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## MEDICAL EDUCATION

### Education to Identify and Combat Racial Bias in Pain Treatment

Brian B. Drwecki, PhD

Reducing racial bias in pain treatment is a laudable and feasible goal that requires attention to and management of health care professionals' self-concept; an interdisciplinary approach to research that bridges knowledge and expertise across multiple fields; and a medical education system primed to take advantage of its unique position at the heart of health care professional formation and development. This paper provides support for a more complex understanding of the social and psychological factors driving racial bias in medicine and pain treatment, presents evidence that reducing racial biases is possible, and considers medical education's role in doing so.

### Health Care Disparities Persist

Research indicates that health care disparities are, in part, driven by factors beyond health care professionals' control. For example, pharmacies in African American communities are less likely to carry certain analgesics [1, 2]; discrimination in the job market [3, 4] has made African Americans less able than members of other groups to purchase health care services [5]; and patient attitudes toward use of the health care system differ across racial and ethnic lines [6]. However, other factors, like decision-making processes, clearly are under the control of health care professionals. For example, members of minority groups have longer wait times in the ER [7-9], are less likely to receive catheterization when identical expressions of chest pain are presented [10], and are less likely to be recommended for evaluation at a transplant center or be placed on a transplant waiting list when suffering from end-stage renal disease [11]. African Americans receive lower-quality pain treatment [12, 13], even when covered by the same medical insurance [14, 15] and seeking treatment at the same emergency department [16] as patients of other races. Furthermore, it is important to note that individual-level biases are particularly apparent in experimental investigations in which race is systematically varied and health care professionals and students decide to provide lower-quality treatment to patients from racial minority groups [10, 17]. Clearly, racial bias in health care is not simply a function of uncontrollable, institutional biases—individuals' decision-making processes are also at play. Bearing in mind the familiar saying, "Focus on what you can control, not what you cannot," how can health care professionals mitigate racial health care disparities and the biases that drive them?

### Default Strategies for Addressing Bias May Be Ineffective

Research indicates that most Americans possess an egalitarian, nonprejudiced self-concept [18]. However, feedback indicating that one's responses may be racially biased causes guilt and self-criticism [19] and in some cases creates withdrawal motivations that make people less likely to confront and ameliorate their racial prejudice [20-22]. In other cases, however, when people are made aware of potential interventions for reducing their

own racial bias, they engage with them [19, 20]. Recent research indicates that individuals expend energy when interacting with a person from a different race in an attempt to reduce prejudicial behaviors [23]. Unfortunately, these natural efforts at prejudice reduction (i.e., exerting willpower to suppress biased impulses) are not effective and can lead to greater expression of prejudice in the long run [24].

Health care professionals and students most likely share these aforementioned self-concepts and problems with prejudice, and it is possible that information regarding racial disparities in health care can lead these professionals to (a) protect their self-concepts by withdrawing and ignoring or denying their own biases or (b) attempt to reduce prejudice using ineffective methods. Both of these responses make it difficult for health care professionals and students to learn effective methods for controlling racial biases that are all too common in American society.

### Racial Bias is Common

Research has unearthed evidence of racial bias in almost every important social institution—not only health care [7–17] but also education [25, 26], policing and the justice system [27], National Institutes of Health reviewer decision making [28], employee hiring and callback decisions [4], business loan approval decisions [29], car price negotiations [30], and professional sports—it has been documented that Major League Baseball umpires exhibit racial bias in calling balls and strikes [31] and that National Basketball Association referees exhibit racial bias in calling fouls [32]. Racial bias is clearly not only a problem for the health care system.

Although many people believe modern prejudice is limited to a few misguided individuals, recent research indicates that a vast majority of people harbor implicit, nonconscious racial biases [33, 34], and these biases have been shown to affect behavior in general [35] as well as health care decision making specifically [36]. Racial bias apparently permeates America's most important social institutions and influences the minds of its citizens. Health care professionals and students are not immune to these effects, and experimental and correlational studies support this claim. For example, African American actors portraying the same symptoms of chest pain to physicians were less likely to receive catheterization than European American actors [10], an experiment which illustrates that patient race directly influenced these very important treatment decisions. In a similar experimental study, nursing students provided lower quality pain treatment to African Americans than whites after viewing short video clips of real patients expressing real pain [17]. Patient race influenced how these nursing students decided to treat their patients. Evidence of the effects of bias also comes from a study of real-world treatment decisions involving end-stage renal disease in which physicians were 20 to 23 percent less likely to refer black patients than white patients for a transplant evaluation [11].

### Are Health Care Professionals Racist?

Some will conclude from the last section that health care professionals (and Americans in general) are racist. This assertion is unwarranted considering the connotations and history of this term. "Racism" is generally used to refer to active, willful acts of discrimination and harm. It would be a mistake to conclude that racial disparities in medicine are purposefully propagated. A more guarded evaluation is supported by research indicating that

contemporary racial bias in the US is largely nonconscious. That is, most individuals who are biased are unaware of their biases, and, if given a choice, would not consciously harm others [37-40]. And, while health care professionals most likely engage in the same self-concept protection as the rest of the populace, it is unlikely that they are aware of their own personal biases or the institutional-level biases within the health care system [41], much less that they intend to harm their patients. Nonetheless, the withdrawal and avoidance tendencies described above may lead health care professionals to disengage and ignore this very serious problem even though their perspectives are needed to develop solutions for reducing health care disparities that affect the lives of millions of Americans.

