





## Original Article

# Demographic representation among speakers at the Society for Healthcare Epidemiology of America (SHEA) spring conferences

Zanthia Wiley MD<sup>1</sup>, Ibukunoluwa C. Kalu MD<sup>2</sup>, Elizabeth Lyden MS<sup>3</sup>, Catherine J. Cichon MD, MPH<sup>4</sup> ,  
Jacinda C. Abdul-Mutakabbir PharmD, MPH<sup>5,6</sup> , Jonathan Herskovitz MD, PhD<sup>7</sup>  and Jasmine R. Marcelin MD<sup>4</sup> 

<sup>1</sup>Division of Infectious Diseases, Department of Medicine, Emory University School of Medicine, Atlanta, Georgia, <sup>2</sup>Division of Pediatric Infectious Disease, Department of Pediatrics, Duke University School of Medicine, Durham, North Carolina, <sup>3</sup>Department of Biostatistics, College of Public Health, University of Nebraska Medical Center, Omaha, Nebraska, <sup>4</sup>Division of Infectious Diseases, Department of Medicine, University of Nebraska Medical Center, Omaha Nebraska, <sup>5</sup>Division of Clinical Pharmacy, Skaggs School of Pharmacy and Pharmaceutical Sciences, University of California San Diego, La Jolla, California, <sup>6</sup>Division of the Black Diaspora and African American Studies, University of California San Diego, La Jolla, California and <sup>7</sup>Department of Medicine, Internal Medicine Residency, University of Nebraska Medical Center, Omaha Nebraska

### Abstract

**Background:** The Society for Healthcare Epidemiology of America (SHEA) is a leading medical society for infection prevention and antibiotic stewardship. This descriptive study evaluated speaker demographics at the annual SHEA Spring conferences from 2019 to 2022.

**Methods:** This was a retrospective, descriptive analysis of the demographic composition of speakers at the annual SHEA Spring conferences between 2019 and 2022, excluding the cancelled 2020 conference. Self-reported demographics were available for gender, race, ethnicity, age, primary practice setting, and professional degrees in speaker and membership categories.

**Results:** In total, 447 speaker slots were filled by 305 unique speakers over 3 years. Average annual membership included 55.2% female, 44.8% male, 69.3% White, 21.4% Asian, 6.0% Hispanic/Latino, 2.9% Black, and 0.4% American Indian/Alaska Native or Native Hawaiian/Pacific Islander (AIAN/NHPI); 48.9% did not report a race or ethnicity. Speakers during the same period were 63.5% female, 36.5% male, 68.2% White, 13.3% Asian, 3.8% Black, 3.4% Hispanic/Latino, 0.8% AIAN/NHPI; 13.4% did not report race or ethnicity. In 2021, pharmacists represented 11.6% of speakers (and 2.9% of members) and members with nondoctoral degrees represented 11.6% of speakers (and 21.5% of members) ( $P < .0001$ ). In each year, we detected underrepresentation of community and private-practice speakers relative to membership (eg, in 2022, 4.3% of speakers vs 15.7% of members;  $P < .05$ ).

**Conclusions:** The SHEA Spring conferences demonstrated an increase in pharmacist speakers over time, but speakers from community hospitals and with nondoctoral degrees remain underrepresented relative to membership. Racial and ethnic minoritized individuals remain underrepresented as members and speakers. Intentional interventions are needed to consistently achieve equitable speaker representation across multiple demographic groups.

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The value of diversity and representation across healthcare professions has been extensively reported.<sup>1–4</sup> Inequitable representation across various leadership domains can affect opportunities for promotion and academic career development across different specialties, including the field of infectious diseases.<sup>5–16</sup> Persistent inequities are often discussed in the context of sex, race, and ethnicity, however equity gaps can exist across other domains, and are often intersectional.<sup>17</sup> Professional medical organizations have varied approaches to addressing representation gaps; intentional initiatives have resulted in more equitable representation in some target groups but not others.<sup>18</sup> The Society for Healthcare Epidemiology of America (SHEA) is a professional society with

>2,000 members that aims to improve public health by supporting antibiotic stewardship among healthcare clinicians and establishing infection prevention measures.<sup>19</sup> The annual SHEA Spring conference (SHEA Spring) highlights healthcare epidemiology, antibiotic stewardship, long-term care, clinical microbiology, public health, and patient safety and quality. It provides unique networking opportunities for people at various stages of career development within their fields of interest.<sup>20</sup> Presenters of oral, poster, and plenary sessions discuss and disseminate data on implementation science, research methods, and novel scientific topics.

