Acting Wisely: Eliminating Negative Bias in Medical Education—Part 2: How Can We Do Better?
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Abstract
In Part 1 of this 2-article series, the authors reviewed the problem of unmitigated bias in medical education and proposed a wisdom-based framework for a different way of educating medical students. In this article, Part 2, the authors answer a key question: How can medical educators do better? Is a bias-free environment possible? The answer to the latter question likely is “no.” In fact, having a zero-bias goal in mind may blind educators and students to the implicit biases that affect physicians’ decisions and actions. Biases appear to be a part of how the human brain works. Instead, we can (1) increase awareness of the biases that we are prone to; (2) use mitigation strategies to protect against the undesirable effects of those biases; (3) work, in some cases, through habit, to change negative biases, particularly learned biases; and (4) foster positive biases toward others, including those who are very different from ourselves. In this follow-up article, we detail the concrete actions—interpersonal, structural, and cultural actions—that we can take to reduce negative bias and its destructive effects.

Interpersonal Action
Building awareness of implicit bias in medical education
The influence of implicit biases, in particular, on our perceptions, decisions, and actions can be powerful and vexingly beyond our conscious awareness at the time, and their effect can be devastating. Mitigating racial, gender, religious, and ethnic biases requires self-awareness—specifically, awareness of when we are using System 1 thinking and what biases we may be prone to in a particular situation. Awareness, or “bias inoculation,” as some authors characterize it, is what implicit bias training is about.1–3 In fact, the Cognitive Habits and Growth Evaluation (CHANGE) study found that having completed the Black–White Implicit Association Test during medical school remained a statistically significant predictor of decreased implicit racial bias among physicians.4 Implicit bias training
Implicit or unconscious bias training generally revolves around a few key concepts—a description and examples of implicit bias, an exploration of why it exists and is pervasive, and ways to mitigate it. To make the topic real for them, trainees may be asked to examine and discuss times when they exhibited and/or experienced implicit bias. Examples may include those taken from studies (research on hiring or evaluation related to gender, race, ethnicity, etc.) and/or examples from “real life” (e.g., newspaper stories contrasting reports of individuals from different demographic groups engaged in similar activities). The science of unconscious bias will include discussions of its advantageous evolutionary role and of the unconscious processes and cognitive biases that contribute to its formation and maintenance. Interventions to mitigate bias may include bias awareness training, increased exposure to individuals from differing demographic groups, increased participation of individuals from minority groups in key decision-making processes, and the use of structured systematic tools in decision making. These elements are most effective when trainees are active participants in the training process.5,6

Building awareness of explicit bias in medical education
Judith Gluck suggests there are ways to “invite wisdom” that have to do with creating a context for wisdom to take hold. A first step in this process is awareness and a radical acceptance of the truth of the circumstance.7–10 In the case of explicit bias in our health care and health professions education systems, the radical truth is that racism and other explicit biases are alive and well.11–13 The following are some examples that we, the authors, have documented in our own health system.

• A female resident wearing a hijab is asked by a visitor to get off the elevator, so the visitor does not have to ride with a “terrorist.”

• A patient asks a physician where they are from, and when the physician responds that they are from a Middle Eastern country, the patient responds: “Oh, you’re one of those we’re supposed to shoot.”
accepting that explicit bias and its highly damaging resultant behavior is a reality in our hospitals and clinics is only half the battle. The second half is accepting that we have not been successful in responding to discriminatory incidents.4,7,11,12,14–15

Responding to interpersonal explicit bias

In the CHANGE study, faculty role modeling of discriminatory behavior was associated with increased implicit bias among medical students,16 and having heard negative comments from attending physicians or residents about African American patients was a significant predictor of increased implicit racial bias in medical school.4 Similarly, in multivariate models, contact with African Americans predicted attitudes toward African Americans, and students who reported witnessing instructors making racial comments or jokes were significantly more willing to express racial bias themselves, even after accounting for the effects of contact.17 It is, therefore, imperative to teach faculty, residents, and students how to speak up and stop these events in real time. In fact, without this, we are unlikely to see sustained positive change in the medical education environment.

