How to Create a Diversity, Equity, and Inclusion Curriculum: More Than Checking a Box

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ABSTRACT

We are beginning to accept and address the role that medicine as an institution played in legitimizing scientific racism and creating structural barriers to health equity. There is a call for greater emphasis in medical education on explaining our role in perpetuating health inequities and educating learners on how bias and racism lead to poor health outcomes for historically marginalized communities. Diversity, equity, and inclusion (DEI; also referred to as EDI) and antiracism are key parts of patient care and medical education as they empower health professionals to be advocates for their patients, leading to better health care outcomes and more culturally and socially humble health care professionals. The Liaison Committee on Medical Education has set forth standards to include structural competency and other equity principles in the medical curriculum, but medical schools are still struggling with how to specifically do so. Here, we highlight a stepwise approach to systematically developing and implementing medical educational curriculum content with a DEI and antiracism lens. This article serves as a blueprint to prepare institution leadership, medical faculty, staff, and learners in how to effectively begin or scale up their current DEI and antiracism curricular efforts.

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BACKGROUND

There is growing awareness of the foundational role of systemic racism and bias in the creation of the health inequities that historically marginalized and minoritized groups continue to face.[1-3] We are beginning to accept and address the role that medicine as an institution played in legitimizing scientific racism and creating structural barriers to health equity, as well as the ways in which medicine continues to perpetuate racism in clinical care.[4] Medical students from historically excluded groups continue to endure bias, microaggression, and even racism in their medical education.[5] The "misrepresentation of race" in undergraduate medical curricula is pervasive and permeates all aspects of medical education.[6] Further, bias can negatively affect clinicians' communication patterns and medical decision making. Evidence suggests that implicit bias among health care professionals has led to differential treatment of patients in an array of clinical scenarios such as in thrombolytic treatment of myocardial infarction, management of chest pain, referral for renal transplantation, and pain management.[7-11]

Unfortunately, current undergraduate medical education often fails to adequately teach students that race is a sociopolitical construct, and that racism is the root cause of racial inequity. Reforming formal and hidden medical school curricula is therefore urgently needed.[12-14] There are increasing diversity, equity, and inclusion (DEI, also referred to as EDI) and antiracism efforts throughout medical institutions to end both explicit and implicit bias and racism in order to move toward health equity. Medical students have been integral in pushing for these changes in education and clinical care.[4,15,16] On the national level, more than 2 decades ago, the Liaison Committee on Medical Education (LCME) created accreditation standards for medical schools to ensure that the medical curriculum provides learning opportunities on "structural competence, cultural competence, and health inequities."[13,17] Although perhaps implied by the term *structural competence,* the LCME standards do not explicitly mention the terms *systemic racism* or *structural racism* and the effects racism has on the health and health care of historically marginalized communities.[13] The Association of American Medical Colleges (AAMC) has new and emerging DEI core competencies across the learning continuum that will equip educators to

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design and adapt their current curricula, empowering learners to understand the effects of systemic racism on health.[18] Predictably, there has also been misinformed backlash from the lay press about efforts to better address racism as a root cause of health inequity.[19]

Diversity, equity, and inclusion and racial advocacy are key parts of patient care and medical education as they empower health professionals to be advocates for their patients both within the clinical space and beyond. This advocacy leads to better health care outcomes, more culturally and socially sensitive health care professionals, and better patient satisfaction.[20-22] To most effectively promote an understanding of how racism affects the current health care system and patient outcomes, it is imperative to integrate a DEI and antiracism curriculum throughout the 4 years of medical education. Additionally, it is paramount to educate learners on their unique role as future clinicians to improve patient care.[23]

Several examples of DEI- or health equity–related curricula have been reported, for example, a parallel health equity curriculum involving 9 modules in the third-year clerkships, an interdisciplinary Health Equity Rounds model, and a 3-session curriculum.[24-26] Furthermore, one institution has reported using an innovative approach to review courses for potential bias.[16] These efforts are important steps forward and have yielded lessons, for example, that individual students have differing experiences and needs, and can provide input on how to best reform the formal and hidden medical school curricula.[26,27]

Unfortunately, most of the published curricular efforts in structural competency, DEI, implicit bias training, and antiracism in undergraduate medical education are separate from core lectures and clerkships.[24,26,28-30] This educational segregation hinders DEI and antiracism efforts, and implies that health equity is separate from routine clinical practice. To avoid unscientific reification of biologic race and to illuminate racism and bias as root causes of inequity, DEI and antiracism concepts must be incorporated, or threaded, into each medical topic or course as it is being taught. The integration of the curricular thread must be seamless throughout medical education from orientation to graduation. Here, we present a framework to strategically plan, implement, and evaluate a DEI and antiracism curriculum in medical education. We also highlight the need for medical school offices to lead the charge in enacting these educational reforms on a long-term and sustainable basis. Ethical approval for this work was waived by the Emory Institutional Review Board.

