The growing body of literature illustrating the negative impact of racial bias on clinical care has led to an increase in the number of medical schools implementing curricular changes to educate on racial health disparities. However, most attempts to educate on racial health disparities focus on transferring knowledge rather than fostering the development of skills to understand one’s own bias or address bias and racism in the clinical setting. To address this, we developed a small-group, case-based curriculum for rising third-year medical students.

**Methods:** This session was designed to be delivered in concurrently run, 1-hour small-group sessions, with each small group ideally comprising no more than 10 students and one facilitator. The curriculum was integrated into an existing 3-week clerkship preparation course for 122 students during the 2015-2016 academic year. The session materials include a facilitator’s guide and three cases for discussion.

**Results:** The session was evaluated using a 6-point Likert scale (1 = poor, 6 = exceptional). Students rated this session overall a 4.28 out of 6 (N = 79). Qualitative feedback varied, with the most common theme focusing on the need for more time to discuss this topic.

**Discussion:** Though one session before starting clinical clerkships is not enough to maintain the practice of sustained critical thinking regarding bias and racism in clinical medicine, this session is a starting point for curriculum developers looking to use an evidence-based approach to racial bias in clinical care.

**Keywords**
Health Disparities, Race, Clinical Education, Racial Disparities, Structural Competency

**Educational Objectives**
By the end of this session, the learner will be able to:

1. Describe how bias and racism impact common clinical scenarios that medical students may experience in the clinical setting.
2. Apply concepts discussed in the literature related to bias and racism as a means for understanding why these clinical scenarios may occur.
3. Develop strategies for discussing race in the clinical setting, including with residents and attendings, without putting students at risk of compromising feedback and evaluation processes.

**Introduction**
For several years, researchers have documented the impact of racism and bias on the health of patients of color, as well as the contributions of racism and bias to national health disparities both past and present. There have been many efforts by medical students, residents, and academic faculty to acknowledge racism and bias in medicine and to work to address them. A major barrier to this effort within medical schools is the lack of required, structured curricula.

A number of studies have demonstrated that physicians are implicitly biased, which is likely to impact their decision-making. It is unclear, however, whether this implicit bias develops specifically during their medical training or at some other point in their lives. One study documented that first-year medical students’ implicit bias test scores showed preferences for white people and people of higher
socioeconomic class. However, measured bias was not associated with their clinical assessments of written patient vignettes. A limitation to this study is that it examined student bias prior to adequate clinical exposure. Another study showed implicit bias was higher among third- and fourth-year students compared to first-year students, but this difference was not statistically significant. A recent study prompted national attention when it found that half of surveyed medical students and residents held false beliefs about the biological differences between black and white patients, which influenced their pain ratings of and treatment plans for black patients.

Historically, medicine has addressed issues of diversity through cultural competence curricula. These lessons often focused on teaching cultural practices that might impact patients’ behavior, health, or interactions with physicians. However, cultural competence often oversimplifies culture and has been critiqued for promoting stereotyping, ignoring the provider’s role in bias, and overlooking the impacts of structural inequalities. A newer movement called structural competency is gaining momentum among educators and social scientists as an alternative teaching framework.

Structural competency is the ability to identify how disease and symptoms are informed by access to health care and food, urban zoning, racism, and educational systems. In our review of MedEdPORTAL publications, we found only a few established curricula using a structural competency approach to teaching about bias and health disparities. Updated curricula that focus on structural determinants of health to understand practitioners’ own role in clinical bias and racism are currently lacking in medical education training paradigms. This curriculum intends to use the structural competency framework to understand health disparities and how they impact trainees and patients in the clinical environment.

At the Warren Alpert Medical School (AMS) of Brown University, curricular reform to implement a structural competency focus was undertaken in fall of 2015. During orientation, students participate in an event that includes a local tour of neighborhoods and nonprofits to better understand local health disparities and available resources. In the first-year curriculum, students watch part of a documentary, Race: The Power of an Illusion, which discusses the social, economic, and political contributions to the conception of race and disproves many biological explanations. Students also read Blindspot: Hidden Biases of Good People, a book on the psychology of bias. Second-year students receive lectures by faculty with prior experience in health disparities research and take part in small-group sessions on bias and structural racism as part of their required clinical skills training course.

