

# Racial and Ethnic Disparities in Selected Speakers at Plastic Surgery Conferences

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**Background:** Disparities in representation amongst academic physicians continue to persist at multiple levels, including the resident selection process and faculty career advancement. This study aimed to evaluate the racial and ethnic representation amongst plastic surgeons who are selected to speak at national and regional plastic surgery conferences.

**Methods:** The researchers evaluated selected speakers at 12 plastic surgery annual meetings over 7 years (2014–2020). Racial and ethnic distribution in selected speakers at conferences were compared with those of medical school graduates, plastic surgery residents, and practicing plastic surgeons.

**Results:** There were a total of 79 meetings, with 8931 total speaking opportunities and 1276 unique speakers. The percentage of individuals underrepresented in medicine (UIM) is 15.2% in matriculating medical students, 8.9% in active PRS residents, 8.3% in practicing PRS physicians, and 4.7% in invited conference speakers. Within racial/ethnic groups of invited speakers, there was no significant difference in either the average number of fellowships completed or average number of plastic surgery publications ( $P = 0.44$  and  $0.39$ , respectively). No individual UIM speaker had more than 20 speaking opportunities over these 7 years, compared with 17.0% in non-UIM speakers.

**Conclusion:** Given the results of the study, the researchers conclude that racial minorities are disproportionately underrepresented as selected speakers at plastic surgery conferences, despite similarities in qualifications such as fellowship training, publication number, and years since board certification. (*Plast Reconstr Surg Glob Open* 2023; 11:e5157; doi: [10.1097/GOX.00000000000005157](https://doi.org/10.1097/GOX.00000000000005157); Published online 25 July 2023.)

## INTRODUCTION

Disparities in representation amongst academic physicians continue to persist at multiple levels, including the resident selection process and faculty career advancement. These disparities not only exist by gender, but also by socioeconomic status, sexual orientation, race, ethnicity, and other demographic factors.<sup>1</sup>

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Racial and ethnic discrepancies have been found to exist in academic medicine across many specialties, including but not limited to urologic surgery, dermatology, emergency medicine, physical medicine and rehabilitation, and plastic and reconstructive surgery.<sup>2–6</sup> These discrepancies permeate all realms of academia: the pipeline fails not only in the proportion of practicing trainees and physicians, but narrows even further in program leadership and academic promotion.<sup>7</sup> For example, studies show that faculty who are underrepresented in medicine (UIM) have longer time to promotion compared with their White counterparts.<sup>8,9</sup> As per the United States Census Bureau, the present breakdown of population by race in the United States is as follows: 75.8% White, 18.9% Hispanic, 13.6% Black or African American, and 6.1% Asian.<sup>10</sup>

Within the last decade, the field of academic plastic surgery has seen considerable progress in diversity, specifically in the advancement of female plastic surgeons. This is evidenced by the increase in the number of women on plastic surgery journal editorial boards and in residency program leadership.<sup>11,12</sup> Although the proportion

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of female academic plastic surgeons has continued to improve, similar progress has not been made in the representation of racial and ethnic minorities.<sup>6,7</sup>

One of the critical components of advancing the pipeline of academia is representation as speakers at regional and national meetings.<sup>7</sup> This creates opportunities for networking and increases visibility and perception of expertise in a given topic. Previous studies have demonstrated that women are not represented as speakers at regional and national meetings in proportion to their representation in the field at large,<sup>13,14</sup> yet comparable data do not exist for UIM representation. This study aims to evaluate the racial and ethnic composition of plastic surgeons selected to speak at regional and national plastic surgery conferences.

## METHODS

### Conference and Speaker Selection

#### *Inclusion Criteria*

The researchers evaluated selected speakers at 12 plastic surgery annual meetings (American Association for Hand Surgery, American Association of Plastic Surgeons, American Society for Aesthetic Plastic Surgery, American Society of Craniofacial Surgery, American Society for Reconstructive Microsurgery, American Society of Plastic Surgeons, California Society of Plastic Surgeons, Northeastern Society of Plastic Surgeons, Ohio Valley Society of Plastic Surgeons, Plastic Surgery Research Council, Southeastern Society of Plastic and Reconstructive Surgeons, Texas Society of Plastic Surgeons) over seven years (2014–2020). These 12 meetings were selected because they represent major national and regional plastic surgery conferences that had available annual meeting programs. These programs were found either online on the society website or were shared by society administration after email request. Speakers were identified as American Board of Plastic Surgery certified plastic surgeons who served as moderators, panelists, lecturers, and instructors.