Stepping In. Drawing on what we know about the wisdom-generating response to difficult circumstances, the next step after acknowledging the truth is stepping in—doing something or saying something that can begin to change the circumstance for the better.7,8,18–21 Medicine has prioritized the duty to care for all regardless of their beliefs or even their actions. This is an honorable commitment, and it distinguishes our profession from many others. Unfortunately, this commitment has also been used as an excuse to avoid the difficult conversations, to remain silent when patients exhibit bigoted behavior toward our trainees or other colleagues. This silence is another violence against that trainee—and a serious breach of our commitment to our students and residents.14,19

Wheeler et al examined the barriers to stepping in, in a 2019 qualitative study of hospitalists, residents, and students.22 Barriers included:

- Clinical care priorities: “Other times, we just let things pass because we’re trying to develop a therapeutic alliance.”
- Lack of skills or uncertainty over appropriate response: “These are often such small moments that occur, but sometimes pretty continuously. It’s not very clear cut as to what you can’t do.”
- Lack of support: “What would have made me feel better is if the attendings had acknowledged the incident at all, because I know they noticed the biased language.”
- Lack of knowledge of institutional policies. “It would be really helpful to have the institutional support to be able to go to a patient or a family member or anybody and say, ‘If you continue to engage in these behaviors, these will be the consequences.’”
- Fear of being perceived as unprofessional: “I was much more focused on how other people were reacting to my reaction to this (biased behavior).”
- Perceived ineffectiveness of responding: “It didn’t feel like I was meaningfully going to change any outcomes or any downstream effects by trying to give this man a new perspective at this point in his life. I think that calculation comes up a lot.”
- Emotional burden too high: “I think that if I processed everything that was said to me, I’d go crazy.”

So, what facilitates responses to these events? Participants in the same study22 suggested the following:

- Behavior perceived as egregious: “When something is really blatant, it’s really easy to respond.”
- Support from colleagues or institution: “When I feel like my team has got my back, and we’re on the same page, that’s much less of a horrible experience for me.”
- Professional responsibility to others: “I find it much, much easier to respond to things that are directed at people who are junior to me [rather] than to myself or someone senior to me.”
- Individual ethics: “I feel that because I really care about addressing things like racism and discrimination, I feel a lot more pressure to say something when things happen now.”
- Role models and skills: “That was a really positive modeling by our senior resident; it made us think through what we can do in those situations and how we can still take care of the patient and maintain a good rapport with them, but also feel like we are being respected in our professional role.”

Teaching bystanders how to step in.

Knowing what to say and how to say it in the face of discriminatory behavior is not easy. Our work at the University of Virginia (UVA) to develop the “Stepping In” bystander training program (described below) suggests that attending physicians either do not know what to say or worry that what they say might make the situation worse. Training in how to step into these difficult circumstances, including practice and role playing, can be empowering. Like other difficult conversations we have in medicine, having a framework for how to have these conversations can give people the tools and the expertise to engage productively.

The “Stepping In” training gives participants a framework for responding to bigotry and prejudice in the training environment.18 It is based on an understanding of interpersonal interactions,23 as well as strategies for regulating emotions and cognitive debiasing. It uses a simple framework known by its acronym, B.E.G.I.N. (here demonstrated with suggested phrases in the context of a patient refusing to be cared for by a team member of color):

1. **Breathe**: Calm yourself and prepare for the conversation. Suspend judgment.

2. **Empathy**: Start with empathy; “I can imagine it is hard to be in the hospital for so long.”
3. **Goal**: State the values or goals of the conversation: “Here, we work as a team and every member of our team is essential. Here, we treat everyone with respect, and we expect you to do the same.”

4. **Inquire**: Ask a curious question: “Help me understand; why are you concerned?” (This question can often reveal an underlying concern that can be mitigated.)

5. **Engage** in next steps: Move the conversation forward: “So, now that we understand that every team member is essential, let’s get on with what we all are here to do, and that is to get you better.”

6. **Debrief** with the trainee, target, and others involved. This is a critical step. No matter how the conversation goes with the patient, debriefing with the trainee is a critical step in changing the culture for the better. This is part of “exploratory processing,” which Weststrate and Gluck suggest is critical to the wisdom-generating response to difficult circumstances. If we take this opportunity to, with humility, “do the effortful work of finding meaning in these challenging situations,” then we are creating an environment in which wisdom is fostered.

Participants respond to a variety of videotaped scenarios ranging from a situation at the bedside to an encounter at the elevator. They practice and critique, and practice again. Pilot data suggest that this workshop provides practical tools and helpful practice. Participants were more likely to report feeling comfortable stepping into these conversations after the workshops than before, and the vast majority reported it likely that they would change their response to discriminatory behavior because of the program.

An important observation regarding implementation: we found support from leadership to be crucial to achieving wide participation in Stepping In training. Key leadership support for the program included the UVA Health System chief executive officer, who made the online awareness brief training a requirement for all employees and placed participation on the scorecard for managers. The dean of the school of medicine, who prioritized the in-person training for faculty and incorporated it into performance reviews for all department chairs, also offered key support.