Like many schools, AMS has undertaken the necessary restructuring of preclinical curricula to incorporate race and bias; however, the emphasis was initially on providing students with knowledge related to health disparities rather than on developing skills that could be used in the clinical setting. Knowing that the practice of such skills is further complicated by the dynamics of hospital culture and the fact that most students change clinical environments every few weeks, this curriculum attempts to help students understand racism and bias in medicine and begin to cultivate ways to address them in the clinical setting.

Methods

This resource was developed by a team of faculty and students using an evidence-based case-study approach. The curriculum can be used as a stand-alone session or as part of a larger structural competency curriculum. While there are no formal prerequisites, it is intended for learners with prior familiarity with the structural roots and general epidemiology of health disparities. It was designed for students entering or already exposed to their role in the clinical setting.

We integrated small-group case-based sessions into an already-existing 3-week clerkship preparation course for rising third-year students prior to starting clinical clerkships. This allowed for appropriate context after the traditional preclinical years and occurred at a time when students were honing their roles and responsibilities in the clinical arena. Case-based scenarios in small groups of 10 students, with one faculty facilitator, were deemed ideal to create a safe space for students to discuss these topics without feeling overwhelmed and allow for appropriate small-group facilitation. This also allowed for more student-driven discussion as compared to a traditional lecture format. Two facilitators were selected based on
previous interest in this topic, willingness to participate in faculty development prior to the sessions, and prior history of excellent small-group facilitation skills.

Two faculty members facilitated a total of 12 small-group sessions (six sessions each). Every small-group session lasted 1 hour and occurred over one of two afternoons, with both faculty members running sessions concurrently on each of these days. The facilitators completed significant preparation using the facilitator’s guide (Appendix A) and cited articles. Facilitators began preparing for this session several months in advance. They began by reading all of the required session readings in conjunction with the faculty guide. Facilitators were also asked to review the cited papers in the faculty guide to enhance their knowledge prior to the session. To enhance their understanding of the readings and to facilitate discussion about how to navigate the small groups, both faculty facilitators met with an expert at AMS whose academic focus is the intersection between race and medicine. During this meeting, facilitators were able to brainstorm and practice navigating possible student questions with a content expert prior to the sessions.

The main resource in this publication is the facilitator’s guide (Appendix A). This resource includes a description of each case and a list of discussion questions. We recommend that the cases and discussion questions (Appendices B, C, & D) be given to students prior to the session, in addition to the suggested readings. The facilitator’s guide lists the primary educational objectives of each case, gives in-depth background on the issues highlighted, and provides suggestions for facilitating the actual discussion. It also includes additional questions beyond those given to students as an option for prompting more thoughtful discussion and challenging different perspectives if they arise. Cited references in the facilitator’s guide allow facilitators additional opportunity to expand their own personal knowledge of the historical context and the evidence of the underlying disparity being discussed as a means of being prepared to answer students’ questions about the various content areas.

The required resources needed to use this curriculum are trained facilitators and educational space conducive to small-group discussions. While not required, we suggest presession readings. We recommend that students read “When Doctors Discriminate,” the sixth chapter from Damon Tweedy’s book Black Man in a White Coat. This chapter discusses a case that Dr. Tweedy, a psychiatrist, saw during his residency training in which a patient was labeled with having a psychiatric diagnosis due to his preference to treat his blood pressure with diet and exercise rather than medications. Dr. Tweedy discusses the influence of the patient’s race on this diagnosis and his difficulties reacting to this incident as an intern physician. This reading can be applied to all of the cases and can give students additional insight into the complexities of being a trainee witnessing bias. We also recommend chapter two, “The New Racism,” from Eduardo Bonilla-Silva’s Racism Without Racists (in particular, pp. 25-36). This chapter uses historical context to discuss how racism has been redefined in the post–Civil Rights Era and the implications of interracial segregation on economic opportunities. This reading can be especially applied to Case 3 when discussing how segregation influences health outcomes.