#### *Exclusion Criteria*

Speakers who presented abstracts or posters were excluded. Speakers who were not American Board of Plastic Surgery certified at the time of their speaking opportunity were also excluded. As such, plastic surgery resident physicians and international plastic surgeons were excluded.

### Speaker Information

After speakers were identified, information was collected on speaker gender, number of fellowships, number of plastic surgery publications, and years since board certification. Speaker gender was determined by online photograph and pronoun usage. Number of fellowships was determined by an online search query to identify any plastic surgery fellowship, including craniofacial surgery, aesthetic/cosmetic surgery, reconstructive microsurgery, hand surgery, complex gender surgery, or burn surgery.

### Takeaways

**Question:** What is the composition of invited speakers at annual plastic surgery conferences? What proportion of these speakers are underrepresented in medicine (UIM)?

**Findings:** UIM represent 8.3% of practicing plastic surgeons. Despite equal qualifications, UIM represent 4.7% of invited speakers at annual plastic surgery conferences. The proportion of UIM speaking opportunities increased from 3.6% to 4.2%; however, this is not statistically significant.

**Meaning:** Measures at the conference level to increase UIM representation include the enactment of diversity equity and inclusion committees, a diverse speaker selection committee, and the encouragement of self-reports of race/ethnicity on registration forms.

An independent plastic surgery fellowship did not qualify in our consideration of number of fellowships as it is considered an extended 3-year residency. Number of plastic surgery publications was determined by a PubMed search query of speaker first name, speaker last name, plastic surgery (ie, “FirstName, LastName, Plastic Surgery”). The number of years since board certification was determined by searching the speakers’ names on the American Board of Plastic Surgery website’s certification page.<sup>15</sup>

### Determination of Race/Ethnicity

Race and ethnicity were primarily determined by speaker surname and online photograph using a two-person evaluator method. This method combines the strategies used by multiple previous studies evaluating race and ethnicity.<sup>6,16,17</sup> The study authors used an online image search query to identify a link to each speaker’s photograph. This link was accessed by two evaluators, who blindly evaluated the speaker’s race and/or ethnicity. The different categories for race/ethnicity included White (non-Hispanic); Black or African American (non-Hispanic); Asian; Hispanic, Latinx, or Spanish origin; or other. The “other” category includes other races not included in the aforementioned categories, mixed race, or unknown race. Following individual determination of race/ethnicity, the results of the two evaluators were compared. Any discrepancies were brought to a third evaluator, who then offered their own determination. When possible, confirmation of race/ethnicity was determined through self-reports, online articles, speaker involvement in diversity groups, or social media.

### Data Analysis

Racial and ethnic distribution of selected speakers at conferences were compared with those of medical school graduates, plastic surgery residents, and practicing plastic surgeons. Data on the number of medical school graduates, matriculants to plastic surgery residencies, and actively practicing plastic surgeons (including academic and private) were obtained from the American Association of Medical Colleges (AAMC).<sup>18–22</sup> Rates of representation

	Meeting Program Availability											
	AAHS	AAPS	ASAPS	ASCFS	ASPS	ASRM	CSPS	NESPS	OVSPS	PSRC	SESPRS	TSPS
2014	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
2015	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
2016	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
2017	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
2018	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
2019	Y	Y	Y	Y	Y	Y	N	Y	N	Y	Y	N
2020	Y	Y	N	Y	Y	Y	Y	Y	Y	Y	Y	N
	7	7	6	7	7	7	6	7	6	7	7	5

Fig. 1. Meetings for which conference agendas with speaker information were fully accessible.

