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The state of gender inclusion in the point-of-care ultrasound community

In 1994, Dr. James Mateer trained the first three American emergency point-of-care ultrasound (POCUS) fellows. Drs. Beth Thoma, Verena Valley, and Mary Beth Phelan pioneered the field at the Medical College of Wisconsin-Milwaukee (Mary Beth Phelan, personal communication, 2/2/20). Despite the historic beginning, women remain under-represented in the field of POCUS. This paper describes the scope of gender inequity in the emergency POCUS community and offers strategies to create a more gender-inclusive environment.

The available data demonstrate a pattern of gender inequity in leadership among POCUS organizations. For example, the American College of Emergency Physicians (ACEP) has elected six women chairs out of 25 in the 25-year Emergency Ultrasound Section (EUS) history [1]. One of 10 physician members of ACEP's Clinical Ultrasound Accreditation Program is a woman [2]. Internationally, the World Interactive Network Focused on Critical Ultrasound (WINFOCUS) currently has its first woman president after 15 years of leadership by seven men (Anthony Dean, personal communication, 6/19/21). Women represent 15% of the WINFOCUS board members [3]. One-third of elected officers of the Society for Academic Emergency Medicine's Academy of Emergency Ultrasound (AEUS) have been women [4]. Of nearly 150 Society of Clinical Ultrasound Fellowships (SCUF) programs, more than two-thirds are led by men (Patrick Hunt, personal communication, 2/10/21). Related to leadership, we found women are less frequently recipients of POCUS awards; only 24% of AEUS awards and 38% of EUS awards have been granted to women (Julie Rispoli, personal communication, 1/1/2021) [5].

Looking more broadly, POCUS publications, conferences, and industry collaborations are all male-dominated. Two men served as the 2016 ACEP Ultrasound Guidelines editors. Women represented one-third of the author group [6]. Fourteen men wrote the 2014 ACEP Ultrasound Imaging Criteria Compendium, with no women contributors [7]. Three major ultrasound journals - *Journal of Ultrasound in Medicine*, *The Ultrasound Journal*, and *Journal of Clinical Ultrasound* - have men as editors-in-chief. Women comprise 18.5% of their editorial boards [8-10]. Most high-impact, multi-institutional POCUS research studies are led by men [11-15]. This lack of representation in research leads to additional disparities in publication. For regional and national POCUS conferences, men have outnumbered women as speakers, moderators, and course directors for decades. Similarly, the chief medical officers of most ultrasound companies are men, suggesting women are not regarded as POCUS experts [16-21]. This reinforces the status quo of the technology industry as a men-only space [22].

As the field of Emergency Medicine strives for diversity and inclusion, we need systemic change to create an equitable community of educators, researchers, and clinicians. At present, men are overrepresented

as the leaders and voices of the POCUS community. To that end, we propose the following solutions.

First, we need more data to understand the scope of the problem and structure improvements. POCUS divisions and organizations should collect and report data on recruitment, promotion, leadership, awards, speaking opportunities, and salary of faculty and fellows to assess the state of gender parity [23,24]. Public reporting allows for identification of ongoing disparities, corrective actions, and illustration of progress. SCUF's annual benchmark survey can collect this essential information. When parity is not present, a public statement of commitment with deliberate, measurable outcomes on a specific timeline would support this intention [25].

We recommend comprehensive efforts to increase leadership and speaking opportunities for women in POCUS. Term limits would allow women and other under-represented groups to advance to leadership positions [26]. Similar to *The Lancet* and National Institutes of Health Director, POCUS organizations can develop their own "no manel" pledges that reflect their equity goals [25,27]. National societies and conference organizers should strive for gender parity when selecting speakers, encourage women applicants for awards, create balanced planning committees, and ensure family-friendly conferences [28,29]. In addition, we suggest a holistic approach to selecting speakers and granting awards by considering academic niche, stage of training, prior opportunities, and diversity [30,31].

To increase equity in publishing, journals should strive for better representation on editorial boards. As an example, *The Lancet* made a public declaration regarding gender equity and were able to achieve gender parity of their editorial advisory board within six months [25]. POCUS journal editors can similarly solicit women as reviewers and authors for invited writing pieces and create peer-review mentorship programs to increase the diversity of their reviewers and editors [25,32,33]. Bias in manuscript acceptance may also be mitigated with implementation of mandatory double-blinded peer review [34]. First and last authors can disrupt gender inequity by seeking diverse authorship groups and promoting and citing the work of women colleagues.

