Improving Diversity in Emergency Medicine Residencies
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The lack of diversity within the medical community is well known and well documented. Emergency medicine is not immune from this issue, and our demographics are obvious not only in the literature but also in the real world, where our patients are unlikely to see providers who look like them.

Our own institution, Boston Medical Center (BMC), is a large, urban, safety net hospital where 59% of our patients come from underserved populations and 31% do not speak English as a primary language. In contrast, only 10% of our EM residents identify as underrepresented in medicine (URM). Per the Association of American Medical Colleges (AAMC), the term URM is defined as “those racial and ethnic populations that are underrepresented in the medical profession relative to their numbers in the general population,” which currently includes providers who self-identify as black or African-American, Hispanic or Latino, Native American, Native Alaskan, or Native Hawaiian.

Why does diversity in the workforce matter? In short, it is better for us and better for our patients. URM physicians increase access to care for underserved populations as they are more likely to work in these communities. URM physicians also improve the patient experience. Research has consistently demonstrated that race concordance between physician and patient is associated with higher patient participation in care and ultimately higher patient satisfaction. Additionally, URM physicians help us all to be better doctors; increased diversity in training settings is correlated with improved educational outcomes for all students.

Racial and ethnic disparities in healthcare are pervasive and problematic, with multiple studies showing that the color of your skin too often correlates with the quality of your care. The particular challenges of the Emergency Department, a place where both time and information are in short supply, make it particularly prone to the bias and stereotyping that likely contribute to unequal treatment.

Numerous professional medical organizations, most prominently the Institute of Medicine, have suggested that increasing healthcare’s workforce diversity is a critical component in correcting this structural injustice. Emergency Medicine committees have also voiced strong support for this strategy. In 2008, the Council of Emergency Medicine Directors (CORD) published summary recommendations from its Diversity Workgroup on how EM residency programs could both examine and improve diversity in their respective institutions. These recommendations included a focus on URM recruitment and selection strategies, curricula related to cultural competence, and URM faculty involvement.

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Our Diversity Committee

We believe that valuing diversity not only in our own program but also in our specialty as a whole increases culturally-competent patient care. Explicitly prioritizing this belief allows us to practice the kind of medicine that leads to better outcomes and builds stronger communities.

This year, a group of our residents formed a Diversity Committee to formally address this issue. With the support of our program director, we met with BMC’s Diversity Officer and identified the following targets: (1) promoting our existing pipeline programs and improving URM recruitment; (2) revising our residency application screening process to better align with our core institutional values; (3) explicitly discussing these efforts with applicants and colleagues; and (4) examining why URM applicants choose other institutions.

Pipeline & Recruitment

BMC hosts a subsidized visiting elective program to provide financial assistance and support to URM medical students in all departments. The initiative has been popular among visiting URM students, but the number of URM participants in the emergency medicine rotation has been limited. Efforts are underway to increase enrollment. We feel strongly that exposing visiting students to BMC’s patient population, emphasis on social justice, and public health ethos will resonate with URM medical students seeking to work with underserved communities. To that end, we have highlighted the URM visiting elective on our website and optimized our “Applicant Information” section to emphasize our desire to increase URM recruitment.

Screening

The EM residency program at BMC typically receives well over 1,000 applications annually for twelve positions. Selecting candidates for interviews and ranking applicants are difficult and time-intensive endeavors. After reviewing current screening protocols, we felt our existing guidelines should be revised to better reflect our institution’s core values as opposed to more traditional criteria (e.g., USMLE scores, class rank, medical school). We restructured our screening tool to de-emphasize the latter and highlight the applicants’ more holistic and foundational characteristics: experiences with adversity, extracurricular activities, and devotion to social justice. Assuring that screeners were aware of the applicant’s URM status was also prioritized.

Honest Discussion

Talking about workforce diversity can be difficult and can make people uncomfortable. It can be particularly challenging in a setting where the majority of residents and faculty are not URMs. We thought it was important to explicitly open a dialogue with our applicants about our residency program’s lack of diversity. We began the conversation by sending individual emails to all applicants selected to interview who self-identified as URMs. The email was sent from a member of the Diversity Committee and stated the following: we believe the lack of diversity in our residency program impacts not only our training but also the care that our patients receive, we are actively working to improve in this area, and we are open to your feedback. Our program director also addressed both our lack of diversity and our current prioritization of this issue on each interview day with all of the applicants.

Additionally, we continue to have both informal and formal discussions regarding program diversity within our own residency and during faculty meetings. We also encouraged applicant screeners and interviewers to consider taking the Implicit Association Test in order to raise their own awareness of the ways bias unconsciously informs our actions.17

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Despite our lack of quantitative data, early indicators have been encouraging. Most notable is the number of applicants who have voiced appreciation at our program’s decision to have an open and frank conversation about the lack of diversity and our desire to address it. One applicant stated, “I’ve wanted to talk about [the lack of diversity in EM programs] at every place I’ve interviewed, but I haven’t felt comfortable doing so. I am so grateful that you guys are discussing it up front.” These conversations have been illuminating and have resulted in more introspective and reflective discussions within the Diversity Committee and residency at large.

Since implementing these strategies, a study was published in the Journal of Emergency Medicine looking at the impact of the 2008 CORD recommendations. It demonstrated that less than half of EM programs in the country have implemented two or more of the suggested strategies. Moreover, it showed that the median percentage of URM residents per program is persistently low – only 9%. The study also identified factors associated with higher resident diversity (i.e., increased percentage of URM residents). These factors included diversity of EM faculty; improving awareness of applicant URM status; engaging in URM pipeline activities; and acknowledging the importance of extracurricular activities.18

The lack of diversity in EM residency programs is a deep-seated problem without easy solutions. It will require a longstanding commitment at all institutional levels, particularly at the top where decisions concerning faculty hiring and promotions can have everlasting downstream effects. Nonetheless, we feel strongly that the history of our specialty and its ability to stand at the forefront of the medical community in upholding the value of diversity.

