

Foundations of Emergency Medicine

Foundations III: Guided Small Group Experience

Session 24: “Implicit Bias in Emergency Medicine”

Unit: Non-Clinical Skills

Prior to the session, all residents should take the “RACE” Implicit Assessment Test at

<https://implicit.harvard.edu/implicit/selectatest.html>

❖ Agenda and Learning Objectives

- Case I – (15 min)
 - Define the difference between explicit and implicit bias
 - Discuss the prevalence of implicit bias among healthcare providers
 - Describe the impact of implicit bias on physician-patient interactions and clinical outcomes
- Case II – (10 min)
 - Discuss the factors that contribute to gender differences in emergency treatment
 - Compare the standard perceptions of men and women when they seek emergency care for conditions such as chest pain.
- Open Discussion and Teaching Points (20 min)
 - Discuss how implicit biases may be helpful? Counterproductive?
 - Interpret how IAT results may relate or contribute to experiences in the clinical setting?
 - Explain how cognitive stressors can lead to greater levels of implicit bias
 - Explore the factors that shape biases (both explicit and implicit) towards patients based on race, gender, socioeconomic status, sexual identity, or religion?
 - Discuss methods to mitigate negative unconscious biases

❖ Note to Facilitators

The purpose of this session is to create a safe space to discuss the impact of bias on medical decision making, patient care, clinical outcomes, and overall patient experience. The goal of the session is to use the following cases to reflect on how implicit bias may have led to differences in clinical care and patient outcomes due to race and gender. In addition, this session is designed to guide the participant to reflect on his or her own biases and their origins. Participants should be encouraged to share their experiences freely on these topics. We recommend that you remind participants of the importance of confidentiality and respect to facilitate an open discussion. It is a 50-min question guided discussion and requires no additional materials to facilitate. The facilitator should take the “RACE” implicit bias assessment tool (linked above) prior to facilitating the session in order to begin exploring their own implicit biases and help guide the discussion.

❖ Case 1 - Abdominal Pain

- *It is a busy Saturday night in your urban emergency department. You sit down to receive sign out from the out-going resident. Your co-resident signs each patient out to you one by one. He then states, "The next patients both have belly pain. The patient in Bed 5 has epigastric pain and has received Morphine x 2. Make sure to re-examine his abdomen after his labs return. I don't want to miss anything on him. The guy in Bed 9 is full of it. For some reason I don't trust him...he's probably drug seeking. I gave him some Tylenol. Once his labs are back, send him home."*

Following sign out, you make your rounds to see the patients. You stop by Bed 5 and see a well-appearing, 46-year-old, white male resting comfortably in bed. You examine his abdomen and he has no abdominal tenderness. You tell him that you will start his discharge process and he agrees with the plan. You proceed to Bed 9 where you meet a 24-year-old, African-American male who appears very uncomfortable. You examine his abdomen and note that he is diffusely tender, but possibly more so in the right lower quadrant. He looks at you and says, "Doctor, I am in a large amount of pain. Can I please have some other pain medication? The Tylenol just didn't help. I've never been in this much pain before." You look into the patient's chart and notice that his last visit was 3 years ago for a wrist fracture that he acquired while skateboarding. You order Morphine as well as an CT abdomen/pelvis. Your nurse sees the order and says to you, "Thank you! This poor patient has been in so much pain. I asked the previous resident multiple times for stronger pain medicine, but he continued to say no."

You circle back around to the patient's bed 1.5 hours later. He is resting comfortably with 2/10 pain. He thanks you for your help. You then receive a phone call from the Radiologist who says, "Hey, your patient in Bed 9 has an appy and it looks like it may perforate soon. You may want to call Surgery ASAP."

❖ Discussion Questions with Teaching Points

- **How is bias categorized? What is meant by explicit vs implicit bias?**
 - Bias is categorized into explicit and implicit bias¹
 - Explicit bias: conscious attitudes that are recognized by the individual and can be measured by self-report
 - Implicit bias: unconscious and involuntary attitudes and beliefs towards a person, group, or idea that can influence behavior, perceptions, or patient management
- **What are your thoughts about this case? Did bias play a role in the difference in pain management and clinical care?**
- **What impact can bias have on clinical care and outcomes? What data exists that bias can affect medical care?**
 - Variations in clinical care and outcomes of ethnic minorities and women have been extensively studied. Perceived and actual discrimination experienced by these groups in the healthcare setting is believed to contribute to:
 - Negative mental and physical health outcomes