The SHEA Board of Trustees reviews the organization's strategic goals every 5 years. At the most recent review, the board flagged diversity, equity, and inclusion (DEI) as a key priority area. The 2022–2026 SHEA Strategic Map aims to embed DEI within the society's volunteer structures to advance DEI principles with an emphasis on speaker, author, and leadership roles.<sup>21</sup> This includes the SHEA DEI pledge that “SHEA is committed to diversity within

**Corresponding author:** Jasmine R. Marcelin; Email: [jasmine.marcelin@unmc.edu](mailto:jasmine.marcelin@unmc.edu)  
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its leadership, membership, committees, conference speakers, and guidelines panels that fully represents the communities served by SHEA members.”<sup>22</sup> The new SHEA Strategic Map and DEI pledge highlight the importance of characterizing the current landscape of selected speakers for SHEA Spring to identify opportunities for improvement. This descriptive study evaluated speaker demographics at SHEA Spring conferences from 2019 to 2022.

## Methods

The study was a retrospective descriptive analysis of the demographic composition of speakers at the annual SHEA Spring conferences between 2019 and 2022, excluding 2020 when SHEA Spring was canceled due to the COVID-19 pandemic. Descriptive statistics were performed on summary data. We used the Fisher exact test to compare speaker and member demographics for each year the conference was held. The Fisher exact test was used to compare number of times speaking (1 time vs >1 time) across the period. The unit of analysis was speaker slot rather than individual (because speakers may have spoken several times during a conference) for comparisons. Each speaker slot was considered an independent event. If a speaker spoke more than once within an individual session, the speaker was counted only once for that session.

Self-reported demographics were obtained through responses to conference and member registration surveys. During the study period, SHEA surveys recorded gender as a self-reported binary female or male indicator. Registration surveys allowed people to self-identify race and ethnicity in 1 or more category, including American Indian/Alaska Native (AIAN), Asian, Black/African American, Hispanic/Latino, Native Hawaiian/Pacific Islander (NHPI), White, Other, and No Answer. Indigenous groups were combined as AIAN/NHPI for analysis due to small sample size. Age was captured in 10-year increments and was divided into 4 analytic groups: <40, 40–49, 50–59, and ≥60 years. Specific practice locations submitted by speakers and members were grouped into 1 of 4 US Census regions (Northeast, South, Midwest, and West) or were labelled as international. Professional degree was categorized into 4 main categories: physician, pharmacist, other doctorate, and nondoctoral degree. Speaker professional degree was not available for 2022. All analyses were performed using SAS version 9.4 software (SAS Institute, Cary, NC).  $P < .05$  was considered statistically significant.

This work was evaluated and classified as exempt non-human-subjects research by the University of Nebraska Medical Center Institutional Review Board.

## Results

In total, 447 speaker slots were filled by 305 unique speakers over the 3-year period. The SHEA average annual membership between 2019 and 2022 with self-reported demographics included was 55.2% female, 44.8% male, 69.3% White, 21.4% Asian, 6.0% Hispanic/Latino, 2.9% Black, and 0.4% American Indian/Alaska Native/Native Hawaiian/Pacific Islander (AIAN/NHPI). However, almost half of the members did not report a race or ethnicity (Supplementary Table 1 online). SHEA Spring speakers during the same period were 63.5% female, 36.5% male, 68.2% White, 13.3% Asian, 3.8% Black, 3.4% Hispanic/Latino, and 0.8% AIAN/NHPI. Only 13.4% of speakers did not report race or ethnicity. Each year, there were <6 speakers in each Black, Hispanic/Latino, AIAN/NHPI race or ethnicity category.