POCUS fellowships provide the professional foundation for our growing community. Fellowship directors should consider equity in their recruitment and selection processes. We encourage reporting diversity-related data on fellowship websites and targeting additional recruitment resources towards women and underrepresented minority applicants. These efforts demonstrate a welcoming environment and can improve diversity in hiring [35,36].

Achieving equity is an ethical imperative for all healthcare leaders, and should not just be the priority of women or those underrepresented in medicine [37]. We urge individuals, particularly those with academic and professional capital, to self-reflect and assess their role in perpetuating gender inequity [38]. When assembling research teams, speaker panels, writing groups, and workshops, how many women are included? When nominating colleagues for awards, voting in national organization elections, or evaluating trainees, what are the criteria and how might they favor men? Commitment to gender equity requires a

personal investment in education, cultivation of skills needed to promote diversity, and transparency regarding successes and failures.

Emergency Medicine has reached a pivotal moment in which equity and inclusion are an urgent priority. The POCUS community is no exception to this mandate. We can level the playing field for our women colleagues. We do this by tracking data on gender parity to hold each other accountable. Women will be invited to speak on panels and serve on editorial boards. We need to ensure that women have a seat at any table where decisions are being made. As a community, we believe in equitable change.

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References

- [1] Emergency Ultrasound Section. <https://www.acep.org/how-we-serve/sections/emergency-ultrasound/>. [accessed 11 July 2021].
- [2] ACEP. Clinical Ultrasound Accreditation Program. <https://www.acep.org/by-medical-focus/ultrasound/cuap/team-members/>. [accessed 14 June 2021].
- [3] WINFOCUS About Us. <https://www.winfocus.org/about-us/>. [accessed 14 June 2021].
- [4] SAEM AEUS Past Leaders. <https://www.saem.org/about-saem/academies-interest-groups-affiliates2/aeus/about-aeus/aeus-executive-committee/past-leaders>. [accessed 11 July 2021].
- [5] AEUS Awards Recipients. <https://www.saem.org/about-saem/academies-interest-groups-affiliates2/aeus/about-aeus/grants-awards/aeus-awards-recipients>. [accessed 14 June 2021].
- [6] Ultrasound Guidelines: Emergency, point-of-care and clinical ultrasound Guidelines in medicine. *Ann Emerg Med.* 2017;69:e27–54.
- [7] Emergency Ultrasound Imaging Criteria Compendium. *Ann Emerg Med.* 2016;68:e11–48.
- [8] Journal of Ultrasound in Medicine Editorial Board. <https://onlinelibrary.wiley.com/page/journal/15509613/homepage/editorialboard.html>. [accessed 16 June 2021].
- [9] The Ultrasound Journal Editorial Board. <https://theultrasoundjournal.springeropen.com/about/editorial-board>. [accessed 16 June 2021].
- [10] Journal of Clinical Ultrasound Editorial Board. <https://onlinelibrary.wiley.com/page/journal/10970096/homepage/editorialboard.html>. [accessed 16 June 2021].
- [11] Gaspari R, Weekes A, Adhikari S, Noble VE, Nomura JT, Theodoro D, et al. Emergency department point-of-care ultrasound in out-of-hospital and in-ED cardiac arrest. *Resuscitation.* 2016;109:33–9.
- [12] Gaspari R, Weekes A, Adhikari S, Noble V, Nomura J.T., Theodoro D., et al. A retrospective study of pulseless electrical activity, bedside ultrasound identifies interventions during resuscitation associated with improved survival to hospital admission. A REASON Study. *Resuscitation.* 2017;120:103–7. <https://doi.org/10.1016/j.resuscitation.2017.09.008>.
- [13] Pulmonary Embolism Short-term Clinical Outcomes Registry. <https://clinicaltrials.gov/ct2/show/NCT02883491>. [accessed 15 June 2021].
- [14] Milling Jr TJ, Rose J, Briggs WM, Birkhahn R, Gaeta TJ, Bove JJ, et al. Randomized, controlled clinical trial of point-of-care limited ultrasonography assistance of central venous cannulation: the third sonography outcomes assessment program (SOAP-3) trial. *Crit Care Med.* 2005;33:1764–9.