CURRICULUM CREATION PROCESS

Phases

Successful creation of a DEI and antiracism curricular thread requires intentional preparation. We divided the process into

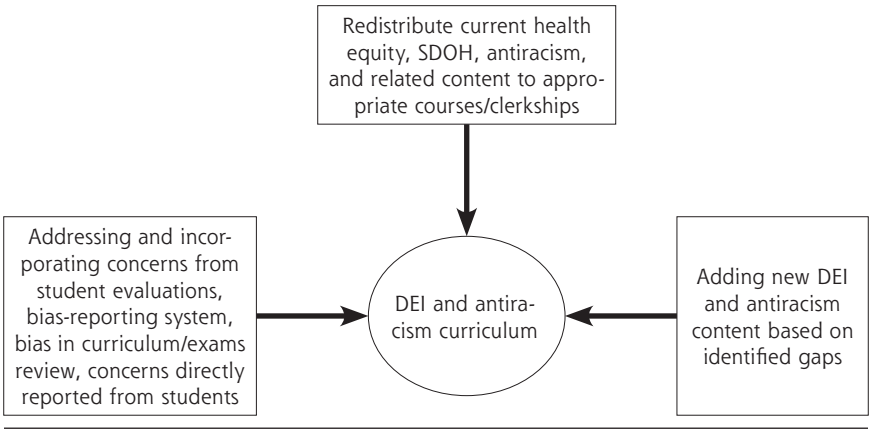
Table 1. Checklist for Implementing a DEI and Antiracism Curriculum

Phase	Key Steps	Completed
Phase 1. Establishing a framework and inventorying the curriculum	Select a director, a coordinator, and a dedicated team composed of faculty and administrative staff and students	☐
	Set up standing meetings with the school of medicine's educational leadership team to inform the process and ensure sustainability	☐
	Establish a framework and perform an inventory or gap analysis of the school of medicine's current curriculum	☐
	Develop evaluation tools that will be reapplied periodically to assess the success of the DEI curriculum when implemented	☐
	Survey students about the DEI and antiracism teaching that is currently taking place	☐
	Map course/clinical clerkship learning objectives to DEI core competencies (eg, AAMC DEI core competencies)	☐
	Review current school of medicine curriculum and examinations for bias, using a standardized bias checklist	☐
	Provide a timely summary report of bias reviews to course/clerkship directors to address	☐
Phase 2. Developing curriculum content	Promote and encourage faculty development for best practices in teaching about DEI and antiracism topics	☐
	Before implementation, agree on metrics (measurable outcomes) such as survey measures and focus group feedback	☐
	Incorporate DEI and antiracism content based on the curriculum inventory or gap analysis	☐
	Redistribute, expand on, or improve any current DEI, antiracism, social determinants of health, or health equity content in the curriculum (ie, learn from other courses/clinical clerkships)	☐
Phase 3. Implementing, evaluating, and refining the curriculum	Select medical class representatives to help with reporting and messaging	☐
	Establish the method and timing of regular reviews of the DEI and antiracism curriculum	☐
	Conduct reviews and continually improve curriculum	☐
	Ensure continued messaging on gains, updates, and changes to the curriculum to faculty, students, and staff	☐

AAMC = Association of American Medical Colleges; DEI = diversity, equity, and inclusion.

3 phases with other important considerations incorporated throughout. Table 1 provides a checklist to use for implementing a DEI and antiracism curriculum.

Figure 1. Basic framework for DEI and antiracism curriculum development.



DEI = diversity, equity, and inclusion; SDOH = social determinants of health.

Phase 1. Establishing a Framework and Inventorying the Curriculum

The most fundamental aspect of creating this curriculum is establishing a framework for your DEI curriculum development. A key initial step is the selection of a director, a coordinator, and a dedicated team composed of faculty, administrative staff, and students who will be responsible for the development, implementation, and continuous review of the curriculum. This dedicated team will form a DEI and antiracism advisory committee or task force (the DEI advisory team for brevity).