The proportion of speakers in the age-group categories relative to their proportion of members changed over time (Table 1). In 2019, 49.2% of speakers were aged 41–50 years, compared with 28.6% of members in that age group ( $P = .0042$ ). By 2022, 35.6% of speakers were aged 41–50 years, compared with 29.3% of members in that age group ( $P = .051$ ). We detected a statistically significant association between primary-practice setting and speaker or member representation (Table 1) Community and private-practice speakers were underrepresented relative to their proportion of membership, with 7.5% speakers versus 14.3% members in 2019; 7.1% speakers versus 15.2% members in 2021; and 4.3% speakers versus 15.7% members in 2022 ( $P < .05$ ). Additionally, we detected a statistically significant association between the speaker's primary practice setting and number of speaking times in a 3-year period ( $P = .018$ ). For example, among the participants who spoke more than once in the 3-year period, 75.3% were identified as working primarily in an academic setting, compared with just 54.7% of those who spoke only once during the 3-year period (Table 2).

We detected variations in representation of professional degree holders among speakers across the years studied (Table 1). In 2019, there was no association between highest degree and speaker or member representation. However, in 2021 there was a statistically significant association between highest degree and speaker or member representation ( $P < .0001$ ). For example, pharmacists represented 11.6% of speakers compared with 2.9% of members, and individuals with other doctorate degrees represented 8.5% of speakers compared with 4.6% of members. Although 21.5% of members identified nondoctoral degrees as their highest degree (eg, BSN, RN, MSN, etc), this group represented 11.6% of speakers in 2021. These data were not available for 2022. Additionally, there was a statistically significant association between the speaker's highest degree and number of speaking times in a 3-year period ( $P = .0008$ ). For example, among the participants who spoke more than once in the 3-year period, only 4.3% were identified as having “other doctorate degree” compared with 13.4% of participants who spoke only once in the 3-year period (Table 2).

## Discussion

This analysis of speakers at SHEA Spring conferences revealed several key findings. The SHEA Spring conference speaker panel demonstrates commendable gender equity in representation; more than half of the SHEA membership are women, and the proportion of women speakers reflects the membership. The organization should continue to monitor these data to ensure that this equity continues in the absence of active sustainable interventions. However, the number of persons self-identifying as minoritized racial or ethnic groups, including Hispanic/Latino, Black, and AIAN/NHPI, are markedly underrepresented in both SHEA membership and in speaker demographics over the 3 years, neither of which approach that of the 2021 US population (19.1% Hispanic/Latino, 13.6% Black, 1.6% AIAN/NHPI).<sup>23</sup> In 2022, 9 (9.6%) of 94 speakers combined identified as Hispanic/Latino, Black, or AIAN/NPHI.

These findings represent an opportunity for SHEA Spring Planning Committee. The SHEA Strategic Map and pledge commitment to diversify the membership and conference speakers will require intentionality to achieve equitable racial or ethnic representation. With intentional efforts (Fig. 1), gradual strides in equitable representation can be attained. The Infectious Diseases Society of America (IDSA) achieved equitable gender representation of invited speakers at the IDWeek national conference

