in patients with darker skin to fill this very gap.<sup>40</sup>

Discussions of race in academic medicine must be reframed, and curricula that critically consider how society, including racism, shapes health must be developed. We echo many of the recommendations put forth by Nieblas-Bedolla and colleagues<sup>41</sup> in this issue to change how academic medicine uses race. We call on educators to be intentional when including race as a

risk factor for disease; to allow students the agency to identify the inappropriate use of race in lectures and assignments; and to ask interviewers to discuss race during the admissions process to gauge candidates' understanding of the relationship between race and health or social inequities.<sup>41</sup>

## **Exclusion from the medical research enterprise**

The medical research enterprise has violated the trust and humanity of Black people in a number of ways. Two definitive examples are the unconsented use of a Black woman's (Henrietta Lacks) clinical samples to create the immortal HeLa cell lines<sup>42</sup> and the Tuskegee experiment (1932-1972) in which Black men were left untreated for syphilis even after penicillin was widely available.<sup>6</sup>

The medical research enterprise also has minimized the work of Black researchers, particularly those interested in Black health care disparities and those focused on issues and diseases within Black communities. And This work continues to be underfunded with limited adoption of novel scientific concepts put forth by Black scholars. Bias has been documented in the development of medical equipment, such as the pulse oximeter that is so important in the management of COVID-19, and in the development of algorithms to manage the health of populations. In each case, these biases may contribute to worse outcomes for Black patients. Despite strategic attempts to address the systemic disparities in access to research funding through the establishment of programs by organizations such as the Robert Wood Johnson Foundation, Harold Amos Program, National Institute of Medicine, and the National Institute on Minority Health and Health Disparities, the research pipeline is still sparsely populated by Black scientists.

### Racial disparities in clinical care

Academic health centers have been painfully slow to address the disproportionate burden of morbidity and mortality among Black people. This slow response is unconscionable, particularly for institutions located in Black communities.<sup>50</sup>

Although health disparities in outcomes related to cardiovascular disease, cancer, diabetes, and HIV/AIDS<sup>7,51</sup> have long been recognized in academic medicine, the COVID-19 pandemic has highlighted these inequities for all to see.<sup>52</sup> Underlying health disparities have contributed to the COVID-19 devastation in Black communities. State-level data show that Black people in Louisiana account for a disproportionate share of COVID-19 hospitalizations (77%) and deaths (71%), while making up only 31% of the population.<sup>53</sup> In Georgia, 83% of hospitalized patients were non-Hispanic Black people during the month of March 2020.<sup>54</sup>

National-level data confirm these racial disparities and indicate that Black people are dying at 2.5 times the rate of White people (77/100,00 vs. 31/100,000). These COVID-19 outcomes mirror a century of disparities in health outcomes, including mortality rates for Black people versus White people. Even amid COVID-19, in the United States, the White mortality rate in 2020 is likely to be less than the Black mortality rate during non-pandemic years. Second

## A Way Forward: Action, Not Discussion, Is Required

In our various roles within health sciences education, quality improvement, health care delivery, and scientific discovery, we in academic medicine have a responsibility to our community to address the problem of racism in medicine. Remaining silent signals that we acquiesce to the status quo and that we are complicit in the denial of rights and privileges that result in the exclusion of some members of our communities.

Because violence is expressed on individual, structural, and symbolic levels, dismantling systemic racism will require individual and collective action across groups and communities to create new antiracist structures within our academic health centers.<sup>59</sup> Below, we offer potential courses of action at each of these levels to stimulate thinking on how each of us can contribute to actionable change.

#### **Individual actions**

Each member of the academic medicine community should readily acknowledge that it is not only the system that must change but also the individuals who exist within it. We must all develop new ways of thinking, seeing, and behaving to do our part to mitigate systemic racism. We recommend the following individual actions:

- Embrace a growth mindset<sup>60</sup> by continuing to participate in allyship, implicit bias, and bystander training to learn to recognize and appropriately respond to acts of discrimination.<sup>61</sup>
- Practice empathy and humility and work towards justice within our spheres of influence.
- Hold each other accountable for racist comments or behaviors.
- Invite early-career faculty and trainees into the discussion to include diverse intergenerational views and foster challenges to the status quo. 17,62
- Allocate resources to support organizations dedicated to advancing Black inclusion and success in medicine, such as the National Medical Association and Student National Medical Association.