We also recommend using certain tables and figures from “An International Comparative Study of Blood Pressure in Populations of European vs. African Descent,” by Cooper et al. This study helps to address the common misconceptions regarding biological or genetic explanations for differences in disease prevalence. Cooper et al.’s figures 1, 3, and 4 are particularly helpful to visually represent key points made in the case. These figures are also included in Appendix E.

Case 1 (Appendix B) discusses a young patient in pain from a stab wound. The case description presents an unprofessional comment made by a surgical resident about the patient’s possible drug use and the reluctance on the part of the resident to treat the patient’s pain. The primary goals of this case are for students to (1) discuss growing evidence of physician discrimination and bias in patient care, particularly the evidence for undertreatment of pain among minority patients; (2) examine the reasons why pain management is an area particularly prone to bias; and (3) brainstorm strategies to discuss objective pain management on the wards and respond to unprofessional behavior of resident peers.
Case 2 (Appendix C) presents a woman in labor with limited English proficiency and little prenatal care. There is no available translator to get consent for a cesarean section, and the resident asks the medical student, who has limited Spanish proficiency, to translate. The primary goals of this case are for students to (1) learn about the importance of interpreters and discuss how patients with limited English proficiency experience health disparities, (2) review how to access interpreters in the hospital setting, and (3) discuss how to navigate situations in which superiors ask students to use language skills inappropriately.

Case 3 (Appendix D) introduces a woman from a poor neighborhood (which can be changed to be specific to the location in which the curriculum is delivered) who has uncontrolled diabetes and hypertension and is readmitted for hyperosmolar hyperglycemic state and high blood pressure. The resident in the case makes an unprofessional statement questioning why this woman is unable to care for her health problems at home, blaming the patient for her readmission. The primary goals of this case are for students to (1) discuss the relevant impact of historical and current racial segregation on health outcomes, (2) unravel the structural factors causing people of color to have a higher prevalence of certain diseases and address the myth of biological or genetic explanations for these higher rates of disease, and (3) learn skills to effectively present complicated patients so that the team is motivated to address the complex social factors that influence their health status rather than ignore them.

Results
The curriculum, delivered by two trained facilitators, was first implemented for 122 rising third-year students during the 2015-2016 academic year. Overall, the session was well received by students and faculty.

Results of Student Satisfaction Surveys
A total of 79 students responded to postcourse satisfaction surveys regarding the sessions (response rate = 64.8%). On a 6-point Likert scale (1 = Poor, 6 = Exceptional), the average rating was 4.28. Written student feedback was generally positive in regard to the inclusion of such sessions, although multiple students noted that the allotted time was not sufficient. One student wrote, “these topics deserve a lot more time and in-depth discussion. The allotted amount of time trivializes these important issues.” A few students noted that their small-group discussion veered away from dealing with the topic of race exclusively, avoiding the word race and focusing more on the complexities of pain management by itself rather than its relationship with race. One student noted the sessions were “unnecessary,” and another student expressed frustration that peers did not see the relevance of the session.

Reflections From Facilitators
Faculty facilitators found the session to be an enjoyable and worthwhile experience. They indicated that it was helpful to express to students early on that they were not experts in this area but had been working on their own professional development to better understand these issues. They stressed that there was no single answer to many of the questions proposed by the cases and that the goal was to help prepare students to confront these situations on the wards, not necessarily to provide a clear answer to each question. This is an important distinction from traditional case-based sessions in basic science courses, where students are often asked a question that requires a single best answer.

Faculty noted that the level of the cases was appropriate for rising third-year students, both those well-versed in these issues and those knowing little about the topic. Faculty felt that the most helpful questions in the facilitator’s guide were the ones that asked how students would actually respond to their superiors when these issues arose. Faculty stated they were able to get through between two and three cases during the allotted time, depending on the group dynamics.