**Table 1.** Comparison of Demographics Between Speakers and Membership, 2019, 2021, and 2022

Self-Reported Demographics	2019			2021			2022		
	Member (N = 2,381), No. (%)	Speaker (N = 80), No. (%)	P Value <sup>a</sup>	Member (N = 2,116), No. (%)	Speaker (N = 131), No. (%)	P Value <sup>a</sup>	Member (N = 2,263), No. (%)	Speaker (N = 94), No. (%)	P Value <sup>a</sup>
<b>Sex<sup>b</sup></b>			.36			.021			.14
Female	1,275 (54.7)	48 (60.0)		1,138 (54.8)	83 (65.4)		1,127 (55.9)	60 (63.8)	
Male	1,055 (45.3)	32 (40.0)		938 (45.2)	44 (34.6)		890 (44.1)	34 (36.2)	
Missing	51	0		40	4		246	0	
<b>Age categorized</b>			.0042			.055			.051
<=40	472 (21.6)	12 (18.5)		480 (24.3)	28 (22.6)		545 (25.3)	26 (28.9)	
41-50	623 (28.6)	32 (49.2)		572 (29.0)	46 (37.9)		631 (29.3)	32 (35.6)	
51-60	460 (21.1)	11 (16.9)		404 (20.5)	28 (22.6)		426 (19.8)	20 (22.2)	
>60	625 (28.8)	10 (15.4)		516 (26.2)	21 (16.9)		549 (25.5)	12 (13.3)	
Missing	196	15		144	7		112	4	
<b>Race/Ethnicity</b>			.093			.064			.056
AIAN/NHPI	4 (0.3)	1 (1.7)		4 (0.4)	0 (0.0)		5 (0.4)	1 (1.1)	
Asian	250 (20.8)	11 (18.6)		237 (21.4)	15 (12.7)		245 (21.4)	9 (10.3)	
Black	37 (3.1)	1 (1.7)		28 (2.5)	6 (5.1)		32 (2.8)	3 (3.4)	
Hispanic/Latino	71 (5.9)	0 (0.0)		70 (6.3)	5 (4.2)		70 (6.1)	4 (4.6)	
White	840 (69.9)	46 (78.0)		766 (69.3)	92 (78.0)		795 (69.3)	70 (80.5)	
Missing/Other	1179	21		1011	13		1116	7	
<b>Highest degree<sup>c</sup></b>			.25			<.0001			N/A
Physician	1,574 (67.8)	54 (68.4)		1,471 (71.0)	88 (68.2)		N/A	N/A	
Pharmacist	98 (4.2)	5 (6.3)		60 (2.9)	15 (11.6)		N/A	N/A	
Other Doctorate	126 (5.4)	7 (8.9)		96 (4.6)	11 (8.5)		N/A	N/A	
Non-Doctoral degree	522 (22.5)	13 (16.5)		446 (21.5)	15 (11.6)		N/A	N/A	
Missing	61	1		43	2		N/A	N/A	
<b>Primary practice setting</b>			.027			.0025			.0025
Academic	1,036 (63.8)	32 (60.4)		1,001 (65.2)	84 (66.1)		1,335 (62.1)	70 (74.5)	
Community hospital or private practice	232 (14.3)	4 (7.5)		233 (15.2)	9 (7.1)		337 (15.7)	4 (4.3)	
Government	60 (3.7)	5 (9.4)		53 (3.5)	5 (3.9)		69 (3.2)	4 (4.3)	
Industry	71 (4.4)	0 (0.0)		56 (3.6)	1 (0.8)		72 (3.3)	0 (0.0)	
Other	226 (13.9)	12 (22.6)		193 (12.6)	28 (22.0)		337 (15.7)	16 (17.0)	
Missing	708	27		580	4		113	0	

Note. AIAN/NHPI American Indian/Alaska Native and Native Hawaiian/Pacific Islander; N/A not available.

<sup>a</sup>Fisher exact P value for differences between member and speaker proportions, each year.

<sup>b</sup>Demographics of gender only reported as binary during observation period.

<sup>c</sup>2022 membership data did not include highest degree therefore comparison could not be made.

through intentional gender-equity initiatives implemented by the program committee.<sup>18</sup> However, although they observed gradual improvements in racial and ethnic demographic representation of speakers over a 9-year period, these were not statistically associated with the intentional gender-equity initiative, which had a much more dramatic impact on the proportions of male and female speakers.<sup>18</sup>

Notably, almost half of the SHEA membership did not report demographic data on race and ethnicity. The absence of this data makes assessing the impact of organizational changes more challenging. For example, 3.4% of speakers in 2022 identified as

Black, compared with 2.8% of members (Table 1). However, in that year, 49% of member race or ethnicity data were missing; therefore, the available race and ethnicity data likely underestimate these proportions significantly. In response to these identified data gaps, SHEA plans to update and streamline their membership surveys. The trend toward more even distribution in speaker age categories during the observation period is commendable and suggests that perhaps even a generalized DEI pledge may result in better representation among age groups because program committees may search outside their typical professional circles to identify new speakers.