#### Structural actions

Our institutions also can do more to address systemic racism in the clinical and learning environments. The White Coats for Black Lives movement has demonstrated that, like society at large, our academic health centers have much work to do to end racism against Black people. Institutions must move beyond discussing the problem and waiting for the "right" data to confirm its magnitude. Action is needed *now*. Many of our recommendations for structural actions can be administered through existing diversity, equity, and inclusion frameworks; however, they will only be successful if all parts of the institution adopt new ways of operating and assess all that we do, at both the grassroots and leadership levels. We recommend the following structural actions:

- Examine policies and processes to ensure they are free of implicit bias and racism and they support equity.
- Track and report the diversity of leadership, faculty, and staff and compare it to community demographics.
- Support recruitment, retention, and leadership development activities for trainees, faculty, and staff from backgrounds underrepresented in medicine.
- Engage in dialogue with faculty and staff to understand the climate at each institution and to identify opportunities to change the culture.
- Identify metrics of inclusion that can be used to support faculty promotion and tenure.
- Examine and restructure curricula to ensure that didactic and case-based learning materials are free of racial bias.

- Include advocacy training for trainees and pivot the dialogue about the social determinants of health from a victim-blaming orientation toward structural change to better support Black communities.<sup>9,65</sup>
- Adopt participatory community engagement principles to ensure that Black populations
  have access to, and can critique, the patient care and research conducted in their
  communities, especially those communities in which academic health centers are located.
- Use the impact of an institution on the health and flourishing of the community in which it is located as a true measure of its reputation and performance.<sup>66</sup>
- Include the amelioration of health disparities as a variable for accreditation or hospital ranking in *U.S. News & World Report*, Vizient, Inc., or other national ranking reports.

## Academic medicine community actions

The Association of American Medical Colleges (AAMC) represents 172 U.S. and Canadian medical schools and more than 400 teaching hospitals and stands as the voice for the profession. We as a community must reflect on the policies, procedures, and processes of the AAMC that may have contributed to the current clinical and learning environments. We call on the AAMC to create a diverse and inclusive commission to examine the profession's past, acknowledge where it has fallen short of the ideals of medicine, apologize if warranted, and identify actions that will lead to wholeness and reconciliation. We also recommend that as community we come together to:

 Introduce systems-level policies and data collection practices to steer our institutions towards better health outcomes for Black people and other groups underrepresented in medicine.

- Adopt implementation science and quality improvement methods to create new antiracism structures and processes.
- Identify new resources to recruit and retain trainees and faculty from groups underrepresented in medicine.
- Reallocate funds currently used for exclusive events, such as annual awards celebrations,
   to benefit more members of the community.
- Report outcomes data on faculty and trainees stratified by race/ethnicity to identify where disparities exist and to guide efforts to close gaps.<sup>67,68</sup>
- Acknowledge historical institutional injustices and translate those into appropriate
  actionable amends (e.g., student scholarships, leadership development programs, or other
  financial support).<sup>69,70</sup>
- Require that panelists and speakers be from diverse backgrounds to ensure Black physicians have access to these opportunities.

Ultimately, the physicians, scientists, administrators, educators, staff, and trainees who make up the academic medicine community are responsible for bringing about change in the profession. Now more than ever, current and future health care providers are called to be "trained troops and not raw recruits" in the fight against racism in medicine. All of us must engage in antiracism efforts. It will require our commitment, courage, and a willingness to look at the problem of racism clearly, to embrace difficult truths, discomfort, and pain, to learn from students, communities, activists, and each other in order to bend the arc of the moral universe towards freedom, justice, and health.