- Lower patient satisfaction, which leads to lower rates of treatment adherence and medical complications
 - Several studies have investigated if implicit racial/ethnic bias exists among health care professionals and how this bias may impact patient-provider relationships and health outcomes
 - The majority of these studies used the Harvard IAT² to assess implicit bias and its correlation to patient-provider communication and rapport, clinical decision making, patient experience, and overall health outcomes
 - Two independent systematic reviews of the current literature demonstrated that physicians and other healthcare professionals have mild to moderate implicit biases against Black, Hispanic, American-Indian, and dark-skinned individuals^{1,3-5}
 - however, this level of implicit bias is equal to the general population
 - The studies also showed that increasing pro-white implicit bias was significantly related to:
 - Worse patient-provider interactions
 - Black patients reported less patient centeredness or contextual knowledge transfer during their clinical encounter compared to their white counterparts
 - Differences in treatment decisions
 - Physicians were less likely to recommend thrombolysis for black patients with myocardial infarction or prescribe narcotic pain medication to black children with abdominal pain.
 - Decreased adherence to recommended treatment regimens
 - Black patients were less likely than white patients to fill prescriptions recommended by physicians with higher pro-white bias
 - The studies did not demonstrate any significant correlation between implicit bias and observed or self-reported health outcomes
 - Mixed study results
 - Limitations of current literature
 - Most of the studies reviewed were vignette-based and revealed mixed results on the relationship between implicit bias and patient care/outcomes
 - All of the studies that measured implicit bias in a real patient care setting persistently demonstrated an association between higher physician implicit bias and poorer patient-provider interactions and overall experience → however, the clinical outcomes of the patients treated by physicians with pro-white implicit bias varied
- **Where else in the ED has bias been shown to effect medical care?**
- Bias in ED Triage decisions
 - Several studies have noted that racial/ethnic minority patients and women are often triaged with a lower level of urgency than their white, male counterparts even when adjusted for chief complaint, comorbidities, vital signs, etc.⁹⁻¹¹

- The cause for lower level triage decisions may be due to implicit bias, cognitive biases such as ascertainment bias and even institutionalized racial and gender bias that was taught to nurses and physicians during training
- Lower level triage scores result in longer wait times to see a physician, higher potential for anchoring bias, which can lead to misdiagnosis, and overall poorer health care outcomes

❖ Case II - The Broken Heart

- *You are doing a 2-week quality rotation during your senior year. As part of your rotation, you are tasked with performing case reviews with your department's Medical Director of Quality. You are assigned a case to review due to a possible delay in treatment. The case is as follows:*

62 yo Spanish-speaking woman presents with complaint of chest pain. Using an interpreter, the patient states that she developed acute onset of left sided chest tightness the evening prior to her ED presentation that lasted for 10 minutes and resolved on its own. The morning of her ED visit, she was watching television and developed the same chest tightness that radiated to her left arm. This time the chest tightness was associated with mild shortness of breath. She became very anxious and called her son who immediately brought her to the ED. The patient has a history of hypertension and hypercholesterolemia. Her exam is remarkable for normal vital signs. She appears anxious and continues to complain of chest tightness. Her triage EKG demonstrated mild ST elevation (0.8mm) in the lateral leads with inferior T wave inversions. She received a full complement of labs and was given an aspirin and a GI cocktail, which slightly decreased her chest tightness. One hour later, her troponin resulted as positive at 1.1. A repeat EKG showed ST elevation (1mm) with persistent T wave inversions. Cardiology was consulted for possible cardiac catheterization. Cardiology recommended NTG, heparin, and a repeat EKG. The 3rd EKG showed slight mild resolution of the ST elevations. She was admitted to the Medicine service with cardiology consult. She was discharged on hospital day 3 with a scheduled outpatient diagnostic cardiac cath in 2 weeks and primary care follow up. Her outpatient cardiac cath demonstrated complete occlusion of the circumflex artery with corresponding myocardial infarction of that region.

❖ Discussion and Teaching Points

- **What are your thoughts about this case? Would patient care or treatment be different if the patient was of a different gender, race, or linguistic background?**
- **What data exists that gender bias can influence clinical care?**
 - Gender Bias and Clinical Outcomes
 - Several studies have demonstrated the impact of gender bias on ACS related diagnosis, management, and treatment of chest pain in women
 - A recent study demonstrated that females who present to the ED with chest pain (with cardiac features) and a troponin > 99th percentile were less to be diagnosed with a myocardial infarct

or receive a cardiac catheterization within 7 days following admission⁷

- Additional studies evaluating gender bias in EM and other specialties when treating ACS demonstrated⁸:
 - Delays in the identification of STEMIs
 - Longer median door-to-STEMI activation
 - Fewer cardiac catheterizations than male patients even after controlling for history and clinical tests
- Gender identification and treatment differences have been noted in other medical conditions including trauma, critical care, sepsis, and stroke

[Note to facilitators: Session 30 will address caring for the limiting English proficiency patient. You may choose to wait until that session to discuss linguistic bias]