Additional themes that were commonly discussed were hierarchy and power dynamics within medicine, structural racism, and the impact of test questions and lectures throughout medical school on clinical decision-making. Disease processes that came up frequently were sarcoidosis, hypertension, and sickle cell anemia.
Discussion

We successfully developed and implemented a curriculum for rising third-year medical students that utilizes evidence-based concepts related to bias and racism in medicine and applies them to clinical scenarios. Though initially written for medical students, the curriculum can be used by learners across various health care settings who have had some exposure to the clinical environment.

This resource helps to address the growing concern that medical students are witnessing scenarios where racial bias influences care and possibly internalizing these biases throughout their medical training. However, this resource and others still do not give a clear understanding of when in training these beliefs are acquired and how to most effectively combat them in the medical school curriculum.\textsuperscript{20,21}

Limitations of this curriculum include the lack of published data on the effectiveness of similar curricula and the best formats to deliver such content. Our outcome data are based mostly on satisfaction data, which are the lowest on Kirkpatrick’s evaluation model. A limitation to sustained success of such a curriculum is facilitator availability and training. We recognize that the success of such case-based discussions often relies on the knowledge and humility of the faculty facilitators. Interfacilitator variability, although somewhat inevitable, could lead some students to have better experiences than others. One particularly worrisome outcome would be that facilitators with limited training could isolate student views on a topic that is difficult for many to discuss. For this reason, we chose to have two dedicated faculty so that we could ensure sufficient faculty development and consistency before implementation of the curriculum. Although some may consider this a limitation, we believe that using a small group of well-trained faculty members to lead these sessions is important and is a model that can be adapted by other medical schools. In addition, building a cohesive longitudinal curriculum around race and medicine, one that integrates prior experiences and foreshadows future ones, is critical to the sustained success of such an initiative.

Our resource was implemented as a single-site, single-encounter intervention. Longitudinal data from students towards the middle and end of their core clerkships would help us determine whether these discussions have any long-term impact on students’ abilities to recognize and respond to similar scenarios. Surveys may be useful to validate knowledge and skills gained and could be done at 6 months postcurriculum (halfway through core clinical clerkships), 12 months postcurriculum (end of core clinical clerkships), and towards the end of fourth year. In addition, asking students to reflect on their experiences around race and medicine in clinical settings may be valuable. Finally, to ensure the generalizability of this curriculum, its use at other medical schools would help to validate its outcomes with a diverse group of students and facilitators.

We believe it is unlikely that just one session before starting clinical clerkships is enough to maintain the practice of sustained critical thinking regarding bias and racism in clinical medicine. Therefore, future opportunities include extending these case-based discussions throughout the clinical years of medical school to allow students to reflect upon their clinical experiences. One option is to allow students to present their own cases for discussion and share the strategies they have used to confront uncomfortable situations.

We hope that this curriculum can be implemented in other medical schools, ideally as a supplement to already-established lectures or small-group sessions. Future directions for this curriculum include incorporating a reflective writing component, extending the scenarios to additional clinical settings other than the wards, and trying joint small-group sessions with students and residents.

\textbf{Katherine C. Brooks, MD:} Recent Graduate, Warren Alpert Medical School of Brown University; Resident Physician in Internal Medicine, Brigham and Women’s Hospital

\textbf{Steven Rougas, MD:} Assistant Professor of Emergency Medicine and Medical Science, Warren Alpert Medical School of Brown University

10.15766/mep_2374-8265.10523
Association of American Medical Colleges (AAMC)
Paul George, MD, MHPE: Assistant Dean of Medical Education and Associate Professor of Family Medicine and Medical Science, Warren Alpert Medical School of Brown University

Disclosures
None to report.

Funding/Support
None to report.

Ethical Approval
Reported as not applicable.