17Project Implicit. Available at: https://implicit.harvard.edu/implicit/.
Promoting Safe and Effective Post-Discharge Care to Confront Complex Social Needs in the ED
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Social Emergency Medicine Interest Academy
Harvard Affiliated Emergency Medicine Residency, MGH/BWH

While universal healthcare continues to be debated by the American public, the notion that care should never be withheld for emergent conditions has been entrenched in our national health system. The Emergency Medical Treatment and Active Labor Act (EMTALA) was passed by Congress in 1986, and mandates that any individual seeking medical treatment in an Emergency Department (ED) must be seen and provided immediate medical attention for acute conditions, regardless of citizenship, legal status, or ability to pay. With the U.S.’s fluctuating healthcare system, the ED’s role as the de facto medical safety net for the underserved, homeless, and socially disenfranchised is more important now than ever. However, this changing landscape also demands a more dynamic, expansive and inclusive approach by EDs at a time when they are also struggling to navigate funding and political challenges.

Health is not a calculation of one’s medical conditions minus treatment, but a comprehensive sum of a complex set of factors and determinants. In particular, the importance of the social determinants of health has been increasingly demonstrated in the public health and emergency medicine literature. Despite this fact, our EDs are under equipped and ineffectively designed to deliver adequate care to patients with complex social needs, even when those are the explicit precipitants of their illness and their request for help.

In Massachusetts, we are fortunate to have a robust network of social services to support individuals suffering from homelessness, addiction, food insecurity, and interpersonal violence. These social conditions are inextricably linked with the medical complaints that bring our patients into the ED. Unfortunately, as physicians we are not effectively trained in addressing these needs, and there is a critical breakdown between patient need and service enrollment playing out repetitively and hourly in the state’s EDs.

Massachusetts General Hospital (MGH) is a 1,000-bed tertiary care academic medical center in Boston, MA. An estimated 22% of Boston residents live below the Federal Poverty Level (FPL) and the size of undomiciled population is growing at a rate of approximately 4% per year, with a total of 7,255 undomiciled residents in 2013. This population is familiar to the EDs of Boston, and yet Emergency Medicine (EM) residents often lack sufficient training to provide appropriate resources to patients with complex social needs while juggling the many demands of a clinical shift. In our own department, current resources are limited to an outdated list of homeless shelters, a primary care referral pathway that does not cover patients with limited or no insurance, and one social worker for the entire ED on nine-hour coverage or available from home. This issue is compounded by the innate weaknesses in institutional memory resulting from the natural flow of residents out of the program after completing the four-year training program. As a result, the quality of care provided to patients with complex social needs does not meet an acceptable standard of care at our hospital or at other EDs.

In order to optimize care for patients with complex social needs while also improving the quality of service delivery, we have begun a series of programs to consolidate and streamline the existing resources through the ED using standardized discharge and referral plans. Our goal is to trial, study, and ultimately redesign our ED practices around discharge and referral, to ensure that patients are provided with practical and attainable plans for longitudinal care after leaving the ED, recognizing that treating a patient’s acute complaint without acting to eliminate or even reduce the social hazards that precipitated their condition is insufficient. We are hoping to share and learn from best practices across the city, to coalesce the disparate resources that are available to our patients and to EM residents creating post-ED care plans. By providing resources for EM residents to create clear and safe discharge plans with adequate follow-up for our patients with complex social needs, we hope to improve patient care and create a generation of emergency physicians who are prepared to withstand political and funding changes without compromising patient care.

left to try to scrounge up the money needed for his diagnostic workup.

The next morning, the patient was still there. His mental status had worsened, but his family had finally been able to borrow enough money for his CT scan. The $70 fee did not include a radiology read - I would be the one to interpret it. It didn’t matter, as the finding was not subtle - large left intraparenchymal hemorrhage in the basal ganglia, with intraventricular extension.

I reached for the laryngoscope, thinking, “this guy should have been intubated 24 hours ago.” It wasn’t the smoothest intubation. The bulb on the laryngoscope flickered a little during the intubation. The bougie had been used before, and was bent in an awkward shape. I found out that a lot of their resuscitative equipment including BVMs and oxygen tubing is reused over and over again, carefully cleaned after each patient.

The patient died two days later in the ICU. The ward attending later came by and gently informed me that intubating a patient like him was not their typical practice. The families often cannot afford the prolonged ICU stays and the hospital ends up being unable to cover their own operating expenses, and patients like him often die anyways, she said.

That night, when I went to bed, I imagined what his care might have been like in the U.S. He certainly would have gotten a CT quickly, he would have been intubated earlier, and he certainly would have had multiple specialists weighing on his case. Would it have made a difference? Maybe. But maybe not. I have seen plenty of patients like him die in the U.S., despite heroic measures.

When I came home, on my first shift back in our ED, I first walked into our large resuscitation room. I marveled at all of our equipment - the laryngoscopes and their bright, steady lights, the brand new BVMs waiting to breathe their first breath. I ordered several CT scans during my first shift back, all of which were done and resulted within hours, without regard to whether my patients could pay or not. They were all normal. I saw a patient who called an ambulance for his chronic foot pain. Another colleague whined to me interventional radiology wasn’t calling him back. It wasn’t until I left the US that I realized how richly fortunate we are here.
A Review of Sepsis 3.0
Peter Allfather, MD
Harvard Affiliated Emergency Medicine Residency, MGH/BWH

Approximately 15 years after the last international consensus statement on the definitions of sepsis and septic shock were published, the Society of Critical Care Medicine and the European Society of Intensive Care Medicine have produced an updated collaborative manuscript, colloquially known as Sepsis 3.0. Principally, this iteration represents a departure from the concept of the Systemic Inflammatory Response Syndrome (SIRS) as the physiologic basis for sepsis and its identification in clinical settings established by the previous consensus statement. The authors also identified a number of other areas related to sepsis identification to which present evidence could be potentially applied.