❖ Putting It All Together - Group Discussion

- **How are implicit biases helpful or harmful? How can implicit biases contribute to health inequities?**
 - Bias can be a form of mental shortcut, one of the reasons why it is thought that increased cognitive stressors leads to higher expression of provider bias
 - Physicians may demonstrate a desire to provide equitable care to all → however, they may unintentionally interact with patients of color less effectively than with white patients, which may contribute to health disparities³
- **How might your IAT results be related to your experiences in clinical care? Do you think cognitive stressors during a shift lead to greater levels of implicit bias?**
 - Implicit bias and cognitive stressors in the ED
 - Characteristics of the ED, such as overcrowding, high-acuity patients, and workflow interruptions can lead to mental shortcuts which include racial bias and stereotyping
 - These characteristics are known as cognitive stressors¹²
 - Psychology studies reveal that people who are mentally fatigued demonstrate more implicit racial bias when performing timed tasks
 - Johnson, et al predicted that EM residents would have greater implicit racial bias post-shift vs pre-shift due to cognitive stressors
 - The study found that resident physicians had a moderate pro-white/anti-black bias pre-shift which did not change post-shift
 - Despite the consistent level of pro-white implicit bias, residents did experience a greater level of implicit bias during shifts with cognitive stressors, such as overcrowding
 - Primary outcome of the study demonstrated that cognitive stressors lead to greater levels of implicit bias and stereotyping behaviors
- **What do you think may have shaped your biases (both explicit and implicit) towards patients based on race, gender, socioeconomic status, sexual identify, or religion? Are**

biases sometimes passed down from attending to resident? Or from nursing and triage? What can we do to mitigate our negative unconscious bias?

- Explicit and implicit biases in the clinical setting may be vertically transferred from attending to resident physician in academic EM
- Interventions to decrease bias include^{3,12,14}:
 - Positive image demonstrations to counteract automatic stereotyping
 - Self-reflection of personal implicit biases to reduce impact of stereotype threat during patient-physician interactions
 - System-level interventions to reduce clinical care and outcome variation
 - Bias awareness training for both seasoned and training physicians and healthcare staff
 - Include gender, race in decision making only when necessary
 - Appropriate staffing and training to reduce cognitive stressors

❖ Teaching Points

- Implicit bias is defined as “unconscious and involuntary attitudes and beliefs towards a group, person, or idea that can influence behavior, perceptions or patient management” whereas explicit bias is “conscious attitudes that are recognized the individual and can be measured by self-report”
- Bias is pervasive in the medical system, including in Emergency Medicine, and has been shown to negatively impact multiple aspects of patient care including the allocation of life-saving treatment
- Implicit bias appears to worsen when under cognitive stress
- Many measures have been attempted to combat bias and have met with varied success

❖ Facilitator Background Information

The goals of this session are to:

- 1) Reveal and discuss how physician bias can impact the provision of quality healthcare and contribute to health inequities
- 2) Encourage participants to acknowledge and reflect on their own biases and the impact of such biases on system-level and individual clinical practices.
- 3) Identify actionable methods to mitigate individual and group bias in the clinical setting to promote equity care and improved clinical outcomes for diverse patient populations.

The landmark Institute of Medicine report, *Unequal Treatment*¹⁵, was one of the first publications that clearly noted that “bias, stereo-typing, prejudice and clinical uncertainty on the part of health care providers may contribute to racial/ethnic disparities in health care.” This bias can be in the form of explicit or implicit bias. **Explicit bias** is defined as “conscious attitudes that are recognized by the individual and can be measured by self-report” while **implicit bias** is defined as “unconscious and involuntary attitudes and beliefs towards a person, group, or idea that can influence behavior, perceptions, or patient management”. As one can easily gather, measuring explicit bias and its impact on patient care and outcomes is a challenging task due to providers intentionally adopting a more socially appropriate attitude towards diverse patient populations to hide their known explicit biases when directly questioned. What is even more challenging is measuring providers’ implicit biases since they are not aware, or have not acknowledged, their beliefs and attitudes towards a patient demographic that directly influences patient care and the provider-patient relationship.

Racial/ethnic and gender inequities in healthcare and clinical outcomes have been extensively documented in medical literature. Several factors are thought to contribute to health disparities among low-income communities of color, such as lack of access to quality healthcare services and food deserts, and limited community space for physical activity. However, these factors do not explain persistent health inequities among minority and women patient of higher socio-economic status. Emergency medicine as a specialty is not exempt from the delivery of biased healthcare despite the mandate to provide stabilizing care to patients regardless of race, gender, age, citizenship status, or ability to pay. This has been demonstrated by racial and gender differences in ED-based clinical management for patients with chest pain, abdominal pain and other conditions requiring pain management⁴⁻⁷.

Measures to mitigate bias have met variable success. These include positive image demonstrations, self-reflection and bias awareness training, system-level interventions to reduce clinical care variation and appropriate staffing and training to reduce cognitive stressors. We are not immune to bias in emergency medicine and we owe it to our diverse patient population to provide equitable care. To this end, we must examine, discuss and try to dismantle our own implicit biases and assist those around us in doing the same.

❖ References

- **Author:** Dr. Medell Briggs
- **Editors:** Dr. Natasha Wheaton

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