References

1. Williams DR, Mohammed SA. Discrimination and racial disparities in health: evidence and needed research. J Behav Med. 2009;32(1):20-47. https://doi.org/10.1007/s10865-008-9185-0

2. Williams DR, Wyatt R. Racial bias in health care and health: challenges and opportunities. JAMA. 2015;314(6):555-556. https://doi.org/10.1001/jama.2015.9260

3. 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. https://doi.org/10.2105/AJPH.2015.302903

4. Dovidio JF, Fiske ST. Under the radar: how unexamined biases in decision-making processes in clinical interactions can contribute to health care disparities. Am J Public Health. 2012;102(5):945-952. https://doi.org/10.2105/AJPH.2011.300601

5. Bassett MT. #BlackLivesMatter—a challenge to the medical and public health communities. N Engl J Med. 2015;372(12):1085-1087. https://doi.org/10.1056/NEJMp1500529

6. van Ryn M, Burke J. The effect of patient race and socio-economic status on physicians’ perceptions of patients. Soc Sci Med. 2000;56(6):813-828. https://doi.org/10.1016/S0277-9536(99)00338-X

7. Sabin JA, Greenwald AG. The influence of implicit bias on treatment recommendations for 4 common pediatric conditions: pain, urinary tract infection, attention deficit hyperactivity disorder, and asthma. Am J Public Health. 2012;102(5):988-995. https://doi.org/10.2105/AJPH.2011.300621

8. White-Means S, Dong Z, Hufstader M, Brown LT. Cultural competency, race, and skin tone bias among pharmacy, nursing, and medical students: implications for addressing health disparities. Med Care Res Rev. 2009;66(4):436-455. https://doi.org/10.1177/1077558709333995

9. 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(6):4296-4301. https://doi.org/10.1073/pnas.1516047113

10. Abrams LS, Moloo JA. Critical race theory and the cultural competence dilemma in social work education. J Soc Work Educ. 2009;45(2):245-261.

11. Metzl JM, Hansen H. Structural competency: theorizing a new medical engagement with stigma and inequality. Soc Sci Med. 2014;103:126-133. https://doi.org/10.1016/j.socscimed.2013.06.032

12. Bereknyei S, Foran S, Johnson K, Scott A, Miller T, Braddock C III. Stopping discrimination before it starts: the impact of civil rights laws on healthcare disparities - a medical school curriculum. MedEdPORTAL Publications. 2009;5:7740. https://doi.org/10.15766/mep_2374-8265.7740

13. Berkley L, Alford D. Medical ethics and health equity: the Henrietta Lacks story. MedEdPORTAL Publications. 2015;11:10226. https://doi.org/10.15766/mep_2374-8265.10226

14. Herbes-Sommers C. Race: The Power of an Illusion [DVD]. San Francisco, CA: California Newsreel; 2003.

15. Banaji MR, Greenwald AG. Blindspot: Hidden Biases of Good People. New York, NY: Random House; 2013.

16. Taylor JS, George PF, MacNamara MM, et al. A new clinical skills clerkship for medical students. Fam Med. 2014;46(6):433-439.

17. Tweedy D. Black Man in a White Coat: A Doctor's Reflections on Race and Medicine. New York, NY: Picador; 2015.

18. Bonilla-Silva E. Racism Without Racists: Color-Blind Racism and the Persistence of Racial Inequality in America 4th ed. Lanham, MD; Rowman & Littlefield Publishers; 2014.

19. Cooper RS, Wolf-Maier K, Luke A, et al. An international comparative study of blood pressure in populations of European vs. African descent. BMC Med. 2005;3:2. https://doi.org/10.1186/1741-7015-3-2
20. Anderson W. Teaching “race” at medical school: social scientists on the margin. *Soc Stud Sci*. 2008;38(5):785-800. https://doi.org/10.1177/0306312708090798

21. Garcia RS. Interdisciplinarity in medical education on race. *J Natl Med Assoc*. 2006;98(5):811-813.