



Bias in Assessment Needs Urgent Attention—No Rest for the “Wicked”

Vineet M. Arora, MD, MAPP; Keme Carter, MD; Christine Babcock, MD

While assessment is a core function of medical education, concerns remain about equity in assessment. In this issue of *JAMA Network Open*, a large study highlights the inequity in assessment with respect to gender.¹ Mamtani et al¹ completed a multicenter study analyzing more than 10 000 narrative comments from 277 emergency medicine (EM) faculty of 283 EM residents. They found that women residents were more likely to be assessed by both faculty men and women as performing below level compared with their peers, with a common theme being lack of confidence with procedural skills. Disparities between faculty women and men in the quantity and quality of feedback provided were also found. For example, compared with men, faculty women were more likely to give narrative comments (vs no comments) that were also specific (vs nonspecific comments). The strengths of this study include a large sample size, multisite nature, and rigorous examination of narrative evaluations.

This study adds to the existing and growing literature on gender bias in assessment.²⁻⁴ A recently published review² that includes several studies of EM residents showed gender differences in both milestone attainment and qualitative feedback given. Interestingly, one of these studies also demonstrated that milestone attainment for women residents in procedural domains lagged behind men. In addition, autonomy and assertiveness in senior resident women were also noted to be inconsistent.

Mamtani et al¹ also raise a critically important question about whether the assessment of trainee competence in performing procedures is influenced by their perceived confidence. Evaluating procedural competence, and not confidence, is paramount and has implications for resident self-efficacy as well as patient safety. Trainee stereotypes, including those that are gendered, can be self-perpetuating, can contribute to stereotype threat, and may influence future learning and practice. Rewarding confidence instead of competence can backfire by leading to hesitancy in asking for help and ultimately result in patient harm. It is also noteworthy that this study uncovered bias in the emergency department, a clinical setting where physicians are often facing cognitive stressors such as fatigue, stress, time-pressure, and complex decision-making; these factors can create conditions where evaluator bias is more likely to influence clinical assessment. Technology, such as high-fidelity simulation and using procedure checklists, can standardize the experience for and assessment of residents so that competence is actually isolated in lieu of confidence.

Perhaps the most interesting finding is that the gender of the evaluator was associated with the presence and quality of the feedback. In order for physicians in training to grow and develop, they must receive feedback that is formative and actionable and providing this type of feedback requires the investment of time and effort. While women medical educators appear to be providing more and specific feedback comments in this study, the reality is that this work is unlikely to be compensated. In some ways, this is not dissimilar to the recent finding that women primary care physicians receive more and spend greater amounts of time responding to inbox messages from patients than male physicians.⁵ In both of these examples, critically vital, but uncompensated work, can contribute to the greater burnout rates observed among women physicians.

Given the presence of systematic bias documented in evaluations, what can be done? Here, we should not consider ourselves isolated from the larger world of education. Bias in assessment is documented in admissions, grading, and job evaluations across the spectrum of higher education and human resources. Interventions to reduce bias in assessment range from increasing compositional diversity in evaluators and role models to implicit bias training to structural

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interventions that can change the cultural environment.⁶ As noted in Mamtani et al,¹ women represent only 28.3% of EM faculty and only 11% of EM department chairs. In order to promote a culture of equity and strong role modeling, the retention and promotion of women as faculty and as leaders is necessary and requires valuing excellence in all aspects of academic medicine beyond research, including medical education, teaching and mentoring, quality improvement, community engagement, and diversity, equity and inclusion. Additionally, academic institutions must ensure compensation parity, adopt policies that support work-life harmony, and create formal mentoring and sponsorship structures for faculty women to advance. Additionally, continued effort must be directed toward building a robust pathway to faculty positions for women trainees, and particularly those women from groups who are underrepresented in medicine or with intersectional identities who face greater barriers to entry. Increasing the compositional diversity of faculty should be a primary and shared goal among all to ensure bias is mitigated in evaluation of all trainees.

Mandatory implicit bias training for all faculty participating in evaluations of residents is important but yet has shown mixed results. To be most effective, implicit bias training should be required for designated core faculty who have the primary responsibility of trainee evaluation and should be completed on a recurring basis. The specific timing of the training in relation to the evaluator's assessment should also be optimized. In one study,⁷ an awareness intervention prior to students evaluating faculty resulted in less gender bias in their assessment of faculty teaching. Implicit bias training that is specific to assessment and proximate to the evaluation activity of trainees could have similar benefits. For example, ensuring the clinical competency committee, which is required by the Accreditation Council for Graduate Medical Education and is responsible for reviewing the progress of residents, consists of a diverse group of faculty who have been educated on bias in evaluations before they meet could be an impactful first step to reducing bias in assessment decisions. In addition, using multisource evaluation tools, such as simulation activities or patient feedback, to minimize bias from faculty evaluations can also help.

Finally, we must aim to create brave spaces in academic medicine where all faculty can acknowledge that we each have inherent biases and grow more comfortable with having our biases identified, as well as work toward minimizing their presence and impact both at the individual and system level. This work is not easy and requires actual investment in time and experts who can help create environments characterized by inclusive excellence. Efforts to approach this work as compliance training or work that is checking the box are not only ineffective, but often backfire and create attitudes that are more hostile toward equity. Normalizing direct formative feedback, coaching, and presentation of best practices in evaluation could be high-yield strategies to improve the amount, content, and reliability of trainee evaluations.

As articulated by Lucey et al,⁸ equity in assessment is a "wicked problem" that defies simple solutions, technology fixes, or checking boxes. Instead, a sustained and concerted investment is needed to understand how to improve equity in assessment across the continuum of medical education and practice at the individual, program, and system level.

ARTICLE INFORMATION

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Corresponding Author: Vineet M. Arora, MD, University of Chicago Pritzker School of Medicine, 5841 S Maryland Ave, MC 2007 AMB W216, Chicago, IL 60637 (varora@medicine.bsd.uchicago.edu).

Author Affiliations: University of Chicago Pritzker School of Medicine, Biological Sciences Division, University of Chicago, Chicago, Illinois (Arora, Carter); Section of Emergency Medicine, Department of Medicine, University of Chicago, Chicago, Illinois (Carter, Babcock); Graduate Medical Education, University of Chicago Medicine, Chicago, Illinois (Babcock).

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