**Other examples of bystander/upstander training.** There are multiple examples of bystander/upstander training in the nonmedical literature. UVA's Stepping In program includes the work of Goodwin, which provides helpful phrases that enable the following actions.

- Pivoting: “Hey, can I introduce you to …”
- Interrupting: “I’m sorry, could you repeat that? I’m not sure I understood you.”
- Arousing dissonance: “I’m surprised to hear you say that. You’ve always supported equity.”
- Disagreeing: “I don’t think that’s a gay thing.”
- Expressing emotion: “What you said makes me uncomfortable.”

**Structural Action**

Promoting diversity throughout the organization necessarily involves setting up committee structures, hiring processes, and promotion and other decision-making processes that hardwire diversity and structurally challenge bigotry and prejudice. This structural diversity is a critical part of reducing the effects of negative bias in medical education.

**Increasing the diversity of positive role models and the medical student body**

The CHANGE study shows that lower explicit bias against gay men and lesbian women was associated with more favorable contact with faculty who identify as lesbian, gay, bisexual, or transgender (LGBT), and lower implicit sexual orientation bias was associated with more favorable contact with LGBT faculty. Contact with African Americans predicted positive attitudes toward African Americans relative to White people, and having had unfavorable vs very favorable contact with African American physicians was a statistically significant predictor of increased implicit racial bias. Efforts directed at hiring and promoting underrepresented minorities in medicine, such as the Harold Amos Medical Faculty Development Program, can provide crucial positive role models to students. Increasing the diversity of the medical school class naturally creates the opportunity for human connection and openness to another point of view.

A part of any comprehensive effort to reduce the negative impact of bias in the teacher–learner relationship would be to diversify the pool of role models (faculty and residents) and learners, creating proximity, opportunity for human connection, openness to another point of view, and a diverse community for the learner.

Note, however, in the endeavor to create structural diversity, medical schools must be cautious not to cause undue burden on the few underrepresented minority persons to serve on committees. The unintended consequence of this can be students and faculty from underrepresented groups being pulled away from their primary tasks of learning, research, education, or clinical care, inhibiting their advancement and further increasing the disparities. It is also important to note that increasing numbers alone will not correct the problem if negative role models and structural issues are not corrected.

**Reporting resources**

Reporting is one way that we learn the truth. Having robust, accessible reporting options makes it more likely that an organization will be aware of what is happening on the ground. While reporting with accountability allows for follow-up action, there is a role for anonymous reporting for those who fear retaliation of some sort. Anonymous reports generally are not actionable, but they do allow for surveillance of the culture and may represent better the true baseline of discriminatory behavior. They carry the significant disadvantage of having events reported without any way of understanding more deeply the circumstance, and, perhaps more importantly, without the opportunity for a restorative conversation—apology and healing of relationship. Without that restorative process, the reporter also suffers, often not knowing what happened in response to their report.

Institutions will need to evaluate how their reporting mechanisms fit into an overall strategy to reduce the negative effects of bias, including discrimination, in the medical education environment. They will need to weigh anonymous vs nonanonymous reporting of events of negative bias and how they respond to
each. They will need to understand how anonymous reporting can enhance their progress toward reducing bias in some ways and may inhibit progress in other ways.

Standing rules

Rules can be put in place to mitigate anticipated bias. An example might be the removal of any gender or race cues available to reviewers when reviewing applicants for a particular position or award. Another might be anticipating that there may be bias functioning in the compensation of female vs male faculty members, establishing rules on equality in compensation for comparable work and creating auditing processes to assure this is fulfilled. Establishing rules that require diversity on search committees and diversity of applicant pools can mitigate the anticipated biases in selection.

Policies

When we look toward positive change in reducing discrimination, policy and law are powerful tools. At the same time, policy may have limitations in addressing some of the changes to which we aspire.

1. There are limitations of implementation. If a patient is exhibiting prejudiced behavior, a policy might say that those in charge of the patient’s care can offer a transfer of care. The limitation may be that, in practice, no one will take that patient in transfer. This does not mean that we should not have such a policy; it just means that such a solution may not always be achievable. Thus, training in other ways to limit negative behaviors of patients in such circumstances is valuable.

2. Policies are blunt instruments that may have unintended consequences. A policy that specifically states that substitutions will not be made on grounds of race, gender, or ethnic status may have the unintended consequence of requiring an employee to care for a patient who is abusive. That nurse or therapist may want substitution and may object to being forced to care for a patient who does not want their care.