**Table 2.** Comparison of Demographics with Speaker Times Across the 3 Years

Characteristic	Speaker 1Year(N = 124), No. (%)	Speaker >1Year(N = 94), No. (%)	Total (N = 218), No. (%)	P Value <sup>a</sup>
<b>Sex<sup>b</sup></b>				1.00
Male	45 (37.2)	34 (36.6)	79 (36.9)	
Female	76 (62.8)	59 (63.4)	135 (63.1)	
Missing	3	1	4	
<b>Age categorized</b>				.86
≤40 y	28 (25.7)	21 (24.4)	49 (25.1)	
41–50 y	39 (35.8)	35 (40.7)	74 (37.9)	
51–60 y	25 (22.9)	16 (18.6)	41 (21.0)	
>60 y	17 (15.6)	14 (16.3)	31 (15.9)	
Missing	15	8	23	
<b>Race/Ethnicity</b>				.62
AIAN/NHPI	2 (2.0)	0 (0.0)	2 (1.1)	
Asian	15 (14.9)	11 (13.4)	26 (14.2)	
Black	4 (4.0)	3 (3.7)	7 (3.8)	
Hispanic/Latino	6 (5.9)	2 (2.4)	8 (4.4)	
White	74 (73.3)	66 (80.5)	140 (76.5)	
Missing/Other	23	12	35	
<b>Location</b>				.26
West	15 (12.7)	11 (11.8)	26 (12.3)	
Midwest	25 (21.2)	17 (18.3)	42 (19.9)	
Northeast	21 (17.8)	29 (31.2)	50 (23.7)	
South	53 (44.9)	34 (36.6)	87 (41.2)	
US territories/International	4 (3.4)	2 (2.2)	6 (2.8)	
Missing	6	1	7	
<b>Highest degree<sup>c</sup></b>				.0008
Physician	71 (59.7)	73 (78.5)	144 (67.9)	
Pharmacist	9 (7.6)	11 (11.8)	20 (9.4)	
Other doctorate	16 (13.4)	4 (4.3)	20 (9.4)	
Nondoctoral degree	23 (19.3)	5 (5.4)	28 (13.2)	
Missing	5	1	6	
<b>Primary practice setting</b>				.018 <sup>a</sup>
Academic	58 (54.7)	61 (75.3)	119 (63.6)	
Community hospital/private practice	9 (8.5)	4 (4.9)	13 (7.0)	
Government	5 (4.7)	5 (6.2)	10 (5.3)	
Industry	1 (0.9)	0 (0.0)	1 (0.5)	
Other	33 (31.1)	11 (13.6)	44 (23.5)	
Missing	18	13	31	
<b>What best describes your primary role?</b>				
Antimicrobial stewardship	9 (8.5)	10 (12.3)	19 (10.2)	
Fellows, students or trainees	3 (2.8)	0 (0.0)	3 (1.6)	
Healthcare epidemiologist	20 (18.9)	28 (34.6)	48 (25.7)	
Infection preventionist	8 (7.5)	4 (4.9)	12 (6.4)	
Infectious diseases physician	13 (12.3)	16 (19.8)	29 (15.5)	
Other	18 (17.0)	7 (8.6)	25 (13.4)	
Pharmacist	5 (4.7)	6 (7.4)	11 (5.9)	

(Continued)

Table 2. (Continued)

Characteristic	Speaker 1Year(N = 124), No. (%)	Speaker >1Year(N = 94), No. (%)	Total (N = 218), No. (%)	P Value <sup>a</sup>
Public health worker	8 (7.5)	4 (4.9)	12 (6.4)	
Researcher	22 (20.8)	6 (7.4)	28 (15.0)	
Missing	18	13	31	

Note. AIAN/NHPI, American Indian/Alaska Native and Native Hawaiian/Pacific Islander

<sup>a</sup>Fisher exact test P value for differences between 1 year and >1 year proportions.

<sup>b</sup>Demographics of gender only reported as binary during observation period.

<sup>c</sup>2022 Membership data did not include highest degree.



Figure 1. Putting it all together: organizational and individual actions to enhance equity in speaker representation at national conferences.