#### References

- Wear D, Zarconi J, Aultman JM, Chyatte MR, Kumagai AK. Remembering Freddie Gray: Medical education for social justice. Acad Med. 2017;923:312-317.
- Yancy CW. Academic medicine and Black Lives Matter: Time for deep listening. JAMA. 2020;324:435-436.
- Philimon W. Not just George Floyd: Police departments have 400-year history of racism.
   USA Today. Published June 7, 2020.
   https://www.usatoday.com/story/news/nation/2020/06/07/black-lives-matters-police-departments-have-long-history-racism/3128167001/. Accessed September 3, 2020.
- 4. Edwards F, Lee H, Esposito M. Risk of being killed by police use of force in the United States by age, race-ethnicity, and sex. Proc Natl Acad Sci U S A. 2019;116:16793-16798.
- Kish-Gephart JJ, Harrison DA, Treviño LK. Bad apples, bad cases, and bad barrels: Metaanalytic evidence about sources of unethical decisions at work. J Applied Psych. 2010;95:1-31.
- 6. Institute of Medicine. Unequal Treatment: Confronting Racial and Ethnic Disparities in Health Care, Washington, DC: The National Academies Press; 2003.
- 7. Report of the Secretary's Task Force on Black and Minority Health. Washington, DC: U.S. Department of Health and Human Services; 1985.
- 8. Bourdieu P, Thompson JB. Language and Symbolic Power. Cambridge, MA: Harvard University Press; 1991.
- 9. Sharma M, Pinto AD, Kumagai AK. Teaching the social determinants of health: A path to equity or a road to nowhere? Acad Med. 2018;93:25-30.

- 10. Flexner A. Medical Education in the United States and Canada: A Report to the Carnegie Foundation for the Advancement of Teaching. Bulletin No. 4. Boston, MA: Updyke; 1910.
- 11. Johnston GA. The Flexner Report and Black medical schools. J Natl Med Assoc. 1984;76: 223-225.
- 12. Miller LE, Weiss RM. Revising Black medical school extinctions. J Hist Med Allied Sci. 2012;67:217-243.
- 13. Harley EH. The forgotten history of defunct Black medical schools in the 19th and 20th centuries and the impact of the Flexner Report. J Natl Med Assoc. 2006;98:1425-1429.
- 14. American Medical Association. The history of African Americans and organized medicine.

  AMA History. January 24, 2020. https://www.ama-assn.org/about/ama-history/history-african-americans-and-organized-medicine. Accessed August 26, 2020.
- 15. Washington HA, Baker RB, Olakanmi O, et al. Segregation, civil rights, and health disparities: The legacy of African American physicians and organized medicine, 1910-1968.
  J Natl Med Assoc. 2009;101:513-527.
- 16. Ansell DA, McDonald EK. Bias, Black lives, and academic medicine. New Engl J Med. 2015;372:1087-1089.
- 17. Issaka RB. Good for us all. JAMA. 2020;324:556-557.
- 18. Montenegro RE. My name is not "interpreter." JAMA. 2020;323:1700-1701.
- Tweedy D. Black Man in a White Coat: A Doctor's Reflections on Race and Medicine.
   London, England: Picador; 2015.
- 20. Green CR, McCullough WR, Hawley JC. Visiting Black patients: Racial disparities in security standby requests at an academic medical center. J Natl Med Assoc. 2018;110:37-43.

- 21. Nivet MA. Minorities in academic medicine: A review of the literature. J Vasc Surgery. 2010;51:53S-58S.
- 22. Xierali IM, Fair MA, Nivet MA. Faculty Diversity in U.S. Medical Schools: Progress and Gaps Coexist. Analysis in Brief. 2016;1-3.
- 23. Fischbach RL, Hunt M. "Behind every problem lies an opportunity": Meeting the challenge of diversity in medical schools. J Womens Health Gend Based Med. 1999;8:1240-1247.
- 24. Terrell C, Beaudreau J. 3000 by 2000 and beyond: Next steps for promoting diversity in the health professions. J Dental Educ. 2003;67:1048-1052.
- 25. Nickens HW, Ready TP, Petersdorf RG. Project 3000 by 2000 -- Racial and ethnic diversity in U.S. medical schools. N Engl J Med. 1994;331:472-476.
- 26. Association of American Medical Colleges. Figure 15. Percentage of full-time U.S. medical school faculty by race/ethnicity, 2018. Published December 31, 2018.
  https://www.aamc.org/data-reports/workforce/interactive-data/figure-15-percentage-full-time-us-medical-school-faculty-race/ethnicity-2018. Accessed September 3, 2020.
- 27. Filut A, Carnes M. Will losing Black physicians be a consequence of the COVID-19 pandemic? [published online ahead-of-print July 28, 2020]. Acad Med.
- 28. Campbell KM, Hudson BD, Tumin D. Releasing the net to promote minority faculty success in academic medicine. J Racial Ethn Health Disparities. 2020;7:202-206.
- 29. Carson TL, Aguilera A, Brown SD, et al. A seat at the table: Strategic engagement in service activities for early-career faculty from underrepresented groups in the academy. Acad Med. 2019;94:1089-1093.

