

*Solutions to the Problem of Implicit Bias in Medical Decision-Making*  
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Accepting That Racial Bias Exists

It is important that health care practitioners accept that they have implicit biases and that those biases may affect their day-to-day medical decision-making and interactions with their patients. Although it is not easy for anyone to admit that implicit biases may affect their decisions, it is particularly difficult for physicians and other health care practitioners. The overwhelming majority of health care practitioners probably hold the conscious belief that they are fair and that they help people every day. It is stressful for health care practitioners to consider and then accept that their implicit or unconscious biases may cause harm.

**Solution - History and Physical, Part 1: Activate the Anterior PFC**

Physicians and other health care practitioners must take control over their actions to confront biases in a meaningful and effective manner. Controlling their actions will require abstract thought and the activation of the anterior prefrontal cortex (aPFC). Health care practitioners must see the complex series of events that led to the creation of their implicit biases. This includes the recognition of the influences that media, education, images, family members, authority figures, peers, and social history have had on creating and sustaining their implicit biases. It will also require that health care practitioners recognize the connection between the biases and their verbal or non-verbal actions. This level of awareness and insight allows health care practitioners to recognize and acknowledge how frequently implicit bias influences everyday actions.

When physicians and other health care practitioners first encounter a patient, they typically take a history and perform a physical examination. This encounter provides an optimum opportunity to address implicit bias. Health care practitioners can begin by compiling a brief history of images that may create implicit biases based on race for example. Consider the following:

1. Name and label the negative and positive images of White people presented in your history books in grades K-12 (e.g., presidents, founding fathers, criminals, other historical figures);
2. Name and label the negative and positive images of African American people presented in your history books in grades K-12 (e.g., civil rights leaders);
3. Name and label the negative and positive images of White people presented in your three favorite television shows when you were in middle or junior high school;
4. Name and label the negative and positive images of African American people presented in your three favorite television shows when you were in middle or junior high school;
5. Count the number of times you have seen African Americans interviewed or pictured on local television news for stories *not* related to crimes this week; and

6. Count the number of times you have seen White people interviewed or pictured on local television news for stories *not* related to crimes this week.

While “African American” was used in this example, other races, ethnicity, gender, or additional demographic can be easily applied.

**In absence of familiarity, evidence indicates that people often revert to stereotypes (positive or negative) in their first encounter with those who are culturally different than themselves.**

If we understand the insidious way that negative and positive images make an imprint on our minds, we can accept that it is challenging yet necessary to work intentionally or consciously to question and change our minds.

### **Solution - History and Physical, Part 2: Do a Conscious Self-Appraisal**

Given the weight of the evidence, health care systems, hospitals, and medical groups should take deliberate action to address implicit bias in health care. It is also incumbent upon each physician or other health care provider to assume individual responsibility to address implicit bias. It is important for health care providers to determine the type and degree of implicit bias they hold and the ways that it may manifest in their day-to-day practice. It is highly recommended that health care providers take multiple Implicit Association Tests (IATs). The Race IAT and the Skin Color IAT are the most important tests to take to determine the level of implicit racial bias. However, the Gender Science IAT, the Age IAT, the Native IAT, the Child Race IAT, and the Obesity IAT are also important to explore, given findings in the literature about these biases in health care.

It is recommended that physicians and other health care practitioners perform a brief review of a random sample of their patients’ medical records. Request that a clinic assistant or other staff randomly select 26 or more cases of similarly situated patients of different races and ethnicities. The patients should have the same basic diagnosis and medical insurance coverage. It is suggested that the medical records be equally divided (half should be White and half African American, or Latino/Hispanic, or American Indian, etc.). Before reviewing the medical records, physicians or other health care providers should write down the key symptoms on clinical presentation or test results associated with the diagnosis. They should also write down reasons for the recommendation of specific treatments, length of hospitalization, and/or follow-up appointments. The physician or other health care practitioner should then review the medical records and note what symptoms were displayed, how early the symptoms were displayed, the type of treatment the patient received, and how quickly the patient received the treatment. The physician or other health care practitioner should also note the length of time spent examining the patient, if the records reflect the time accurately.

**Clear and compelling evidence documents that patients are treated differently based on race, ethnicity, English language proficiency, socio-economic status, and other demographic factors, and that health care practitioners are frequently unaware of this differential and disparate treatment.**

After completing the initial self-assessment, the physician or other health care practitioner may find that there is no disparity in treatment. However, the inquiry should not end there. The physician or other health care practitioner should perform several more reviews for other diagnoses, since the implicit biases may manifest only for specific types of treatment options, injuries, or diseases.

### **Solution - Prescription, Part 1: Consistent, Periodic Self-Assessments**

The brain can self-correct for bias in the future. However, this self-correction usually requires motivation. A simple desire to be fairer may not be sufficient. If health care practitioners commit to periodic self-assessment, this action could make a significant difference in the way that they control implicit biases. Every quarter, the health care practitioner should request an administrative or clinic assistant to randomly select 15-20 cases with a similar diagnosis. The health care practitioner can then determine whether the patients received disparate treatment, using the previously described self-assessment process.

If health care practitioners know that the treatment of each patient may eventually be compared based on race or ethnicity (or other demographic factor) in the periodic assessment, they will begin to compare treatment decisions based on race, ethnicity, or other factors at the moment they are made. The physician or other health care practitioner can ethically ask whether or not the prescribed treatment, accuracy of diagnosis, and time spent on clinical examination are fair and equitable. If health care practitioners ask these questions as they make critical decisions, they can more effectively control automatic and implicit biases.