How They Did It: This manuscript represents a consensus statement of 19 physician-experts in the fields of critical care, surgery, pulmonology and infectious disease (I.D.), which has been subjected to external peer review. Importantly, it was NOT a clinical trial and there was no specific statistical analysis applied to the data being presented. However, the task force used a validated methodology for grading “consensus,” the Delphi Method. Additionally, specific recommendations were supported by both original and outside evidence including multiple clinical trials as obtained by broad literature review. External review was accomplished by submission of the consensus statement to multiple international, critical-care societies, of whom 31 endorsed the manuscript. (Of note, ACEP, SAEM, and the American College of Chest Physicians were not among the endorsing societies.)

Issues addressed by the task force (what the authors attempted to do):
- Express how the syndrome of sepsis differs from uncomplicated infection.
- Craft definitions of sepsis and septic shock that reflect the most recent evidence.
- Describe features of sepsis and septic shock that can be identified and assessed in patients uniformly.
- Develop clinical criteria to better identify which patients with suspected infection are likely to progress to sepsis or septic shock.
- Correlate new definitions of sepsis and septic shock with ICD-9-CM and ICD-10 codes.

Sequential Organ Failure Assessment (SOFA) Score

<table>
<thead>
<tr>
<th>System</th>
<th>Score</th>
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<tbody>
<tr>
<td></td>
<td>0</td>
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<tr>
<td>Respiration</td>
<td></td>
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<tr>
<td>PaO2/FiO2, mmHg ≥400</td>
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<tr>
<td>&lt;200 w/ respiratory support</td>
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<tr>
<td>Coagulation</td>
<td></td>
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<tr>
<td>Platelets x 10³/µL</td>
<td>≥150</td>
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<tr>
<td>Liver</td>
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<tr>
<td>Bili, mg/dL</td>
<td>&lt;1.2</td>
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<tr>
<td>Cardiovascular</td>
<td></td>
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<tr>
<td>MAP ≥70 mmHg</td>
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<tr>
<td>MAP &lt;70 mmHg</td>
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<tr>
<td>Dopamine &lt;5, or any</td>
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<tr>
<td>Dobutamine</td>
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<tr>
<td>Dopamine 5.1-15, or</td>
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<tr>
<td>Epi ≥0.1, or Norepi</td>
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<tr>
<td>≤0.1</td>
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<tr>
<td>Dopamine &gt;15, or Epi</td>
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<tr>
<td>&gt;0.1, or Norepi &gt;0.1</td>
<td></td>
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<tr>
<td>Vasopressor doses in µg/kg/min for ≥ 1 hour</td>
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<tr>
<td>GCS</td>
<td>15</td>
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<tr>
<td>Renal</td>
<td>&lt;1.2</td>
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Identified Challenges and Opportunities:
- There are difficulties in establishing definitions for a syndrome without a gold standard diagnostic test.
- Sepsis is the primary pathway through which infection becomes fatal. To reduce mortality from infection we must be able to identify sepsis.
- The previous definition of sepsis (a source of infection and a patient demonstrating two or more SIRS criteria) considered only inflammation as the clinical manifestation of sepsis. Our understanding of sepsis has changed: the impact of sepsis on the host body is now known to impact a wide range of physiologic systems beyond inflammatory cascades. Indeed, sepsis is known to exist in the absence of clinically detectable signs of inflammation and vice-versa.
- What differentiates sepsis from simple infection is an abnormal host response to that infection as well as organ dysfunction.
- There is a need to update sepsis definitions such that known infection prompts the investigation of organ dysfunction, and newly discovered organ dysfunction prompts consideration of the possibility of infection.
- There are several different scoring systems that have been investigated and proposed for the assessment of organ dysfunction, and there are inconsistencies amongst them when compared in a shared patient population.
- There is an organ dysfunction score in current use in the critical care community: the Sequential Organ Failure Assessment (SOFA), however, it is not widely recognized outside of the ICU.
- There are multiple, conflicting definitions of septic shock.
Results and Recommendations:

- Sepsis should no longer be defined by the presence of SIRS criteria. Sepsis is defined as life-threatening organ dysfunction caused by a dysregulated host response to infection.
- Organ dysfunction can be assessed by utilizing the SOFA score: dysfunction can be identified as an acute change in SOFA score ≥2 points due to infection.
- The baseline SOFA score in a patient without known underlying organ dysfunction can be assumed to be zero.
- A SOFA score ≥2 reflects an overall mortality risk of ~10% in a usual hospital population when the patient has a suspected infection.
- As the SOFA score requires a slew of laboratory tests, a bedside decision tool, the qSOFA, is proposed to identify patients (with suspected infection) who are at risk of a bad outcome. “Bad outcome” being defined by the authors as death or prolonged ICU stay.
- qSOFA criteria is defined by alteration in mental status, systolic blood pressure ≤100 mm Hg, or respiratory rate ≥22/min.
- A positive qSOFA score is ≥2 in a patient with suspected infection.
- Septic shock can be defined as sepsis with persistent hypotension after “adequate fluid resuscitation” requiring vasopressor agents to maintain a mean arterial pressure ≥65 mmHg in addition to a serum lactate of >2 mmol/L (18 mg/dL) also post fluid resuscitation.
- Patients identified as having septic shock by this definition have a mortality in-hospital of over 40%.