The next step is performing a curriculum inventory to identify gaps and opportunities in the current medical school curriculum. The DEI advisory team should start by examining whether the current learning objectives in courses and clerkships map to any DEI and antiracism structural competency-related concepts. The AAMC Tool for Assessing Cultural Competency Training (TACCT) [31] can be a valuable resource in this process. Another tool to use is the AAMC's Diversity, Equity, and Inclusion Competencies Across the Learning Continuum,[18] which is an updated, comprehensive, and dynamic resource for improving your medical curriculum with a DEI and antiracism lens. A bias checklist is key to mitigating bias and/or racism in the curriculum in both the preclinical and clinical years of medical school.[32] This tool can be used to review lectures, small group materials, workshops, and teaching content in each course and/or clinical clerkship to screen for evidence of biases including, but not limited to, race, gender identity, sexual orientation, ableism, religion, and mental health. After this review, the DEI advisory team should promptly provide recommendations to the course and clerkship directors, and the individual responsible for creating that content should make changes accordingly. It is ultimately up to the educational leadership at the institution to ensure that these changes are appropriately incorporated.

After identifying current gaps in the curriculum and starting to address them, the DEI advisory team should develop evaluation tools that will be reapplied periodically to assess the success of the DEI-informed curriculum. These tools should include a DEI and antiracism curriculum survey that asks medical students in each class about their awareness of and satisfaction with DEI and antiracism content in the curriculum, and perceived availability and knowledge of this content. This survey should be administered at various points throughout the 4-year curriculum to evaluate progress (ie, before curriculum changes and then annually or biennially after the changes).

As part of this curriculum framework phase, the DEI advisory team should establish metrics to be tracked, such as the number of bias reports from class representatives and evaluations of courses/clerkships, in addition to direct reports of issues to the DEI and antiracism curricular director and course/clerkship directors. The creation of a real-time bias-reporting system that students can use to ensure a timely report and response to issues that arise during medical education should be considered if feasible. Other metrics can be obtained by assessing attitudes, knowledge, and satisfaction of faculty and students via focus groups.

Concurrent discussions with the school of medicine's deans and administrative staff will be key in achieving the goals of this phase. As such, standing meetings with the institution's educational leadership team help to remove barriers and navigate the educational landscape including knowledge of available resources. After a DEI and antiracism curriculum framework is established, the next phase will focus on developing content for the DEI and antiracism curriculum.

Phase 2. Developing Curriculum Content

The DEI advisory team should propose course/clerkship learning objectives and institutional medical student learning outcomes that correspond to the DEI and antiracism concepts. Ideally, all courses and clerkships should have at least 1 learning objective and 1 learning outcome per concept. A basic framework for developing DEI and antiracism content is shown in Figure 1.

The next step involves promoting and encouraging faculty development for best practices in teaching about DEI topics to ensure that faculty are both equipped and empowered to thread in DEI and antiracism content within their current curriculum. The DEI advisory team should solicit faculty interested in and willing to teach these concepts through traditional teaching formats and, additionally, via team-based learning, community service projects and programs, and flipped classrooms (an instructional strategy whereby students

have an opportunity to preview or learn the curriculum content before the lecture/workshop, which leaves more time for active learning and problem solving for students during the lecture/workshop, and/or students actively teach an assigned portion of the curriculum content). Additionally, when developing content, the team must consider how to evaluate and assess learners to ensure that they attain this knowledge.[13] Traditional forms of assessment include formative and summative assessments, written and oral examinations, reflections, objective structured clinical examinations, and other simulated examinations.

Current DEI, antiracism, social determinants of health, or health equity curricula can be expanded, redistributed, or intentionally iterated, using some of the existing content to enhance other relevant areas in the curriculum. Threading DEI and antiracism content, when relevant, throughout the 4-year medical curriculum as opposed to presenting it in a separate one-off lecture, workshop, or course highlights the importance of this content to learners, counteracting the hidden curriculum. It must be clear that DEI is just as important as, if not more important than, learning the Krebs cycle or cardiac cycle, for example. When faculty are lecturing on a particular disease and discussing its incidence and prevalence, it is also a good time to discuss how and why the disease might manifest differently in historically marginalized patients. Some examples are given in Table 2. Seamlessly integrating a DEI and antiracism curriculum will require that faculty be equipped and empowered to do so.