- 30. Osseo-Asare A, Balasuriya L, Huot SJ, et al. Minority resident physicians' views on the role of race/ethnicity in their training experiences in the workplace. JAMA Netw Open. 2018;1:e182723.
- 31. Rodríguez JE, Campbell KM, Pololi LH. Addressing disparities in academic medicine: What of the minority tax? BMC Med Educ. 2015;15:6.
- 32. Campbell KM, Corral I, Linares JLI, Tumin D. Projected estimates of African American medical graduates of closed historically Black medical schools. JAMA Netw Open. 2020;3:e2015220.
- 33. Fanon F. Black Skin, White Masks. New York, NY: Grove Press; 1952.
- 34. Poon S, Nellans K, Rothman A, et al. Underrepresented minority applicants are competitive for orthopaedic surgery residency programs, but enter residency at lower rates. J Am Acad Orthop Surg. 2019;27:e957-e968.
- 35. Gregg J, Saha S. Losing culture on the way to competence: The use and misuse of culture in medical education. Acad Med. 2006;81:542-547.
- 36. Beagan BL. 'Is this worth getting into a big fuss over?' Everyday racism in medical school. Med Educ. 2003;37:852-860.
- 37. Hoffman KM, Trawalter S, Axt JR, Oliver MN. Racial bias in pain assessment and treatment recommendations, and false beliefs about biological differences between blacks and whites.

  Proc Natl Acad Sci U S A. 2016;113:4296-4301.
- 38. McFarling UL. Dermatology faces a reckoning: Lack of darker skin in textbooks and journals harms care for patients of color. STAT. July 21, 2020.
  https://www.statnews.com/2020/07/21/dermatology-faces-reckoning-lack-of-darker-skin-intextbooks-journals-harms-patients-of-color/. Accessed August 26, 2020.

- 39. Nolen L. How medical education is missing the bull's-eye. N Engl J Med. 2020;382:2489-2491.
- 40. Harris S. Medical Student Creates Handbook of Critical Signs on Black and Brown Skin. Medscape. Published July 14, 2020. https://www.medscape.com/viewarticle/933875. Accessed September 4, 2020.
- 41. Nieblas-Bedolla E, Christophers B, Niknski NT, Schumann PD, Stein, E. Changing how race is portrayed in medical education: Recommendations from medical students [published online ahead-of-print May 5, 2020]. Acad Med.
- 42. Skloot R. The Immortal Life of Henrietta Lacks. New York, NY: Crown Publishing; 2010.
- 43. Hoppe TA, Litovitz, A, Willis KA, et al. Topic choice contributes to lower rate of NIH awards to African-American/Black scientists. Sci Adv. 2019;5:eaaw7238.
- 44. Ginther DK, Schaffer WT, Schnell J, et al. Race, ethnicity and NIH research awards. Science. 2011;333:1015-1019.
- 45. Hofstra B, Kulkarni VV, Munoz-Najar Galvez S, He B, Jurafsky D, McFarland DA. The diversity–innovation paradox in science. Proc Natl Acad Sci U S A. 2020;117:9284-9291.
- 46. Bickler PE, Feiner JR, Severinghaus JW. Effects of skin pigmentation on pulse oximeter accuracy at low saturation anesthesiology. 2005;102:715-719.
- 47. Moran-Thomas A. How a popular medical device encodes racial bias. Boston Review. August 5, 2020. http://bostonreview.net/science-nature-race/amy-moran-thomas-how-popular-medical-device-encodes-racial-bias. Accessed August 26, 2020.
- 48. Obermeyer Z, Powers B, Vogeli C, Mullainathan S. Dissecting racial bias in an algorithm used to manage the health of populations. Science. 2019;366:447-453.