Controversies and limitations:

- Sepsis remains a nebulously defined syndrome, and adding the concept of “organ dysfunction” to its definition adds to its complexity and potential for misunderstanding.
- The task force could not achieve consensus on all counts and thus they took pragmatic steps to craft usable definitions.
- qSOFA is born of research stemming from a U.S. exclusive population and remains to be validated among a broader study sample.
- qSOFA/SOFA do not define sepsis. Like SIRS, they can be present in a multitude of conditions besides sepsis and thus they should not be used as clinical monikers for sepsis at the expense of identification and treatment of other causes of organ dysfunction.

<table>
<thead>
<tr>
<th>qSOFA Score Criteria</th>
<th>Score</th>
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<tbody>
<tr>
<td>Systolic Blood Pressure</td>
<td>≥100 mmHg, &lt;100 mmHg</td>
</tr>
<tr>
<td>Altered Mental Status</td>
<td>Absent, Present</td>
</tr>
<tr>
<td>Respiratory Rate</td>
<td>≤22/min, &gt;22/min</td>
</tr>
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• The authors postulate measurement of serum lactate does not add to the rapid identification of sepsis beyond what is offered by the qSOFA score and thus it was not included as a point of care diagnostic tool. The lack of specific recommendations regarding measurement of lactate should not constrain its usage by healthcare providers.

• The authors recognized the need to develop a similar consensus statement on sepsis in the pediatric population as this manuscript only addresses adult patients.

Author’s Conclusions:

The purpose of these updated definitions is to improve the process by which patients with sepsis are identified. It is their hope that the updated definitions represent an improvement over the previous consensus statements, Sepsis-1 and Sepsis-2. However, sepsis is still incompletely understood and this manuscript represents a “work in process” in need of future revision.

Do you want to write for the EM Advocate?

The EM Advocate is looking for intelligent, creative, and interesting articles to highlight resident thoughts and opinions throughout the Commonwealth of MA. Subject matter can include topics of social responsibility, interesting cases, scientific advances, emergency medicine subspecialty issues, grass roots activism, and opinions regarding public or hospital policies, etc.

Please contact your residency’s MACEP representative (listed on front page of this newsletter) or the EM Advocate Editor (Daniel Hegg dhegg@mgh.harvard.edu) for opinions, ideas, and article submission. We look forward to hearing from you!
OpEd
Emily Cleveland Manchanda, MD, MPH
Harvard Affiliated Emergency Medicine Residency, MGH/BWH

The Emergency Department is arguably the most socially diverse environment many of us will ever encounter. By virtue of our public-oriented practice, our patients regularly differ from us in any number of ways, whether by race, ethnicity, culture, religion, and socioeconomic status. Amidst the competing clinical and logistical priorities of our shifts, we aspire to provide each individual timely and comprehensive care with equal empathy and attention. Despite our best efforts, inequalities persist. Disparities are reflected in both objective outcomes including medication errors and subjective measures such as patient satisfaction. On a personal level, I have been confronted at times by my inability to grasp the challenges of a patient’s economic situation, my ignorance of the racial connotations sometimes unintentionally conveyed by my words, and the subtle but powerful influence of the implicit biases I carry. These unintended behaviors and biases insidiously impact the care I deliver. The stress of work and fatigue of residency training can easily blunt awareness of these shortcomings. Under these circumstances, alongside developing our clinical acumen, our residency programs have a compelling responsibility to prioritize equipping residents with the skills and self-awareness needed to improve accountability and sensitivity to our biases and behavior.

Medical training profoundly shapes how we relate to people. In medical school, we learn the science that forms the basis of our understanding of the human body. It further introduces us to the fundamental knowledge and skills needed to identify and address when the human body suffers illness or injury. We begin the journey of socializing how we speak with our patients, how to elicit their stories and explain our understanding of what ails them. Residency deepens our appreciation of the medical knowledge, procedures, and judgment needed to care for our patients through more direct experience and increased responsibility. It is a transformative phase in a doctor’s career, during which we begin to reveal the type of physician we will eventually become. As residents, we are learning by example from cases we encounter and the role models of others involved in their care. We begin to recognize patterns of symptoms that aid in diagnosis, hone our ability to select a treatment course based on a patient’s characteristics, learn to anticipate the course of the healthcare encounter, and fine-tune our ability to develop appropriate contingency plans as needed along the way. We consider the examples shown to us by our faculty, choose over time those methods that we believe effective, and incorporate them into our practice.

Our assimilation of the softer skills of clinical medicine is subtler, and certainly less evidence-based. In the ED in particular, the high volume and diversity of interpersonal encounters provides frequent and ample opportunity to refine the manner in which we speak and relate to strangers. As we learn medical decision-making in our residency years, we simultaneously witness role models using language and behavior that we then assimilate or reject. We learn to modulate the tone of voice we use to deescalate a combative patient. We consider, or perhaps learn by awkward error which pronouns are preferred when addressing or referring to a transgender patient. We may recognize only upon further reflection after a shift the unconscious biases that shape our decision to ask some patients “any drug use?” while choosing to ask others about each and every type of illicit substance they might use. Depending on the culture of our training environment, we may see others speak up and correct a member of the medical team after they say something inappropriate or offensive; or, we may see others ignore such behavior and move on with their day. Over time, these choices about language, tone, assumptions and workplace culture become patterns. These patterns settle into our bones, and become the foundation for how we practice our craft for the rest of our careers. Unfortunately, harmful behaviors and attitudes are as easily acquired as helpful strategies for compassionate patient care.