#Speaking opportunities	Black or African American		Hispanic, Latinx, or Spanish origin		Asian		White		Other		TOTAL	
	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%
	1–5	17	73.9%	22	59.5%	131	66.5%	657	65.4%	8	53.3%	835
6–10	4	17.4%	10	27.0%	29	14.7%	140	13.9%	5	33.3%	188	14.73%
11–15	2	8.7%	1	2.7%	14	7.1%	77	7.7%	0	0.0%	94	7.37%
16–20	0	0.0%	4	10.8%	8	4.1%	36	3.6%	0	0.0%	48	3.76%
>20	0	0.0%	0	0.0%	15	7.6%	94	9.4%	2	13.3%	111	8.70%

Fig. 2. Number and percentage of speaking opportunities by racial/ethnic category.

among different racial/ethnic groups were calculated for each conference by year. The total number of speaking opportunities for each speaker across all meetings was also calculated. Proportions of UIM speakers were compared with those of non-UIM speakers. Average number of publications, fellowships, and years since board certification were also compared between UIM and non-UIM speakers. Data were analyzed using a standard analysis of variance (ANOVA) test to identify statistically significant differences.

### RESULTS

There was a total of 79 meetings for which speaker information was fully accessible (Figure 1). Of these 79 meetings, there were 8931 total speaking opportunities and 1276 unique speakers (238 women, 1038 men). Of these 1276 unique speakers, 1004 speakers (78.7%) were determined to be White, 197 (15.4%) were Asian, 23 (1.8%) were Black or African American, 37 (2.9%) were Hispanic, Latinx, or Spanish origin, and 15 (1.2%) were other. As a comparison, the AAMC Diversity Report of 2018 stated that 2.9% of practicing plastic surgeons identified as Black or African American and 5.4% identified as Hispanic, Latinx, or Spanish origin.<sup>21</sup>

Of the 8931 total speaking opportunities over the years 2014–2020, no individual UIM speaker had more than 20 speaking opportunities over these 7 years, compared with 17.0% in non-UIM speakers. The distribution in number of speaking opportunities per speaker is outlined in Figure 2.

In comparing racial/ethnic distributions by training level, the authors found 15.2% of medical students, 8.9% of active plastic and reconstructive surgery (PRS) residents,

and 8.3% of PRS physicians to be UIM. However, only 4.7% of invited conference speakers were UIM. Figure 3 outlines the distribution of racial/ethnic groups across different training levels.

Within racial/ethnic groups of invited speakers, there was no significant difference in either the average number of fellowships completed or average number of plastic surgery publications ( $P = 0.44$  and  $0.39$ , respectively; Figs. 4 and 5). There was also no significant difference in the average number of years since board certification among different racial or ethnic groups ( $P = 0.82$ ; Fig. 6).

When looking specifically at regional conferences, the percentage of UIM speaking opportunities over the years 2014–2020 were 2.09% for California Society of Plastic Surgeons, 1.34% for Northeastern Society of Plastic Surgeons, 6.44% for Ohio Valley Society of Plastic Surgeons, 4.96% for Southeastern Society of Plastic and Reconstructive Surgeons, and 7.92% for Texas Society of Plastic Surgeons.

Additionally, in evaluating the percent difference and percent change of UIM speaking opportunities between 2014 and 2020, the proportion of UIM speaking opportunities increased from 3.6% to 4.2% (Figs. 7 and 8), which represents a 16% increase. The proportion of speaking opportunities for Asian speakers has increased from 13.5% to 17.9% and that for White speakers decreased from 81.8% to 76.3%.

### DISCUSSION

Annual academic meetings represent a gathering of medical students, residents, fellows, and attending physicians. These yearly conferences serve as an important