As an interprofessional organization, SHEA is unique in that it attracts multidisciplinary membership and conference attendees. However, the data demonstrate that although there was commendable growth of pharmacist speakers from 2019 to 2021, individuals from community and private-practice settings and those with degrees other than medical or pharmacy degrees (eg, epidemiologists or infection prevention nurses) had fewer opportunities to speak at the SHEA Spring conferences. Individuals from these groups were additionally less likely to be repeat speakers. These are missed opportunities to enhance the engagement of individuals from community and private-practice settings and those with other doctorate degrees, whose valuable experiences may differ vastly from academic physicians and should be represented.

### Recommendations

Figure 1 describes recommendations that can be implemented to enhance equity in speaker representation at national conferences, which comprise overlapping organizational and individual actions. Collecting and reporting self-identified demographic data of the

society membership and conference participants (including professional degree or practice setting, age, race, ethnicity, gender, and gender identity) and ideally, following the data over a specified period, should be an essential component of any organization's action plan for equity.<sup>12,18,24</sup> In cases where the membership is not reporting this data, the organization should explore and mitigate reasons for missing data and commit to educating their members on both the value of accurate and complete demographic reporting, as well as the anticipated use of these data in driving future organizational growth through a lens of equity (Fig. 1). Within the surveys or requests for demographic information, select demographics should require a response and include several options for maximal inclusivity (eg, “multiple races” or “prefer not to answer” or “does not apply to me”) so that these options are also recorded. Persons from historically excluded groups are underrepresented as infectious diseases specialists, and until this disparity is mitigated, recruitment of racial and ethnic minoritized hospital epidemiologists and antimicrobial stewards, will be challenging.<sup>4</sup> Additionally, in professional spaces like medical societies, these individuals may have access to fewer networks and mentorship and decreased likelihood of being approached for opportunities to serve on national committees or to serve as speakers.<sup>24,25</sup>

Although this study did not include program committee demographic data, studies have reported that the makeup of persons on conference planning committees are impactful in influencing the selection of subsequent speakers.<sup>6,18,26,27</sup> Others who have evaluated conference program committee demographics have reported underrepresentation of speakers from minoritized communities with a predominantly White-identifying program committee.<sup>18,28</sup> Proactive recruiting efforts from historically excluded groups as speakers, moderators, and program committee members can mitigate these gaps and increase speaker representation at the conference (Fig. 1).<sup>18,24</sup> For example, during program committee meetings, intentional conversations about the demographic balance of the proposed speaker list before they are invited would support the mutually beneficial goals of equity and excellence in each session. If the proposed session does not achieve these goals, program committee members (and/or society leaders) should widen the net to identify individuals whose contributions to the session would achieve them. Furthermore, adding established DEI goals to organizational dashboards linked to publicly reported equity data (including demographics of members, speaker, committee membership/leadership, journal editors, etc) can reinforce accountability and allow organizations to identify evolving opportunities to center equity in their strategic vision and mission (Fig. 1).<sup>12,24</sup>

Organizations and conferences can implement additional structural changes to support the stated goal of achieving equity



across speaker representation. These include developing and enforcing a transparent speaker policy accessible on the organization or conference website, clearly incorporating goals and outcomes as part of the case for equity in conference proceedings (Fig. 1).<sup>12,18</sup> At the conference itself, additional policies to establish an inclusive environment may encourage potential speakers to accept future invitations,<sup>12,18,24,29</sup> particularly if they may belong to a historically minoritized group (Fig. 1). These may include zero-tolerance antiharassment or antidiscrimination policies,<sup>12,18</sup> affordable conference prices or reasonable reimbursement/honorarium, and supportive parental accommodations including childcare and lactation facilities (Fig. 1).<sup>29</sup> The equity-minded recommendations for improving racial/ethnic representation of speakers apply to professional diversity, and likewise an additional individual action item for physicians working in teams with other health professionals in antimicrobial stewardship and healthcare epidemiology can nominate their colleagues to speak on their shared topics or request copresentation to provide space for others to have access to the stage (Fig. 1).