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In recent years, much-needed attention has been drawn to the dangers of implicit bias, particularly in the area of law enforcement. Less has been demonstrated with regard to the harms of physician biases, though some data suggests that we treat pain, coronary artery disease, and likely other conditions less aggressively in our Black patients than among those with lighter skin tones. While very few of us – I hope none – hold openly racist or misogynist beliefs of white male superiority, our unconscious biases often manifest more in whom we choose to help than in whom we choose to harm. For a physician, the implications of this statement bear repeating, for its significance cannot be understated: our biases determine who we choose to help, even when we do not choose to harm. Our biases unconsciously shape whose pain we take seriously enough to prescribe analgesics; whose statement that “something is just not right” we choose to explore further; which patients we make the extra effort to...
link to appropriate follow-up care. In the Emergency Department we are constantly triaging needs, and constantly assessing where best to put our energy. The data tells us that we unconsciously go the extra mile to help some patients based on skin tone, gender, the clothes they wear, and other visible traits. In the zero-sum game that is the ED, these choices inevitably mean that we divert resources away from other groups of patients.

Our biases, while unconscious and implicit, are not innate. They are learned well before we begin our medical training. We learn them from the gender of the “doctors” and “nurses” depicted in our coloring books and cartoons. We learn them from the accents and clothes of the “good guys” and “bad guys” in the TV shows we watched during childhood. We learn them from the skin tone of the characters in our movies and books, from the media and the stories that are reported on our homepages and news feeds. Our unconscious biases are learned from the people around us, those judgments spoken and unspoken by our elders, our peers, our mentors and our friends. Just as we learn to diagnose disease by pattern recognition, so do we learn and internalize biases with regard to race, gender, and other visible traits as we go through our lives. While internalizing these biases is an inevitable – and at times adaptive – part of existing as part of a larger society, the harmful judgments are neither unknowable nor immutable. Substantial evidence exists to suggest that when we become aware of these subtle differences in how we judge people, we are able to consciously acknowledge and thereby overcome a tendency to treat people differently. Incorporating training on implicit bias recognition early into our residency education is a first step in training a generation of emergency physicians who are equipped to care for all patients equally. Understanding our own biases and working to mitigate them may decrease the interpersonal harm we inadvertently cause to our more vulnerable patients.

And yet, much of the inequity in our healthcare system stems not from overt acts of interpersonal aggression or aversion, but rather from systemic factors that determine which of our patients bear the greatest burden of disease. The economic and political forces that shaped, and continue to shape our communities along color and gender lines permeate every aspect of our lives, from housing and policing to education and healthcare. The structural forces of racism and misogyny are both easier for those they advantage to ignore, and more harmful to those they disadvantage. This is because these forces define the status quo, which is by its very nature difficult to change. In order to produce a generation of physicians who may lead us in disassembling the vestiges of a society built on white male supremacy, we must educate our residents first in what is wrong, both in our minds and in our actions, and then give them the tools to change their own practices and institutions.

In order to build a more equitable healthcare system, we must begin by educating our residents about racism. Residency is a formative time for every physician, and defines the way in which we each practice medicine for decades to come. Our training programs take seriously the challenge of creating knowledgeable, competent physicians; clinical competency must include cultural competency as we continue to care for an increasingly diverse patient population. Systemic change is difficult, and must first be mandated by thoughtful leaders guided by those most disadvantaged by the status quo. While voluntary self-reflection can be a powerful avenue for personal growth, it is a difficult and easily avoided activity, particularly during the hectic, stressful years of residency. All the more reason to incorporate structured times and avenues for resident learning in these areas. Explicit training in implicit bias is an easy way to start down this path, and should be incorporated into every intern orientation in the country. Subsequent education and ongoing discourse about the historical and ongoing legacy of racism in our local communities and our nation is essential as we continue to work toward a place in which each of our patients, regardless of their appearance, receives the care they need in our Emergency Departments.

These are tumultuous times indeed in our nation. In many places, including my own ED, individuals with bigoted views have used their right to free speech to state loudly their distaste for others who look and think differently. Passive and silent disapproval is not sufficient to combat this. It is not sufficient to know in our hearts, or even to tell each other in the quiet of our homes that we stand for values of equity, diversity and inclusion. Proactive and deliberate attention to our own unconscious biases is a prerequisite for doing no harm in our workplace. This must be followed by a deeper exploration of how our society has created disparities in health outcomes, and how it continues to do so today. Only then can we begin the work of changing the parts of our healthcare system and ourselves that perpetuate inequalities. This is critical and urgent work, lest we risk being complicit with forces seeking to deepen those divides.
OpEd Additional Resources

Videos from the New York Times on implicit bias

Implicit-Association Tests, available for free
https://implicit.harvard.edu/implicit/

Showing Up for Racial Justice – educating and organizing white people for racial justice across the nation, with local chapters in many areas;

The ACLU and the NAACP both have excellent educational resources.

Minimizing Super-Utilization in the ED
Lulu Wang
Harvard Affiliated Emergency Medicine Residency, MGH/BWH

As I progress through my training in emergency medicine, I am struck by how so many of the problems we routinely address on shift are not strictly medical concerns. For example, I recently treated a patient with chronic back pain whose only request was for help applying Lidoderm patches to his back. He was suffering alone at home alone and simply could not reach to effectively administer his own treatment. Multiple past ED visits in his record suggested a consistent pattern. In pain and without an alternative from his perspective, he activated EMS to come bring him to the ED for help.