Phase 3. Implementing, Evaluating, and Refining the Curriculum

As noted above, before implementing the DEI and antiracism curriculum, the DEI advisory team should agree on measurable outcomes so that these metrics can be reviewed at appropriate and regular intervals to assess the curriculum's effectiveness. These metrics should include surveys conducted before and after randomly chosen lectures, numbers of and responses to DEI concerns in course and clerkship evaluations, feedback from focus groups from each class, and the number of bias reports or complaints to lecturers, course/clerkship directors, and/or deans. In addition, a representative should be appointed or elected in each medical school class to serve as a liaison between the class and the DEI and antiracism curriculum director. These representatives can report incidences of bias reported to them by their peers, independent of course and clerkship evaluations (which are anonymous and often not available to address in real time), as well as help to disseminate updates in the curriculum to the class. Results of the student DEI and antiracism curriculum survey conducted in the first phase will inform the team on the curriculum's effectiveness, especially as the responses of the students are tracked over time. The DEI advisory team can refine the DEI and antiracism curriculum based on the available evaluation metrics. The AAMC graduation questionnaire[34] is also a source of important information on both the institutional climate and your curricular efforts.

Other Important Considerations

In addition to the 3 phases discussed above, certain considerations are key for the success of the DEI and antiracism curriculum. Creating this curriculum requires a group of dedicated staff that ensures its creation and implementation rather than a single person working part-time. In addition, resources (personnel to train faculty), dedicated funding, and protected faculty time (full-time equivalents) must be available for critical members of the DEI advisory team. Rather than randomly assigning this critical work to individuals whose beliefs or current work does not align with DEI and antiracism efforts,

Table 2. Examples of Frameshifts in Teaching About Health Disparities With a DEI and Antiracism Perspective

Content Area[a]	Current Curriculum Approach	DEI and Antiracism Curriculum Approach
Cardiology	Blacks are 30% more likely to die from heart disease than non-Hispanic Whites; Blacks are 40% more likely to have hypertension and less likely to have hypertension controlled.[33]	Ensure that race is described as a social construct and discuss how structural forces such as access to a healthy diet, access to health care, and the impact of everyday discrimination affect the incidence of hypertension and heart failure.
Endocrinology, nutrition, or metabolism	Racial and ethnic minorities are more likely to develop type 2 diabetes and/or obesity.	Discuss the effects of social determinants of health, such as lack of access to physical places to exercise, food insecurity, and food deserts in historically marginalized communities, especially on those living with diabetes and/or obesity.
Pulmonary	Black and Hispanic/Latinx children in low-income urban neighborhoods have higher rates of asthma.	Discuss the effects of pollution, mold in the home, and other climate and health inequities on respiratory disorders such as asthma in historically marginalized communities as a result of systemic racism, redlining, and proximity of resources in resource-poor areas.
Oncology	Black women are more likely to die of breast cancer.	Ensure that students are aware of the impact of systemic racism, residential segregation, and environmental racism on the differential incidence of breast cancer.

DEI = diversity, equity, and inclusion.

[a]In all content areas, faculty should discuss how the biases of physicians and other health care professionals can lead to the differential treatment of patients according to gender and race.

the DEI advisory team should be intentional about galvanizing a team whose interests align with your institution's DEI and antiracism mission, so that this undertaking is innovative and transformative and not simply performative.

The amount of data and work needed to effectively create a DEI curriculum is massive even for a dedicated team of people; thus, medical students who are aware of and sometimes might be experiencing bias and microaggressions in the medical school curriculum can offer support and perspectives for change. These learners have been pivotal in our institutional efforts along with most medical school DEI-related curriculum reform efforts.[35] An additional endeavor should be to recruit faculty and resident volunteers to serve on the DEI advisory team. With regard to faculty development, there should be a focus on implicit bias recognition and management[36]; training of upstanders (individuals with integrity and courage who are allies and/or advocates, recognize when something is wrong, and intervene to educate and promote civil and professional conduct[37]); and instruction in using the bias checklist to help inform curriculum reviews and to promote use as a faculty development learning tool.

Finally, the DEI advisory team should take steps to increase awareness of the existence of the DEI and antiracism curriculum. This should begin at medical school orientation and include introductions to faculty, staff, and students; regular announcements on recent updates and changes to the curriculum; a website presence on the institutions' main page; and regular write-ups in the local medical school's newsletters and/or magazines to demonstrate the commitment and value of this curriculum to the institution.