**Evidence has shown that employees/workers are more likely to perform those behaviors for which they are measured or assessed.**

### **Solution - Prescription, Part 2: Perform Systemic Assessments**

Health care systems, hospitals, and medical groups should be encouraged to perform system-wide self-assessments using randomly selected cases from patients with similar medical histories and diagnoses. They should perform the assessments of patient care and outcome, as previously described. The literature documents that many health care practitioners do not believe or respond negatively to the suggestion of bias in their practices. Given the array of feelings that may arise, those conducting such assessments may choose to remove the names of treating physicians or health care practitioners. However, all involved in the assessment should be informed. If health care practitioners

know that the assessment will be performed periodically, they may begin to more critically analyze their decisions and attempt to safeguard against implicit biases. Also, physicians and other health care practitioners may be more motivated to implement solutions to implicit biases if they discover that they are part of a system that has engaged in biased decision-making. They may want to implement solutions particularly when these decisions have negative consequences for their patients and/or contribute to disparate care.

**Organizational self-assessment provides a vehicle to measure outcomes for health and mental health care organizations, their personnel, and the populations and communities they serve. Such processes can have a direct impact on reducing disparities in care.**

### **Changing the Way the Dorsolateral PFC Applies Learned Stereotypes**

Neuroscientists posit that the dorsolateral prefrontal cortex (dlPFC) houses rules that we use as defaults to make assessments. The famous Stroop Test demonstrates that when we see the word “YELLOW,” we automatically think of the concept yellow. It also shows that when the word “YELLOW” is written in purple letters and we are told to name the color of the letters, we mentally stumble. Our dlPFC forces us to first think about and name the concept yellow and ignore the instruction to name the color of the letters. The default position of the dlPFC can be called rules that the mind and brain use. The dlPFC is resistant to change and actually activates to disregard instructions of values that are in conflict with the learned rule.

As a society, we give many rules that we implicitly use to label and assess. The rules have been created and perpetuated through repetition of images, statements, and practices. Images of people who commit crimes versus those who are honest, people who are lazy versus those who are hardworking, people who are poor versus those who are affluent, people who are kind versus those who are cruel, and people who have superior intelligence versus those who have intellectual disabilities can become rules. For example, if people receive repeated negative images of African Americans, these images will become rules housed in the dlPFC. It is easy to find proof that these images have widespread effects (i.e., 70-87% of White people have implicit negative associations with African Americans, as shown on the Race IAT).

### **Solution - Preventive Care: Activate the Basal Ganglia to Overcome Default Rules of the dlPFC**

The evidence shows that after being inundated with proof that dlPFC rules are inapplicable, inappropriate, and invalid, the basal ganglia will intercede and change the rule. Physicians and other health care practitioners therefore must decide to inundate themselves with information that will eventually activate and allow the basal ganglia to change the rule. The goal must be to create a new set of rules in the dlPFC by activating the basal ganglia. For example, to counteract and change the negative and stereotypical rules, the brain must take in a large number of positive and counter-stereotypical images of African Americans: Health care practitioners can:

1. Place positive images of children and adults who are African Americans in their environment (e.g., photographs as well as paintings and artwork in their home and office);
2. Create a computer screen saver reflecting a variety of diverse images that counter the stereotypes;
3. Commit to increasing their knowledge about positive intellectual and heroic African American figures, both historical and contemporary; and
4. Engage in constant meaningful educational programs that directly address implicit biases.

**Studies describe the impact on patients of health care practitioners whom they perceive are uncomfortable with or disrespectful to them due to race, ethnicity, body size, socio-economic status, ability to speak English, sexual orientation, gender identity or expression, and other factors. These dynamics include, but are not limited to, lack of trust, poor communication, tenuous patient-provider relationship, and indeed are contributing factors to health disparities.**

### **Moving Judgments About the Patient to the Ventromedial PFC**

Studies show that people use the ventromedial prefrontal cortex (vmPFC) to judge and predict behavior of people who are like them. And they use the dorsomedial PFC (dmPFC) to make the same assessments about people who are not like them. When people make assessments about themselves, they activate the vmPFC. People also distinguish subtleties for and provide the benefit of the doubt toward their own actions more readily than to the actions of others. We, as people, are more likely to attribute our mistakes and failings to our circumstances and experience rather than our character. This finding has led many cognitive neuroscientists and psychologists to conclude that when we assess people who are like us, they gain an advantage. We are more likely to distinguish subtleties and give people like us the benefit of the doubt, when we judge them and predict their behavior. People who are not like us run the risk of being characterized by gross generalizations. We may be more likely to blame patients who are not like us for their failings in personal habits, management of their health, or their socioeconomic position. The more we blame, the less we help, empathize, and humanize the patient.

### **Solution - Preventive Care: Move the Assessment of the Patient to the vmPFC**

If the health care practitioner walks into the examination room and consciously finds five things about the patient that are similar to himself or herself, this may enhance the possibility that the vmPFC rather than the dmPFC will be used to encode the patient. The health care practitioner should look for similarities in a variety of categories:

1. Facial features and mannerisms (e.g., smiles, uses hands when talking);
2. Medical history;
3. Personal history (e.g., similar region of the country, city, urban, rural, or tribal environment, number of children); and

4. Personal preferences and leisure activities (e.g., favorite foods can be gathered during a brief discussion about dietary habits; favorite activities can be gathered during a brief discussion about exercise regimens).

If the health care practitioner regularly creates a mental list of similarities, this step may increase the likelihood that the patient will be encoded in the vmPFC.

**Studies suggest that you should look for what you have in common.**