On another shift, I took care of an otherwise healthy young woman who twisted her ankle stepping off a curb. She attempted to be seen in Urgent Care clinics in her area, but these were all closed for the night. Though able to bear weight, she remained concerned she might inadvertently cause some undue long-term harm if she did not seek out immediate care, she presented to the Emergency Room. She was charged a $150 copay, for which she received ibuprofen, acetaminophen, and was told she did not need an X-ray. Though reassured she expressed frustration at the time and cost involved.

As emergency providers, we are accustomed to being called upon to help with any problem, big or small. But on a busy shift with competing demands and finite energy and resources, certain requests can frustrate even the most easygoing clinician. Acknowledging the role the emergency room can play as a haven, one may argue that mundane requests can risk diverting or delaying critical attention from true medical emergencies. Yet, as with the patient above with back pain, they are, in their own way, experiencing an “emergency.” How do we validate concerns but also reorient and equip such individuals with perspective and resources to allow for more optimal use of emergency room capabilities?

Foremost, we must remind ourselves of the factors and determinants beyond the immediate perspective of the clinical encounter in front of us. According to the RUPRI Center for Rural Health Policy Analysis, 5% of emergency department (ED) patients account for 25% of all visits. These “super-utilizers” are playing at a disadvantage— in addition to medically complex chronic conditions, they often face financial and social barriers, battle mental illness and substance abuse. Despite our best attempts to deliver quality care in the ED, there remains an entire aspect of their care that we are not addressing. Too often, the myopic view of the encounter in front of us fails to prompt us to adequately acknowledge the extent and breadth of factors involved. However, despite these seemingly insurmountable challenges, innovative ways are emerging that suggest ways to focus energy and resources to reduce the burden of super utilizers and non-emergent patient visits.

One approach is to identify patients with the highest ED utilization rates and concentrate attention and resources on focused care. In Madison, WI, a study out of University of Wisconsin partnered with a local Meriter Hospital to identify its 10 highest ED use patients, who in 2015 accumulated thirteen 911 calls, 105 ED
visits resulting in 24 inpatient admissions. The group deployed community paramedics to visit these patients 1-2 days after hospital discharge and arranged phone visits on a regular basis thereafter. In one example, a patient with poorly controlled asthma requiring frequent ED intervention received regular paramedic visits to encourage medication compliance through assistance with medication obtainment and administration. They evaluated her home for potential sources of exacerbation, such as secondhand smoke or allergens. Furthermore, they provided reminders for outpatient appointments and encouraged early arrangement of transportation. In 2016, these same 10 patients accrued eight 911 calls (down 38% from 2015), 56 ED visits (down 47%), and 11 inpatient admissions (down 54%), with an estimated annual savings of $500,000.

Another approach is to apply more robust triage and screening resources and technology during the initial contact in the field. For example, the Nurse Practitioner Response Unit model, originally piloted in Mesa, Arizona, has been successfully replicated in Los Angeles. A team consisting of an NP and paramedic answer 911 calls, perform a screening exam, and identify patients whose needs can be addressed without ever going to the hospital. Each unit carries a portable ultrasound to allow for FAST exams on low speed MVCs, perform simple laceration repairs, and update tetanus vaccinations. In doing so, the Los Angeles team delivered point-of-care services to 17% of all EMS calls, equating to an impressive 4,000 patients who then did not require ED evaluation. As would happen at the conclusion of the ED visit, all of these patients were encouraged to follow up with their own primary care physicians. The value to programs such as this, as stated by Dr. Marc Eckstein of USC Emergency Medicine and LAFD Medical Director, is “the ability to provide onsite medical care and thus alleviate crowding at hospitals and other medical facilities.”

Finally, volunteer programs that supplement and reinforce outpatient primary care can play a vital role. For example, medical students and volunteers at the Shade Tree Clinic affiliated with Vanderbilt University is a student-run free health clinic, which makes use of medical student “Patient Health Educators” to provide personalized care. Each Patient Health Educator follows a panel of 10-15 patients whom they call regularly to answer patient questions and remind patients of upcoming appointments. Regular contact, information and support to help with follow through on scheduled appointments may help alleviate some of the uncertainty experienced by patients who might otherwise reflexively seek out help in an Emergency Room.

Ultimately, while these programs and initiatives provide promise for improvement on a larger scale, as residents we must not ignore our own capacity to, in some small way, alleviate recurring patterns of inefficiency or inefficacy. In the EDs where each of us trains there are invaluable social workers, case managers, and likely multiple initiatives oriented on these goals. It is our duty as residents to appreciate what resources we have on hand, and to employ them with the same familiarity as a cardiac catheterization lab or stroke activation. Personally, as I continue residency training, I will try to guard against the impatience and frustration that comes when dealing with a case that could have just as easily been, or even perhaps better, addressed outside the Emergency Department.


“How do we validate [patient] concerns but also reorient and equip such individuals with perspective and resources to allow for more optimal use of emergency room capabilities?”

According to the RUPRI Center for Rural Health Policy Analysis, 5% of ED patients account for 25% of all visits.
MACEP Grant Feature:  
A Conversation with Dana Im, MD

Dana is an intern in the Harvard Affiliated Emergency Medicine Residency Program (HAEMR) with interests in quality improvement and patient safety, with a focus on designing systems to address health disparities.

Why did you apply for the MACEP grant?

I was looking for seed funding to study how emergency physicians assess pain, the most common chief complaint in the emergency department (ED), with up to 78% of patients reporting pain as the primary reason for visiting the ED.1 When I learned how easy the MACEP grant application process was, I knew I had to give it a try! Even as an intern, struggling every day to survive, I found it incredibly easy to write a short project proposal (2 pages max). I also knew that having a grant would give me a formal, structured timeline to start and finish my research project.