The use of self-identified demographic data in this study mirrors the methods of the largest similar study of infectious diseases conference demographics.<sup>18</sup> This is an important strength because many reports on speaker representation at national conferences rely on investigator assignment of characteristics. However, because these self-identified demographic characteristics were optional on membership surveys, there was a very high missing rate in racial or ethnic demographics selected by members, whereas the missing rates of the speaker demographics was or ethnicity data beyond general underrepresentation compared with the US census, or the ability to conduct intersectional analyses (eg, race and gender interactions). This is a notable limitation that suggests that a directed approach to encouraging members to self-report more accurate racial/ethnic demographics is warranted. Furthermore, the data set did not allow for disaggregation of the racial groups, and the small sample size limited the ability to analyze AIAN and NHPI groups separately. Additionally, during the observation period, the gender demographic questions were binary (male or female only), which limits the ability to include transgender, nonbinary and gender-fluid individuals. However, in 2022 the SHEA membership portal was enhanced with expanded gender identity options; therefore, future speaker representation assessments should include these data. The COVID-19 pandemic affected the conference format over the study period. The 2019 conference was held in person, the 2020 conference was cancelled, and both the 2021 and 2022 conferences had hybrid formats. Insufficient data were available to support conclusions regarding any potential shifts in demographic representation of speakers in the context of these pandemic-related conference changes. Directions for future studies include evaluating speaker equity across session categories, including high-impact sessions (eg, plenary sessions) and moderator and program committee demographics. Furthermore, as a multiprofessional organization, including speakers who are from community settings to speak on patient-centered topics is beneficial to both healthcare professionals and the communities they serve. Therefore, understanding the proportion of invited speakers that comprise this group is also important.

In conclusion, the SHEA Spring conferences demonstrated gender equity in speaker representation, had more equitable age representation, and an increase in pharmacist representation among speakers over time. However, practitioners from community settings and those with nondoctoral degrees remain

underrepresented relative to SHEA membership. Racial and ethnic minoritized individuals remain underrepresented as members and speakers compared with the general US population. Findings from this assessment of speaker demographics between 2019 and 2022 offer targets for intentional interventions that are needed to consistently achieve equitable speaker representation across multiple demographic groups at the SHEA Spring conferences.

**Supplementary material.** To view supplementary material for this article, please visit <https://doi.org/10.1017/ice.2023.207>

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## References

1. AlShebli BK, Rahwan T, Woon WL. The preeminence of ethnic diversity in scientific collaboration. *Nat Commun* 2018;9:5163.
2. Campbell LG, Mehtani S, Dozier ME, Rinehart J. Gender-heterogeneous working groups produce higher quality science. *PLoS One* 2013;8:e79147.
3. Freeman RB, Huang W. Collaboration: strength in diversity. *Nature* 2014;513:305.
4. Marcelin JR, Manne-Goehler J, Silver JK. Supporting inclusion, diversity, access, and equity in the infectious disease workforce. *J Infect Dis* 2019;220 suppl 2:S50–S61.
5. Abdul-Mutakabbir JC, Arya V, Butler L. Acknowledging the intersection of gender inequity and racism: identifying a path forward in pharmacy. *Am J Health Syst Pharm* 2022;79:696–700.
6. Arora A, Kaur Y, Dossa F, Nisenbaum R, Little D, Baxter NN. Proportion of female speakers at academic medical conferences across multiple specialties and regions. *JAMA Netw Open* 2020;3:e2018127.
7. Barinsky GL, Daoud D, Tan D, *et al.* Gender representation at conferences, executive boards, and program committees in otolaryngology. *Laryngoscope* 2021;131:E373–E379.
8. Gerull KM, Wahba BM, Goldin LM, *et al.* Representation of women in speaking roles at surgical conferences. *Am J Surg* 2020;220:20–26.
9. Ibrahim H, Abdel-Razig S, Stadler DJ, Cofrancesco J Jr, Archuleta S. Assessment of gender equity among invited speakers and award recipients at us annual medical education conferences. *JAMA Netw Open* 2019;2:e1916222.
10. Manne-Goehler J, Kapoor N, Blumenthal DM, Stead W. Sex differences in achievement and faculty rank in academic infectious diseases. *Clin Infect Dis* 2020;70:290–296.
11. Manne-Goehler J, Krakower D, Marcelin J, Salles A, Del Rio C, Stead W. Peering through the glass ceiling: a mixed methods study of faculty perceptions of gender barriers to academic advancement in infectious diseases. *J Infect Dis* 2020;222 suppl 6:S528–S534.