3. Policies, if too specific, may limit reasonable and compassionate exceptions. Consider the following example: A female rape victim requests that she have a female, rather than a male, forensic nurse do the postrape examination. Is this a reasonable request? There are many others. Policies that specify the circumstances under which substitutions of providers may be considered run the risks of limiting the exceptions that would be considered reasonable in a given circumstance. This is similar to limitations on judgments (the 3-strikes rule or mandatory minimum sentences are good examples). Such policies limit discretion in an effort to make large-scale change.

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Policy is critical to enforcing the norms of the culture we expect. Each institution must scrutinize how to use policy as instruments for positive change in supporting a learning environment that is respectful and inclusive.

Cultural Action

Setting expectations for diversity, inclusion, and respect

What expectations are set for patients, employees, and trainees when they enter the doors of the health system in which they work, train, or seek care? What do they see on the walls, in the patient brochures, and in the information provided to new employees? Do those messages set the expectation that they are entering an environment that embraces diversity and inclusion, and that expects respect for all? The health system sends a message through pictures on the walls, videos playing in the waiting areas, and what is said in the patient rights and responsibilities. Each of these can be a way of setting expectations for inclusion and respect, or the expectation that I will see “only people like me.” If the photos in the hospital’s brochures, for example, show only White men as doctors, people coming to that medical center might be more likely to be taken aback at seeing an African American physician.

Nudging

There is an increasing body of research on how people can be “nudged” to do good things rather than bad things, how they can be nudged to be better people. Nudging means understanding how we think, how we choose what to perceive, and how we can influence one another to be better, including how we can use social influence (both information and peer pressure) within the training community to “nudge” people toward being better.

Group decision strategy

How do we make decisions in our schools of medicine and nursing? Surowiecki showed that groups of people can make smarter decisions than any individual member, but only if (1) the group is heterogeneous and (2) the group has a culture that values the diversity of backgrounds and assures that all voices are heard. Setting up groups to be heterogeneous and creating an environment that establishes expectations and invites accountability may help people to both do better and learn more quickly. For example, if an attending knows, because they have had the same training in responding to bigotry that the students have had, that
the students expect that someone will step in when something like this happens, they may be more likely to do so.

Exposure control: Limiting the passing down of negative biases

Goddu and colleagues report that exposure to stigmatizing language in the medical record was associated with more negative attitudes toward the patient and less aggressive management of the patient’s pain.31 This study was about our attitudes toward patients, but there is plenty of evidence that these negative social biases affect attitudes about colleagues and trainees. It is possible that positive references may be an effective way to positively predispose us toward one another. Positive social construction tools, like positive gossip and the use of positive stories, may help people to get beyond differences by emphasizing positive traits, giving them the platform on which to work through and embrace differences. It has been shown, for example, that believing that a person is of positive moral character is associated with the expectation that they may behave inconsistently, whereas immoral (e.g., unfair) persons are assumed to hardly ever behave in a fair way.12 Thus, it seems that the assumption of positive moral character may help us to navigate difficulties more flexibly and positively (e.g., if I believe that James is a fair person, I am more likely to expect to navigate a difference productively).

Environments that support positive change and transformative learning

Literature on positive emotion in decision making suggests that a positive emotion (gratitude, openness to experience) has a positive influence on decision making, optimal functioning of teams, and wisdom-generating transformative learning.16,33 As Burgess and colleagues note, “recent research suggests that providers who experience higher levels of positive emotion during clinical encounters may be less likely to categorize patients in terms of their racial, ethnic, or cultural group, and more likely to view patients in terms of their individual attributes.”72 They go on to note that “positive emotion has also been shown to lead to the use of more inclusive social categories, so that people are more likely to view themselves as being part of a larger group, which can facilitate empathy and increase the capacity to see others as members of a common ‘ingroup’ as opposed to ‘outgroup.’”

Creating an environment of differences

An environment that celebrates differences is visible in many ways, from the pictures on the walls to the diversity of people who serve as preceptors. If all of the pictures on the wall are old White men, and the majority of preceptors are of that same demographic, that is a pretty clear message that differences are not valued, or important. Efforts to enhance proximity, to create positive experiences over time, have the potential to change learned biases. Burgess and colleagues note, “The most successful way to alleviate intergroup anxiety and increase provider confidence is through direct contact with members of other groups.”73 A 2006 meta-analysis done by Pettigrew and Tropp found that intergroup contact typically reduces intergroup prejudice.34

Environment of inquiry vs judgment

Do we make organizational fundamental attribution errors, or do we seek more information before making judgments? Simple information can enhance our ability to overcome biases. Gill and Andreychik note that social explanations (i.e., low socioeconomic status of Blacks stems from historical maltreatment) is important in initiating a self-regulatory cycle that can foster prejudice reduction.55 Providing that kind of information in the educational community, and creating an environment of inquiry rather than judgment, can be a significant organizational step toward mitigating our negative biases.