What interest area does the MACEP grant opportunity support for you?

I am interested in Quality Improvement & Safety in emergency medicine. A significant portion of our work as EPs is assessing and treating pain on our busy shifts. I believe that improving the way we assess pain in the ED is the first step towards advancing excellence in the emergency care of pain and improving patient satisfaction. The MACEP grant has supported my project to evaluate ways to conduct multidimensional pain assessment in the ED. I am working on assessing the usability and utility of a tool that captures pain interference, which constructs the psychosocial experience of pain.

How will this grant help you meet your objectives?

The grant has allowed me to solidify and formalize my mentor-mentee relationship with my faculty mentor. Working on the grant application also gave me an excuse to write about my project, which I know will come in handy when it’s time for me to write my manuscript. MACEP has granted me enough money to hire a research assistant for data collection – which makes research totally doable even in intern year!


Interested in the MACEP Resident Grant Program?

Each year MACEP awards up to three grants for up to $3,000 to emergency medicine residents to encourage them to use their energy and creativity to advance the field of emergency medicine in our state and beyond.

To learn more, visit the MACEP website at www.macep.org/residentgrantprogram.

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UMass Emergency Medicine Residency, UMass Memorial Medical Center

The self-esteem and confidence of a medical trainee follows a distinct sinusoidal pattern. If one were to plot confidence on a longitudinal graph over the years of medical training, I believe it would look suspiciously similar to a perfect sine wave, with nadirs and zeniths falling predictably in a near monthly pattern.

These undulations begin very early on in the process of becoming a physician. As an undergraduate pursuing the premedical science curriculum, each semester you are confronted with a shockingly foreign subject matter, complete with its own language, each a distinct conceptual model of the world. Biology, arguably the kindest, most medically oriented premedical science asks your brain to reconstruct the world you have known for 2 decades into a tiered system of discrete entities which, by the end of the semester, you come to understand are the underpinnings of the world you had been sure after 20 years you understood quite well. Just as you begin to feel comfortable with this concept, organic chemistry assaults you with a violent tirade of endless formulas and reactions, which seem initially entirely abstract and cannot possibly be related to what initially drew you to the pursuit of medicine. And just as you start patting yourself on the back for recognizing a Hoffman rearrangement and reciting the Diels-Alders reaction in your sleep, the semester ends and you start physics. And once again, you wonder what the speed of a rock falling on the moon could possibly have to do with treating Granny’s pneumonia.

You are then miraculously accepted to medical school, with a deeply bruised ego from the slings of rejection letters that arrived in those heart wrenching small envelopes. The first two years go somewhat like the premedical years, with a new organ system every few months thrusting you back into that familiar oblivion of terror. You are sure this will finally be the subject that exposes you for the idiot you always knew you were, you cannot possibly keep straight when the morula becomes the blastocyst, and which germ layers give rise to what. By some miracle, or at least with the help of a few inane mnemonic devices, you manage to keep straight when the morula becomes the blastocyst, and which germ layers give rise to what. By some miracle, or at least with the help of a few inane mnemonic devices, you manage to survive. Finally! You get to put on your glorious white coat and step into the hospital.

And then the cycle begins again. The rose colored lens of being a real, live, (albeit pretend) doctor pads you from the embarrassment of recognizing with unsettling clarity exactly how clueless you really are. Then after a mere month of your first service you feel like you are really getting the hang of it- the residents start to talk to you like a human and ask you for actual help changing bandages or with some other menial task that makes you feel useful. You figure out what to focus on during your patient interactions and what to emphasize when presenting to the attendings you at least know how to pronounce the names of by now. And then, on the day you finally decide how you’re going to pronounce “angina,” you’re done. On to the next rotation. If you’re lucky, you’ll be able to find the conference room in the rat maze of the teaching hospital; if you’re less lucky, you might not even find your way into the actual hospital you have been assigned to. After 30 minutes of wandering white hallways that all look exactly the same, you stumble into a tiny call room crowded with new residents that don’t look up from their computers to acknowledge you until you squeak out “Hi, I’m the new med student.” They offer welcomes and then call you the wrong name for 5 days straight while you try to sort out new expectations for note formats and formal presentations, and daily schedules. This process continues monthly for all of 3rd year and most of 4th, depending on where you go to medical school. And then you match and graduate, and feel enormous relief that the painful cycle of constantly being the new idiot is over.

And then residency starts, and with it the immediate realization that you are nowhere near done with the ebb and flow of awkwardness, embarrassment, and being thrust into the unknown that has plagued you for the past 8 years. The construct of residency is actually quite similar to that of medical school. Your life is divided into month long blocks in which you begin feeling lost, sheepish, lonely and confused, gradually start to feel the twinkle of comfort you long for so deeply, and then... repeat.

So what is the value in this process? There must be benefits to a system which sometimes feels excruciating to endure. No one aspires to medicine out of vanity, but inevitably we are all drawn to the esteem and power inherent in the title Doctor. Perhaps this cyclic lesson in humility that characterizes our training is akin to the story of Icarus and Daedelus from Greek mythology. We are given delicate wings, and begin each rotation or cycle with just enough knowledge and experience to be able to carry our patients without letting the damp ocean below drag us down, and each day throughout the month we fly higher and higher. And when that month ends, and we start afresh it is a keen reminder that we must never soar to close to the sun, or like Icarus, we will melt into the sea.
PROFESSION CONTINUED FROM PAGE 13

Medicine at its core is a humbling profession, and we must never lose our humility or humanity.