Distribution of Race/Ethnicity in Select Groups

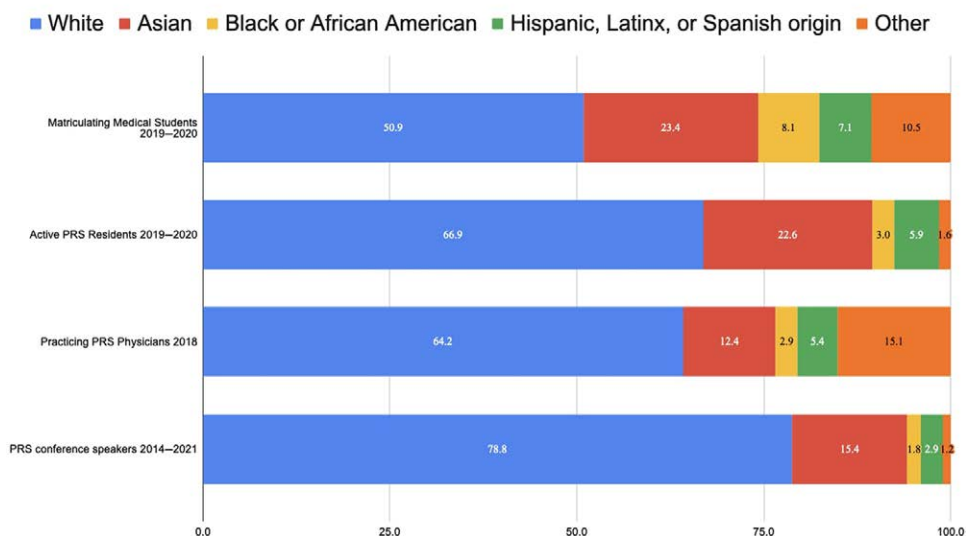


Fig. 3. Distribution of race/ethnicity in select groups.

Race	Mean	SD	N
Asian	0.777	0.554	197
Black or African American	0.696	0.470	23
Hispanic, Latinx, or Spanish origin	0.703	0.845	37
Other	0.533	0.640	15
White	0.697	0.641	1004

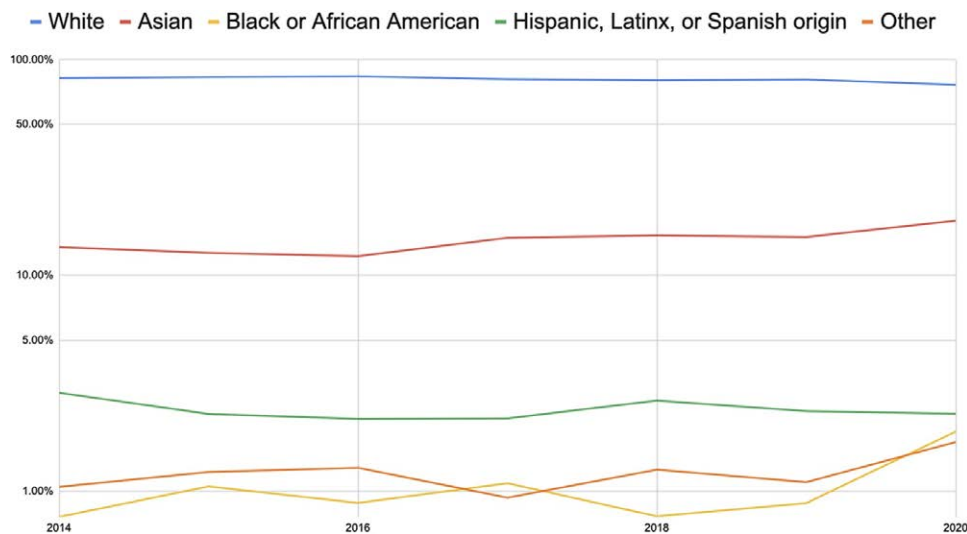
Fig. 4. Average number of fellowships completed by invited speakers.

Race	Mean	SD	N
Asian	31.051	37.902	197
Black or African American	47.478	61.045	23
Hispanic, Latinx, or Spanish origin	31.649	39.117	37
Other	41.067	46.961	15
White	30.047	46.510	1004

Fig. 5. Average number of plastic surgery publications by invited speakers.

Race	Mean	SD	N
Asian	13.695	11.593	197
Black or African American	14.565	10.544	23
Hispanic, Latinx, or Spanish origin	15.919	11.964	37
Other	11.600	6.759	15
White	14.163	11.200	1004

Fig. 6. Average number of years since board certification in invited speakers.



**Fig. 7.** Change in proportion of speaking opportunities over the years 2014–2020 (on logarithmic scale).

	White	Asian	Black or African American	Hispanic, Latinx, or Spanish origin	Combined UIM	Other
2014	81.8%	13.5%	0.8%	2.9%	3.6%	1.0%
2015	82.7%	12.7%	1.1%	2.3%	3.3%	1.2%
2016	83.4%	12.3%	0.9%	2.2%	3.0%	1.3%
2017	80.9%	14.9%	1.1%	2.2%	3.3%	0.9%
2018	80.1%	15.3%	0.8%	2.6%	3.4%	1.3%
2019	80.6%	15.0%	0.9%	2.3%	3.2%	1.1%
2020	76.3%	17.9%	1.9%	2.3%	4.2%	1.7%

**Fig. 8.** Proportion of speaking opportunities over the years 2014–2020 (can correlate with Fig. 7).

setting whereby trainees are exposed to experts in the field and can often find inspiration, motivation, and mentorship for their own career growth.<sup>23</sup> As such, it is important that the individuals they see speaking as keynote lecturers, panelists, and moderators be representative of the increasing diversity of the medical field. However, the current state of annual plastic surgery conferences demonstrates insufficient racial/ethnic diversity.