12. Martin JL. Ten simple rules to achieve conference speaker gender balance. *PLoS Comput Biol* 2014;10:e1003903.
13. Mehta S, Rose L, Cook D, Herridge M, Owais S, Metaxa V. The speaker gender gap at critical care conferences. *Crit Care Med* 2018;46:991–996.
14. Nocco SE, Larson AR. Promotion of women physicians in academic medicine. *J Womens Health (Larchmt)* 2021;30:864–871.
15. Stead W, Manne-Goehler J, Blackshear L, *et al*. Wondering if I'd get there quicker if I was a man: factors contributing to delayed academic advancement of women in infectious diseases. *Open Forum Infect Dis* 2023; 10:ofac660.
16. Ruzycski SM, Fletcher S, Earp M, Bharwani A, Lithgow KC. Trends in the proportion of female speakers at medical conferences in the United States and in Canada, 2007 to 2017. *JAMA Netw Open* 2019;2:e192103.
17. Harris GLA. Multiple marginality: how the disproportionate assignment of women and minorities to manage diversity programs reinforces and multiplies their marginality. *Admin Soc* 2013;45:775–808.
18. Marcelin JR, Khazanchi R, Lyden E, *et al*. Demographic representation among speakers and program committee members at the IDWeek conference, 2013–2021. *Clin Infect Dis* 2023;76:897–904.
19. About SHEA. Society for Healthcare Epidemiology of America website. <https://shea-online.org/about/>. Accessed May 3, 2023.
20. Society for Healthcare Epidemiology of America. SHEA Spring Conference. <https://sheaspring.org/about/>. Accessed May 3, 2023.
21. SHEA 2022–2026 strategic map. Society for Healthcare Epidemiology of America website. [https://shea-online.org/wp-content/uploads/2022/06/SHEA-Strategic-Map\\_-2022-2026.pdf](https://shea-online.org/wp-content/uploads/2022/06/SHEA-Strategic-Map_-2022-2026.pdf). Accessed May 3, 2023.
22. SHEA diversity, equity and inclusion pledge. Society for Healthcare Epidemiology of America website. <https://shea-online.org/diversity-equity-inclusion-pledge/>. Accessed May 3, 2023.
23. Population Estimates, July 1, 2021. US Census Bureau website. <https://www.census.gov/quickfacts/fact/table/US/PST045221>. Accessed May 3, 2023.
24. Allen JM, Abdul-Mutakabbir JC, Campbell HE, Butler LM. Ten recommendations to increase Black representation within pharmacy organization leadership. *Am J Health Syst Pharm* 2021;78:896–902.
25. Titanji BK, Abdul-Mutakabbir JC, Christophers B, Flores L, Marcelin JR, Swartz TH. Social media: flattening hierarchies for women and Black, Indigenous, People of Color (BIPOC) to enter the room where it happens. *Clin Infect Dis* 2022;74 suppl 3:S222–S228.
26. Casadevall A, Handelsman J. The presence of female conveners correlates with a higher proportion of female speakers at scientific symposia. *mBio* 2014;5:e00846–13.
27. Nittrouer CL, Hebl MR, Ashburn-Nardo L, Trump-Steele RCE, Lane DM, Valian V. Gender disparities in colloquium speakers at top universities. *Proc Natl Acad Sci U S A* 2018;115:104–108.
28. Earp BE, Mora AN, Rozental TD. Extending a hand: increasing diversity at the American Society for Surgery of the Hand. *J Hand Surg* 2018;43: 649–656.
29. Sheffield V, Marcelin JR, Cortés-Penfield N. Childcare options, accommodations, responsible resources, inclusion of parents in decision making, network creation, and data-driven guidelines (CARING) at Infectious Disease Week (IDWeek): parental accommodations and gender equity. *Clin Infect Dis* 2021;72:2220–2224.