Restorative justice

Acosta notes,

We are in desperate need of new forums of interaction so that we can achieve more positive learning and workplace environments. Restorative justice practices can help a group identify and gain mutual understanding of the personal and collective harm that has occurred, create the conditions that incentivize offenders to admit responsibility rather than deny or minimize the harm, and explore and define a set of problem-solving steps to address the harm and rebuild community trust.56

In the UVA Health System, we have begun a program of 1:1 coaching that is focused on the ultimate goal of a restorative conversation between people when a disrespectful encounter has occurred. Unfortunately, a system that relies on anonymous reporting is not able to achieve this level of apology, growth, and restoration of relationships. Instead, many institutions have a culture of reporting and retributive justice. If there is any comparison to the criminal justice system, restorative justice programs have been shown to reduce recidivism and enhance healing for the victim. Perhaps, we should be adopting some of these principles in how we respond to reports of disrespect in our educational environment.

Safety, risk, and growth

Learning how to reduce and mitigate the effects of bias in medical education will be enhanced by creating a learning environment where challenge and risk are preeminent.37 Changing our minds requires openness to new ideas and new ways of seeing events and circumstances. This openness necessarily involves risk.

Call to Action: Questions and Answers to Guide Next Steps

Question: What does the medical profession (and the health professions in general) need to do in the next 5 years to move the needle to reduce the negative effects of racial, ethnic, religious, and gender bias in education?

Answers:

• Increase diversity overall
  ◦ Institute more holistic admissions processes to create a more diverse student body (including all of the strategies below)
  ◦ Increase diversity of faculty to provide role models—focusing on faculty recruitment (including all of the strategies below)

• Provide training as follows:
  ◦ Provide practical training for faculty, residents, students, and other health professionals on how to stop in and respond to explicit bias, disrespectful and discriminatory behaviors
  ◦ Provide implicit bias awareness training
  ◦ Provide training in mitigation strategies (or debiasing strategies) to mitigate the negative effects of implicit biases
• Address policies, processes, and the environment to enhance a culture of respect and inclusion
  ◦ Assure policies at training centers support respect, inclusion, and diversity
  ◦ Create the expectation of respect and inclusion in our health systems through messaging to patients and employees
  ◦ Create a culture of personal responsibility through training, clear expectations, and accountability for respectful and inclusive behaviors by faculty, residents, leaders
  ◦ Employ a variety of debiasing strategies to enhance selection, hiring, and promotion practices for residents and faculty
  ◦ Create structural diversity in important committees and processes in the medical school and health system
  ◦ Assure accessible and effective reporting resources for students, trainees, and faculty to report discriminatory and disrespectful behaviors
  ◦ Consider coaching resources to address events of disrespectful and discriminatory behaviors and a restorative justice approach to resolving such events in a generative manner
  ◦ Use social influence strategies to “nudge” people toward the behavior we want in our training environment

• Develop the evidence base for interventions to encourage stepping in and responding to events of explicit bias, disrespect, and discrimination in the training environment
• Develop the evidence base for how implicit biases might be changed over time
• Develop the evidence base for mitigation strategies to reduce the negative effects of implicit biases

Conclusions

Racial, gender, ethnic, and religious biases, both implicit and explicit, are pervasive in the medical profession and in medical education. Their negative effects—including limiting diversity and, therefore, excellence in medicine; adversely affecting education and patient care; and, at worst, overt disrespectful and discriminatory actions—are also pervasive. In this article, we present ways to understand bias and how it functions in human cognition, ways to mitigate the effects of bias and to reduce negative biases, and ways to enable direct and effective responses to explicit bias in medical education. These can be applied to address the numerous areas in which negative biases are affecting medical education and the teacher–learner relationship. Addressing the negative influence of bias in medical training is a deep, complex problem that involves our intellectual and our emotional selves, our conscious and our unconscious attitudes and behaviors. It will take humility, intellectual curiosity, tolerance for ambiguity, and advanced understanding to change attitudes and behaviors that are deeply rooted in society and history. In short, it will take wisdom.

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