#### Racial Bias Can Be Reduced and Eliminated

What actions can be taken to reduce the effects of racial bias in health care professions? Social psychology research provides evidence that reducing racially biased behaviors, emotions, and thoughts is possible. For example, one of the most effective methods for reducing prejudice is equal-status contact, which involves members from different racial and ethnic groups interacting as equals in situations of shared power [42, 43]. As early as 1958, Muzafer Sherif showed that (a) competition and power differentials can lead to intergroup prejudices and (b) cross-group cooperation toward superordinate goals that appeal to individuals from two competing groups but cannot be accomplished without cooperation between them can eliminate these tendencies [44]. In the late 1970s, these findings were used to successfully reduce racial tensions in an Austin, Texas, school district [45]. Subsequent research indicates that equal-status contact has numerous benefits: it reduces stereotyping and engenders empathy, understanding, and perceptions of equality [46].

In addition to equal-status contact, numerous other methods exist for successfully reducing racial biases [47]. For example, interventions as simple as exposure to counter-stereotypic African American exemplars, competing on teams with members of other groups, and repeatedly practicing associating positive words with members of other racial groups were all shown to successfully reduce nonconscious biases, across multiple labs [47]. Clearly, racial biases can be untrained.

Now, the question remains, will these interventions prove successful in reducing racial biases in health care? In my own research using a perspective-taking intervention, nursing students in the experimental group were simply asked to “attempt to imagine how each of your patients feels while you are examining them” while engaged in a treatment simulation [17]. The disparity between the experimental group’s pain treatment of African Americans and whites was approximately 50 percent lower than that of nurses in the control group. Racial bias can clearly be reduced in medical decision making as well.

#### Required Factors for Studying and Reducing Bias in Medical Education: Collaboration, Data, and Time

Racial health care disparities are a reality, and it is this author’s opinion that the racial biases of health care professionals are driving numerous health care disparities. Some of the research presented in the previous sections supports this claim; however, I also acknowledge that more definitive evidence is needed to support it. Nonetheless, the infrastructure does not currently exist to examine this question, let alone develop

interventions capable of eliminating the racial biases that we know exist. In the paragraphs that follow, I argue that medical education is in a prime position to develop this infrastructure, which will require collaboration, data, and time.

*Collaboration.* Satisfactory experimental evidence of the effectiveness of potential bias-reducing interventions in real-life clinical settings necessitates research with health care professionals and students. Conducting studies of this nature requires access to health care professionals, a health care facility, measures of health care professional behavior and patient pain, and, of course, funding; in sum, research of this nature requires collaboration across multiple fields. The only way that, as a graduate student in psychology at the University of Wisconsin-Madison, I was able to begin my research into racial biases of nursing students when delivering pain treatment was through a collaborative effort with Sandra Ward and the University of Wisconsin-Madison School of Nursing. Cross-discipline collaborations like these are needed if we hope to succeed in reducing racial health care disparities.

*Data.* It appears that very few medical education programs currently collect the data necessary to understand and ameliorate racial disparities. One potential solution is participant research pools. In general, a participant pool is simply a sample of convenience developed by providing students academic credit for participation in research studies. This common practice in psychology departments across the country provides a cost-effective method for testing hypotheses about human behavior [48]. If medical schools, nursing schools, and other health-oriented education programs required students to participate in these subject pools, two specific advantages could be gained. First is the scientific advantage of being better able to examine hypotheses regarding myriad medical decision-making processes (including the effects of racial bias). Second are the pedagogical advantages of (a) identifying areas of improvement and (b) testing the efficacy of interventions aimed at remediating the identified problem. For example, a medical school could test for racial bias in its students, and, if biases are found, develop effective interventions in collaboration with social scientists.

*Time.* It goes without saying that academicians, administrators, and educators in all fields are overworked. Discovering the causes of racial biases, testing potential solutions, and then implementing curriculum changes require even more work for the faculty and students involved. Nonetheless, it is important work to accomplish, and colleagues in the social sciences could be of use here. Specifically, for many of us, this type of research does not present an additional burden but rather an opportunity to (a) conduct the highest-quality work in an area that we find fascinating and (b) work to ameliorate an unsettling social problem. Administrators and health care education professionals must apply time and resources to this important social problem. Racial bias in treatment decisions can be solved with collaboration, data, and time.

## Conclusion

Racial disparities in health care and pain treatment are real. Patients are suffering, and research indicates that racial bias permeates American society. Prejudice of the nonconscious sort is the rule, not the exception. Although people have a tendency to avoid

confronting their own biases and do not know how to ameliorate them, evidence from the social sciences suggests that racial biases can be reduced.

Nonetheless, the infrastructure required to systematically examine and develop interventions capable of reducing the racial biases of health care students and professionals is not currently in place. Collaboration, data, and time are needed to solve this problem. Medical education is the vehicle of health care professional formation and development, and this vehicle may prove to be the most valuable tool in reducing racial bias in one of America's most important social institutions. Although racial bias is intertwined with numerous facets of American culture and society, medical education can hold itself to a higher standard and provide a model for other social institutions in which racial bias exists. Whether or not readers agree with the mechanisms of change proposed in this article, we can all agree that the stakes for patients are great and that changes are needed.

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**Brian B. Drwecki, PhD**, is an assistant professor in the Department of Psychology and Neuroscience at Regis University in Denver, Colorado. He received his doctorate in social psychology from the University of Wisconsin-Madison. His research focuses on the

psychology of racial bias and prejudice in American social institutions, including their effects on medical decision making.

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