For emergency physicians the breadth of experience across different specialties is especially important, not only for our ability to recognize and initiate treatment for diverse conditions, but also for our ability to speak the languages of our colleagues and communicate effectively. The truth is, the most effective way to learn a foreign language is total immersion, or in the cases of obstetrics and orthopedics, a month long rotation of feeling like a tourist on that service. The very experience of being an outsider learning the pathology, language and management from the subspecialist incurs a particular advantage for the EP. I find myself often having to translate for my patients what it was the specialist just “explained” to them as they breezed by their stretcher. My experiences of feeling completely lost the first day on a new service pale in comparison to what my taxi driver patient must think after being told by the cardiologist they are having “an ‘MI’” and that they will be “admitted to step down, heparinized, started on lopressor and go for cath in the morning.” I hope I never forget how my first day on cardiology as a third year med student; how that sentence may as well have been Dothraki1 or Klingon2 to me, and how grateful I was when the ER resident rotating on service with me that month remembered to translate it into English not only for the patient, but for the eavesdropping third year medical student in the corner of the room.

Running Under Pressure
Ryan Kring, MD
Harvard Affiliated Emergency Medicine Residency, BIDMC

Managing stress is an important skill for a physician in Emergency Medicine. We all face stress every day, whether it is during a busy shift, after a long overnight call, or in balancing our professional and personal lives. We are often so busy taking care of our patients and working on academic pursuits that we forget to care of ourselves. This can have serious effects on our well-being, and the care we give to our patients. To quote Chuck, the intern from The House of God, “How can we care for patients, if’n nobody cares for us?”

A recent study in the Western Journal of Emergency Medicine found that nearly 60% of Emergency Physicians (both residents and attendings) experienced burnout, and nearly 50% of residents reported feeling depressed at some point during their training. If we are fortunate, we are part of a program and a hospital that supports a good work-life balance, fosters a collegial and social environment, and is very responsive to feedback – all of these aspects help to prevent burnout. It is important, however, to remember take care of yourself and to make time for the activities that help you to recharge.

For me, running is the daily activity that helps me center myself and unwind after a shift in the ED. My daily run, which takes me through the busy streets of Brookline, past Fenway Park, and along the waterfront views of the Charles River by the Esplanade, helps me find my center and reflect on why I love what I do. I find running to be both great exercise and a way of decompressing after an intense day in the hospital. It has something to do with the freedom of the fresh air and being outside, and the accomplishment I feel as I push myself to go farther and faster. I let my mind wander, thinking about everything from the patients I saw during my last shift to what I plan to do for my next vacation, while I enjoy the endorphin rush as I race along my favorite route. Just as shifts in the ED can be variable, sometimes my runs are relaxing and I feel great afterwards, and other times I am exhausted and just want to lie down at the end. Regardless of the weather or the time of day, if I am not on shift, chances are that you can find me outside running. I know that no matter how stressful my day is, as long as I can catch a run at some point, I can make it through.

Running is the activity that works best for me, and exercise is certainly a healthy and effective way to decrease stress. What is most important, however, is to not forget to keep up with the activities that make you happy. During the challenging years of residency, doing the activities that you love, whether they include running, painting, cooking, playing trivia, being with friends and family, or just having a relaxing night at home, can be critical in helping to maintain and strengthen your sense of self. After all, residency is a marathon, not a sprint – and pacing is key. Don’t forget to enjoy the run!
Each year, MACEP’s Annual Meeting offers members and other practicing emergency physicians, residents and other providers of healthcare the opportunity to gain up-to-date information in carefully selected clinical and policy areas affecting delivery of emergency patient care.

**AGENDA**

8:30 – 9:00 am **Registration/Continental Breakfast/View exhibits**

9:00 – 9:30 am **Residency Research Presentations**

Jerome Rogich & Eike Blohm, MD *Time is Money: The True Cost of Helicopter EMS*

Katie Davenport, MD *Stand Up and Fight Falls: Implementation of a Patient Education Video to Prevent Geriatric Falls*

Dana DaEun Im, MD *A New Method for Assessing Pain in the Emergency Department – A Pilot Study*

9:30 – 10:15 am **Laura Riley, MD, MFM**

*Zika*

10:15 – 11:00 am **Tim Erickson, MD**

*Toxicology*

11:00 – 11:30 am Break and View exhibits

11:30 – 12:15 pm **Resident Jeopardy**

12:15 – 1:00 pm **Kevin Klauser, DO**

1:00 – 1:30 pm Lunch & MACEP Business Meeting, View exhibits

1:30 – 2:00 pm **A Balance Bill is not a Surprise Bill**

*What is happening in Massachusetts*

2:00 – 3:00 pm **Behavior Health Patient Boarding Panel**

*Tele-psychiatry & Medication Management*
Calendar of Events

MACEP Monthly Board Meeting
**Tuesday, March 28, 2017**
4:30-6:30 pm
Holiday Inn
265 Lakeside Ave
Marlborough, MA

MACEP Monthly Board Meeting
**Tuesday, April 25, 2017**
4:30-6:30 pm
Holiday Inn
265 Lakeside Ave
Marlborough, MA

MACEP Annual Meeting
**Wednesday, May 3, 2017**
9 am-3 pm
Massachusetts Medical Society
860 Winter Street, Waltham, MA
Free to all Massachusetts EM Residents

MACEP Monthly Board Meeting
**Tuesday, June 27, 2017**
4:30-6:30 pm
Holiday Inn
265 Lakeside Ave
Marlborough, MA

MACEP Resident Job Night
**Thursday, September 14, 2017**
6-8 pm
Boston, MA

For more information about any of these events, visit [www.macep.org](http://www.macep.org).

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For previous issues of the *EM Advocate*, as well as other resources for Residents, visit us at [www.macep.org](http://www.macep.org).