- [15] Melniker LA, Leibner E, McKenney MG, Lopez P, Briggs WM, Mancuso CA. Randomized controlled clinical trial of point-of-care, limited ultrasonography for trauma in the emergency department: the first sonography outcomes assessment program trial. *Ann Emerg Med.* 2006;48:227–35.
- [16] About Us – Clarius Mobile Health. <https://clarius.com/about/>. [accessed 14 June 2021].
- [17] Echonous Leadership. https://echonous.com/en_us/about/leadership. [accessed 15 June 2021].
- [18] Miles SA, Watkins MD. The leadership team. *Harv Bus Rev.* 2007;85:90–8.
- [19] Butterfly Company Profile. <https://www.tedmed.com/hives/profilepartner?id=738875>. [accessed 14 June 2021].
- [20] Use of Point of Care Ultrasound During a Global Health Crisis. <https://www.gehealthcare.com/article/use-of-point-of-care-ultrasound-during-a-global-health-crisis>. [accessed 14 June 2021].
- [21] BRIEF-Philips appoints Jan Kimpen as chief medical officer. <https://www.reuters.com/article/idUSFWN12401S20151005>; 2015. [accessed 14 June 2021].
- [22] A. Women in tech. The facts (2016 update). <https://ncwit.org/resource/thefacts/>; 2021. [accessed 12 July 2021].
- [23] Jagsi R, Butterson JR, Starr R, Tarbell NJ. A targeted intervention for the career development of women in academic medicine. *Arch Intern Med.* 2007;167:343–5.
- [24] Laver KE, Prichard IJ, Cations M, Osenk I, Govin K, Coveney JD. A systematic review of interventions to support the careers of women in academic medicine and other disciplines. *BMJ Open.* 2018;8:e020380.
- [25] The Editors Of the Lancet Group. The Lancet Group's commitments to gender equity and diversity. *Lancet.* 2019;394:452–3. [https://doi.org/10.1016/s0140-6736\(19\)31797-0](https://doi.org/10.1016/s0140-6736(19)31797-0).
- [26] Beeler WH, Mangurian C, Jagsi R. Unplugging the pipeline – a call for term limits in academic medicine. *N Engl J Med.* 2019;381:1508–11.
- [27] Time to end the Manel tradition. <https://www.nih.gov/about-nih/who-we-are/nih-director/statements/time-end-manel-tradition>; 2019. [accessed 15 June 2021].
- [28] Martin JL. Ten simple rules to achieve conference speaker gender balance. *PLoS Comput Biol.* 2014;10:e1003903.
- [29] Australian Cognitive Neuroscience Society Equity & Diversity Policy. https://www.acns.org.au/wp-content/uploads/2018/08/ACNS_Equity_Diversity_Policy_Final_Nov2016.pdf; 2016. [accessed 14 June 2021].
- [30] Vallence A-M, Hinder MR, Fujiyama H. Data-driven selection of conference speakers based on scientific impact to achieve gender parity. *PLoS One.* 2019;14:e0220481.
- [31] Klein RS, Voskuhl R, Segal BM, Dittel BN, Lane TE, Bethea JR, et al. Speaking out about gender imbalance in invited speakers improves diversity. *Nat Immunol.* 2017;18:475–8.
- [32] Heckenberg A, Druml C. Gender aspects in medical publication – the wiener klinische Wochenschrift. *Wien Klin Wochenschr.* 2010;122:141–5. <https://doi.org/10.1007/s00508-010-1302-8>.
- [33] Callaham M. Gender Bias and Peer Review: Annals Seeks Greater Diversity. *Ann Emerg Med.* 2019;74:736–9.
- [34] Budden AE, Tregenza T, Aarssen LW, Koricheva J, Leimu R, Lortie CJ. Double-blind review favours increased representation of female authors. *Trends Ecol Evol.* 2008;23:4–6.
- [35] Garrick JF, Perez B, Anaebere TC, Craine P, Lyons C, Lee T. The diversity snowball effect: the quest to increase diversity in emergency medicine: a case study of Highland's emergency medicine residency program. *Ann Emerg Med.* 2019;73:639–47.
- [36] Capers Q, McDougle L, Clinchot DM. Strategies for achieving diversity through medical school admissions. *J Health Care Poor Underserved.* 2018;29:9–18.
- [37] #BeEthical A Call to Healthcare Leaders: Ending Gender Workforce Disparities is an Ethical Imperative. https://sheleadshhealthcare.com/wp-content/uploads/2018/10/Be_Ethical_Campaign_101418.pdf; 2018. [accessed 14 June 2021].
- [38] Cooper LA, Beach MC, Williams DR. Confronting bias and discrimination in health care—when silence is not golden. *JAMA Intern Med.* 2019;179:1686–7.

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