Given the results of the study, the researchers conclude that racial minorities are disproportionately underrepresented as selected speakers at plastic surgery conferences, despite similarities in qualifications such as fellowship training, publication number, and years since board certification. Additionally, the significantly larger proportion of White speakers who have been invited to speak at more than 20 meetings over the 7 years in question suggest that the same individuals are invited to speak every year and at multiple meetings. There also seem to be geographic discrepancies in UIM speaking opportunities that are evidenced when focusing specifically on regional conferences. Further, the change in percentage of UIM speakers over these 7 years demonstrates that not much growth has occurred despite an increased proportion of practicing UIM plastic surgeons and despite growing interest in the

field of plastic surgery at large in investigating and improving representation.<sup>24</sup>

Overall, the study’s findings indicate a need for proactive measures in the field to increase awareness of racial/ethnic disparities and to initiate speaker selection methods that support diversity, equity, and inclusion. An example of such a measure is demonstrated by the Collins’ pledge, which aims to increase diversity at annual conferences. This pledge, made initially by the National Institutes of Health Director Dr. Francis Collins and subsequently adopted by many other conference panelists, represents an effort to end “manels.”<sup>25</sup> Individuals who take this pledge decline scientific panel invitations for which there are no invited female speakers. Similar efforts can certainly be exercised to increase racial/ethnic diversity.

Measures at the conference-level can be implemented to increase the representation of UIM speakers at academic meetings. There are three main measures the authors of this study propose. First, if they have not already done so, plastic surgery societies should consider the establishment of a committee dedicated to promoting diversity, equity, and inclusion. This committee would serve to emphasize best practices within racial, social, and gender diversity. This group would work closely in conjunction with program

organizers and speaker selectors. The second conference-level measure proposed by the authors is a diverse speaker selection committee that carries the intention of expanding selection criteria to include new, unique, and knowledgeable voices. By selecting speakers with diverse backgrounds and approaches, we also stand to increase the quality of educational programming. Lastly, all societies should modify their meeting attendee registration forms to include demographics such as gender, racial, and ethnic identities. This is a simple and crucial measure that will not only accurately illustrate the landscape of annual meeting diversity, but also serve to quantify future advancements in diversity, equity, and inclusion.

The authors of this study advocate for increased representation of UIM speakers at plastic surgery meetings. The objective goal or ideal percentage is simply a proportion of UIM speakers that more accurately reflects that of all practicing plastic surgeons.

### Limitations

The study's primary limitation is the determination of race/ethnicity by evaluating speaker surname and published photographs. This is inherently imperfect in the absence of self-report by individuals and especially causes difficulty in capturing multiracial individuals. This method also carries risk of evaluator bias. The authors recognize these considerable limitations. However, the decision to utilize this method was based on optimizing sample size and study power, and using combined strategies used by previous studies evaluating race/ethnicity. Future studies in this realm could be directed toward obtaining self-reports to improve accuracy. Another limitation of the study is the determination of number of publications in plastic surgery. Although accuracy of publication number may be compromised in this approach, the authors strive to maintain precision by standardizing the PubMed query for each speaker. While self-reports of publication number are ideal, they are an incredibly dynamic value, especially in academia. Additionally, not all invited speakers accept their invitations, creating the possibility of a final program not representative of the invited speaker pool.

### CONCLUSIONS

Although there has been some advancement in the field of academic plastic surgery to increase diversity and inclusion, significant disparity persists. Improvement in this disparity will not occur without action. The authors of this study hope to highlight the potential to enact meaningful and systematic change, especially at the level of annual plastic surgery meetings.

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### DISCLOSURES

*The authors have no financial interest to declare in relation to the content of this article.*

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