- 49. Behera A, Tan J, Erickson H. Diversity and the next generation of physician scientists. J Clin Transl Sci. 2019;3:47-49.
- 50. King CJ, Redwood, Y. The health care institution, population health and Black lives. J Natl Med Assoc. 2016;108:131-136.
- 51. Liao Y, Bang D, Cosgrove S, et al. Surveillance of health status in minority communities --Racial and Ethnic Approaches to Community Health Across the U.S. (REACH U.S.) Risk
  Factor Survey, United States, 2009. MMWR Surveill Summ. 2011;60:1-44.
- 52. Blumenthal D, Fowler EJ, Abrams M, Collins SR. COVID-19 Implications for the health care system [published online ahead of print July 23, 2020]. N Engl J Med.
- 53. Price-Haywood EG, Burton J, Fort D, Seoane L. Hospitalization and mortality among Black patients and White patients with COVID-19. N Engl J Med. 2020;382:2534-2543.
- 54. Gold JAW, Wong KK, Szabelwski CM, et al. Characteristics and clinical outcomes of adult patients hospitalized with COVID-19 Georgia, March 2020. MMWR Morb Mortal Wkly Rep. 2020;69:545-550.
- 55. The COVID Tracking Project. The Atlantic. covidtracking.com. Accessed August 11, 2020.
- Coronavirus (COVID-19). Centers for Disease Control and Prevention.
   https://www.cdc.gov/coronavirus/2019-ncov/index.html. Accessed August 11, 2020.
- 57. Oppel Jr. RA, Gebeloff R, Lai KKR, Wright W, Smith M. The fullest look yet at the racial inequity of coronavirus. The New York Times. July 5, 2020.
  https://www.nytimes.com/interactive/2020/07/05/us/coronavirus-latinos-african-americans-cdc-data.html. Accessed August 11, 2020.
- 58. Wrigley-Field E. US racial inequality may be as deadly as COVID-19. Proc Natl Acad Sci U S A. 2020;24:202014750.

- Deming WE. The New Economics: For Industry, Government, Education. 2nd ed.
   Cambridge, MA: MIT Press; 2000.
- 60. Dweck CS. Mindset: The New Psychology of Success. New York, NY: Random House; 2006.
- 61. Ashburn-Nardo L, Morris KA, Goodwin SA. The confronting prejudiced responses (CPR) model: Applying CPR in organizations. Acad Manage Learn Educ. 2017;7:332-342.
- 62. Doll KM, Thomas CR, Jr. Structural solutions for the rarest of the rare Underrepresented-minority faculty in medical subspecialties. N Engl J Med. 2020;383:283-285.
- 63. White Coats For Black Lives. About WC4BL. https://whitecoats4blacklives.org/about/.
  Accessed August 26, 2020.
- 64. Charles D, Himmelstein K, Keenan W, Barcelo N. White Coats for Black Lives: Medical students responding to racism and police brutality. J Urban Health. 2015;92:1007-1010.
- 65. Berwick DM. The moral determinants of health, JAMA. 2020;324:225-226.
- 66. Mullan F, Chen C, Petterson S, Kolsky G, Spagnola M. The social mission of medical education: Ranking the schools. Ann Intern Med. 2010;152:804-811.
- 67. Kaplan SE, Raj A, Carr PL, Terrin N, Breeze JL, Freund KM. Race/ethnicity and success in academic medicine: Findings from a longitudinal multi-institutional study. Acad Med. 2018;93:616-622.
- 68. Lett LA, Orji WU, Sebro R. Declining racial and ethnic representation in clinical academic medicine: A longitudinal study of 16 US medical specialties. PLoS One. 2018;13:e0207274.
- 69. Swarns RL. Is Georgetown's \$400,000 plan to aid slave descendants enough? The New York Times. October 30, 2019. https://www.nytimes.com/2019/10/30/us/georgetown-slavery-reparations.html. Accessed August 26, 2020.

- 70. Ci Corpo R. Georgetown reparations plan for slaves sold by university draws criticism from students. America: The Jesuit Review. November 4, 2019.
  https://www.americamagazine.org/politics-society/2019/11/04/georgetown-reparations-plan-slaves-sold-university-draws-criticism. Accessed August 26, 2020.
- 71. Editorial: SNMA portends a great future for NMA. J Natl Med Assoc. 1975;67:318,334.
- 72. Parker T. Ten Sermons of Religion. III. Of Justice and the Conscience. In: The Collected Works of Theodore Parker. Cobbe FP, ed. London, England: Trübner & Co, Ludgate Hill; 1879.