DISCUSSION

In order to reach health equity, it is imperative to give medical students actionable tools to identify discrimination in the health care system and equip them to acknowledge relevant issues in the clinical setting. At several institutions, workshop sessions on racism and social justice issues in varied formats have been associated with increased student comfort with discussing topics surrounding racism and discrimination, while providing a self-reflective space for different perspectives.[38] Participating students have also reported reevaluating their prior beliefs regarding the role of race in health inequity. Unfortunately, a lack of medical institutional response to discrimination and seminal race events, such as the murder of George Floyd in 2020, is associated with a risk of depressive symptoms in Black medical students, after controlling for gender and clinical diagnosis of depression or anxiety before medical school.[39]

Medical students report that they place a high value on training regarding issues of race in medicine and cultural humility as a key part of their medical education.[35] Students historically underrepresented in medicine in particular have shared that in addition to increasing diversity in medical school admissions, medical schools should implement more concrete steps to retain and support medical students from underrepresented populations through DEI advocacy in their institutions.[40] Beyond undergraduate medical education, a DEI and antiracism curriculum plays an important role in graduate medical education and requires a multisystem approach to ensure its success at that next level of learning.[41]

Creating a successful DEI and antiracism curriculum requires careful and stepwise consideration of all factors and incorporation of various components to provide a good long-term foundation. The elements discussed above are necessary to the creation, growth, and sustainability of this curriculum in any medical school.

Conducting team-building exercises to build relationships and empathy, reviewing curriculum and examinations for evidence of bias, and evaluating content for evidence of race-based medicine vs race-conscious medicine are the easier, low-hanging fruit when implementing a DEI and antiracism curriculum. The more difficult tasks are the wide-scale faculty development needed to empower faculty to update their course/clerkship curriculum, specifically, to thread these concepts within their current curriculum and implement DEI and antiracism curriculum recommendations from the DEI advisory team. Additionally, garnering enough trained facilitators to deliver implicit bias recognition and management interventions, upstander training, and workshops, and finding time in an already packed undergraduate medical education curriculum are challenging.

Tips for Success

To be clear, simply having a DEI and antiracism curriculum will not necessarily lead to change or have a meaningful impact in medicine. The effectiveness of this curriculum and even implicit bias trainings has been sparsely assessed when it comes to their impact on behavior or practice change.[42] DEI is more than checking a box, and each institution must put its money where its mouth is and take intentional steps to implement these changes rather than having discussions without results. Without actionable changes and ongoing evaluation, these curricula will become titles and learning objectives without results. This can lead to uninformed, unsatisfied learners and a missed opportunity to equip our next generation of health professionals to address the health inequities experienced by historically marginalized patients.

Messaging and transparency are paramount. Transparency includes closing the loop on the DEI- and bias-related issues identified in the medical curriculum and what is being done to address these issues. Revisiting older curricular concerns, presenting data, and reviewing the changes that have been implemented with students will instill hope and trust and an awareness that their voices are being heard and affirmed, and their concerns are being taken seriously and acted on. Even when changes are made, learners who have experienced the prior curriculum may not be aware of the subsequent corrective changes to the curriculum. Creating and disseminating

messages about these improvements becomes even more salient to engendering trust and buy-in from the entire student body. In addition, students and faculty should also be informed of future plans to advance DEI and antiracism as a key part of medical education.

Call to Action

In order for DEI to be more than checking a box and to truly revolutionize medical education to help end health inequity, we believe the following:

- Creating a DEI and antiracism curriculum requires consistent support from the medical institution's administration, a team of people dedicated to DEI and antiracism work, and an institutional culture that embraces the importance of this work.
- Successful DEI and antiracism curriculum efforts will require ongoing research to assess attitudinal and behavioral changes of our learners that lead to practice change and eventually better health outcomes for historically marginalized communities.
- The LCME standards should include asking medical schools to provide evidence of robust DEI and antiracism curricula that are integrated throughout the medical school curriculum.
- These standards should also include language that acknowledges the effects of systemic racism on the health and health care of historically marginalized patients.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Key words: medical education; medical students; teaching; diversity, equity, inclusion; curricular development; health workforce; racism; health disparities; social marginalization; vulnerable populations; DEI; EDI

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