

Moving Beyond Bias in Practice and Medical Education

Sarina Schragger, MD, MS

(Fam Med. 2022;54(6):425-6.)

doi: 10.22454/FamMed.2022.648268

W.E.B. Du Bois was an American sociologist. He was the first African American to earn a PhD from Harvard and was a cofounder of the National Association for the Advancement of Colored People (NAACP). He wrote a collection of essays in 1903 called *The Souls of Black Folk* that denounced the idea of White Americans being genetically superior to Black Americans.¹ In 1906, Du Bois wrote that social determinants of health were the real cause of disparities in health between African American and White Americans, not race or any other biological variables.² One hundred years later, the full sequencing of the human genome proved him correct when it demonstrated that all humans (regardless of race or ethnicity) shared 99.99% of their genetic material.³ This begs the question, why are we still talking about race as a biological variable causing disease when the genetic differences between races encompasses only 0.01% of the complete human genome?

We practice medicine by making treatment decisions based on evidence and clinical experience. We teach medical students and residents to do the same. Health care professionals make hundreds of decisions each day using our knowledge and expertise. We know that biases may affect how we make decisions. Many still consider race and ethnicity biological variables in medicine despite strong evidence to the contrary.

Race-based medicine, defined as the use of race as a biological variable to explain incidence or prevalence of a disease, perpetuates damaging diagnostic inaccuracies and treatment decisions in clinical practice.⁴ Race is a social variable, not a biologic one. Using race

as a predictor of disease deemphasizes the role of the social determinants of health that explain many of the racial and health disparities prevalent in our society. By ignoring the social determinants of health that cause a condition, one may reinforce racism by identifying race as the cause of the relationship instead of the factors that actually are implicated as causing disease (eg, poverty, food insecurity, and racism). Further, by ignoring the potentially mitigatable factors (ie, the social determinants of health) that cause increased incidence of disease and replacing them in our minds with race as a biological variable (a nonmitigatable variable), we miss an opportunity to meaningfully address the true, underlying cause of the disease.⁵

In this issue, David Henderson, MD, discusses the history of race-based medicine and presents a structure to evaluate new knowledge. His paper reviews how over the last 200 years race as a biological variable has supplanted social determinants of health as a cause of disease. He states,

In science, there is no answer that does not begin with a prior question. If the question is tainted with bias, reason, mathematics, and statistics have no means of eliminating such a seminal cognitive error.⁶

In discussing the epistemology of knowledge about race, he explores where beliefs originate and addresses inherent biases that

From the Department of Family Medicine and Community Health, University of Wisconsin School of Medicine and Public Health, Madison, WI

are prevalent in medical care. Implicit bias is defined as an unconscious stereotype or attitude toward another person based on personal characteristics such as their race, ethnicity, level of disability, sexual orientation, or social situation. A clinician sees a patient and has an inherent positive or negative attitude toward that patient, based on systemic stereotypes. Implicit bias is as prevalent in clinicians as it is in the general population and causes significant harm to people of color within the medical system.⁷ To date, research has not discovered effective methods to undo implicit bias.⁸

This issue of *Family Medicine* also includes several papers exploring the scope of family medicine and efforts to teach procedures in family medicine residencies. A generalist scope of practice is one of the foundational tenets of family medicine. With increasing specialization in health care and the explosion of new information, fewer new physicians are practicing the full spectrum of family medicine that includes in-patient care and obstetrics.⁹ The study by Grierson et al.¹⁰ is a secondary analysis of interviews with 48 family physicians in Canada who pursued Certificates of Added Competence (similar to Certificates of Added Qualifications in the United States). These interviews explored the motivations for pursuing extra training and found it was often to address a community health need or to have their individual expertise more highly valued. The added training often took them away from generalist care.¹⁰ A paper by Patel et al reports the results of a Council of Academic Family Medicine Educational Research Alliance (CERA) study looking at vasectomy training in family medicine residencies and found less than 10% of programs surveyed offered significant training to residents.¹¹ Sebastian and colleagues found that a virtual training model could be effective for increasing participants' comfort levels with intrauterine device insertions.¹² Ferderber et al measured the frequency that family medicine residents performed musculoskeletal injections and found that residents who pursued a sports medicine track performed higher numbers of injections than other residents.¹³ These papers study the balance of full-spectrum family medicine versus specialization and the complexities of ensuring a comprehensive education that includes procedural training for all family medicine residents.

The separate issues of implicit bias and specialization are two important challenges for family medicine educators to explore in the years to come.

References

1. Du Bois WEB. *The Souls of Black Folks: Essays and Sketches*. Chicago: A.C. McClurg & Co; 1903.
2. Du Bois WEB. *The Health and Physique of the Negro American*. Publication no. 11, Atlanta University Publications. Atlanta, GA; 1906.
3. Yudell M, Roberts D, DeSalle R, Tishkoff S. Science in Society. Taking race out of human genetics. *Science*. 2016;351(6273):564-565. doi:10.1126/science.aac4951
4. Reddick B. Fallacies and dangers of practicing race-based medicine. *Am Fam Physician*. 2021;104(2):122-123.
5. Lett E, Asabor E, Beltrán S, Cannon AM, Arah OA. Conceptualizing, contextualizing, and operationalizing race in quantitative health sciences research. *Ann Fam Med*. 2022;20(2):157-163; Epub ahead of print. doi:10.1370/afm.2792
6. Henderson D. Toward a new epistemology for medical science. *Fam Med*. 2022; 54(6):427-430.
7. Hall WJ, Chapman MV, Lee KM, et al. Implicit racial/ethnic bias among health care professionals and its influence on health care outcomes: a systematic review. *Am J Public Health*. 2015;105(12):e60-e76. PMID:26469668 doi:10.2105/AJPH.2015.302903
8. Ricks TN, Abbyad C, Polinard E. Undoing racism and mitigating bias among healthcare professionals: lessons learned during a systematic review. *J Racial Ethn Health Disparities*. 2021:1-11; Epub ahead of print. doi:10.1007/s40615-021-01137-x
9. Weidner AKH, Chen FM. Changes in preparation and practice patterns among new family physicians. *Ann Fam Med*. 2019;17(1):46-48. doi:10.1370/afm.2337
10. Grierson L, Allice I, tong C, Siu H, Mountjoy M, Howard M, Guscott J, Farhan A, Baker A, Vanstone M. Motivations for pursuing enhanced skill credentials in family medicine: a study of the Certificates of Added Competence in Canada. *Fam Med*. 2022; 54(6):431-437.
11. Patel J, Nguyen B, Shih G, Or M, Harper D. Vasectomy training in family medicine residency programs: a national survey of residency program directors. *Fam Med*. 2022;54(6):438-443.
12. Sebastian R, Robinson J, Rayburn E, et al. Virtual intrauterine device training improves clinician comfort. *Fam Med*. 2022; 54(6):452-456.
13. Ferderber M, Adams A, Urbanek C, Cummings D. Musculoskeletal injections performed by family medicine residents participating in a clinical sports medicine track. *Fam Med*. 2022;54(6):457-460.