



# What Emergency Medicine Rewards: Is There Implicit Gender Bias in National Awards?

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**Study objective:** Multiple studies have demonstrated a gender gap in the percentage of women recognized in national awards, but to our knowledge this gap has not been studied within emergency medicine. This study is designed to evaluate the presence of a gender gap in female representation in awards from national emergency medicine organizations in the United States and Canada.

**Methods:** The awards from 5 national organizations during the past 5 years were reviewed. We developed a data extraction tool to identify and categorize the awards and recipients. Data were grouped according to gender distribution and assessed with respect to emergency medicine organization, year of award, category of award, and career phase specified by award.

**Results:** The overall percentage of female awardees across all 5 organizations from 2014 to 2018 was 28%. Only 16% of all named awards were named after women, and female awardees were more likely to be recognized early in their career for advocacy and work pertaining to the advancement of women, whereas men were favored for awards recognizing mentorship and organizational contributions.

**Conclusion:** Emergency medicine is unique among other specialties in that the percentage of women represented in national awards (28%) closely mirrors the overall representation of women in emergency medicine (27.6% in the United States, 31% in Canada). This is in contrast to the documented leadership gap in academic medicine and emergency medicine, which may reflect a lag time between receiving national awards and earning academic and professional promotion. Although some organizations had significantly lower representation of female awardees, the overall trends indicate that women have closed the gender gap in award representation. This may signal a forthcoming change in other domains with established gaps in emergency medicine; specifically, in leadership and pay. [Ann Emerg Med. 2019;74:753-758.]

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## INTRODUCTION

### Background

In medicine, membership in professional physician societies plays an important role in career development, advancement, and academic promotion. These societies offer opportunities for their members to publish in journals, speak nationally, take on leadership roles, and gain national recognition through awards. Awards are important markers of professional achievement that are instrumental for shaping and advancing careers, including promotion and tenure decisions.<sup>1</sup>

In the United States, women have composed at least 40% of all medical school matriculants for almost 30 years.<sup>2</sup> Notably, 2017 represented the first year that there were more female than male medical school matriculants (50.7%).<sup>3</sup> Similarly, both the United States and Canada have seen an upward trend of female representation within

emergency medicine. According to the Association of American Medical Colleges, the proportion of women in emergency medicine increased from 25.5% in 2013 to 27.6% in 2017.<sup>4,5</sup> During a similar time frame, the proportion of women represented in emergency medicine in Canada also increased, from 27% in 2015 to 31% in 2018.<sup>6,7</sup> Despite this, the RAISE project (a program that recognizes women's achievements in science, technology, engineering, mathematics, and medicine through databases of awards and prizes by gender, discipline, and career rank) found that women remain significantly underrepresented across all domains as recipients of prizes for their research.<sup>8</sup>

Recently, medical specialties have started examining their pattern of awards distribution through a gender lens. A 2018 study reviewing awards in physical medicine and rehabilitation found that women were less likely to receive individual awards and more likely to receive an award if

**Editor's Capsule Summary***What is already known on this topic*

Women are less likely to receive awards in medicine than men.

*What question this study addressed*

This study compared the proportion of women who received an award from 5 national emergency medicine organizations in the United States and Canada between 2014 and 2018.

*What this study adds to our knowledge*

Overall, the proportion of women who received an award (28%) was similar to that of women in emergency medicine. Women received more early- (42%) than late-career awards (10%).

*How this is relevant to clinical practice*

Women are being recognized for their contributions in emergency medicine, particularly early in their career. This is a promising sign as emergency medicine strives to achieve gender equity in the specialty.

honored as part of a group.<sup>9</sup> They found that women were underrepresented among recipients of major recognition awards, and if female physicians did receive an award, it was less likely to be in the most prestigious individual categories or associated with a lectureship.<sup>9</sup> Another study found that female neurologists had significantly less representation with respect to national awards, with only 18.3% of recipients during the 10-year period being women despite an increase in female representation during this same period, from 18% (1996) to 31.5% (2016).<sup>10</sup>

Bearing in mind the prevalence of gender inequities in awards in other specialties, we sought to determine whether there was a gender gap in award recipients among the 5 major emergency medicine organizations within Canada and the United States. The secondary outcomes were to examine trends in the gender distribution over time and distribution by organization, award type, and career phase.

**MATERIALS AND METHODS****Study Design and Selection of Participants**

A list of all major emergency medicine organizations in the United States and Canada was compiled on October 5, 2018, in accordance with discussion with a broad sample of experts in the field. The organizations included the American Academy of Emergency Medicine (AAEM), the

American College of Emergency Physicians (ACEP), the Canadian Association of Emergency Physicians (CAEP), the Council of Emergency Medicine Residency Directors (CORD), and the Society for Academic Emergency Medicine (SAEM). All awards offered by each of these 5 organizations were included for analysis. We excluded awards given by sections or subgroups within an organization (eg, Academy of Emergency Ultrasound, Clerkship Directors in Emergency Medicine, Academy for Women in Academic Emergency Medicine) because our scope was to examine national awarding tendencies. We also excluded awards that were available to only one sex or awarded exclusively to resident physicians.

**Data Collection and Processing and Primary Data Analysis**

A data extraction tool was developed to identify and categorize the awards and recipients (Appendix E1, available online at <http://www.annemergmed.com>). The tool was piloted independently by 3 investigators (S.M.K., M.G., and T.M.C.) and modified in accordance with the data from the pilot study. Two investigators (M.P. and N.R.) were subsequently trained on the use of the data extraction tool and performed a second pilot study of 3 randomly selected awards to determine initial precision before beginning the study. A  $\kappa$  value was calculated on the agreement between the 2 extractors in regard to awardee names and genders.

Our team of investigators then worked in pairs to independently obtain the following data using publicly accessible information on the organizations' Web sites: sponsoring organization, year, award name, and award recipient for each year during a 5-year period. Award recipient gender was based on personal knowledge of the recipient or his or her online faculty profile. A  $\kappa$  value was calculated for both the paired award extraction data and the gender determination. Any discrepancies were resolved by consensus, with the addition of a third investigator if needed.

Data were grouped by gender distribution and assessed with respect to sponsoring organization, year of award, category, and career phase specified by award. A  $\kappa$  value was calculated between the 2 extractors. Statistical analysis was performed with Excel (version 16.1; Microsoft, Redmond, WA) and SPSS (version 25; IBM Corp, Armonk, NY).

Because this study did not involve human subject research, it did not require institutional review board approval.

**RESULTS**

From 2014 to 2018, the 5 major emergency medicine organizations in Canada and the United States gave awards

**Table 1.** Awardee Gender Distribution by Organization and Year.

Society/ Year	Total Men	Total Women	Total Awards in 5 Years	% Women
<b>Awardees by organization from 2014–2018</b>				
AAEM	32	7	39	18
ACEP	56	22	78	28
CAEP	30	7	37	19
CORD	34	14	48	29
SAEM	22	17	39	44
<b>Total</b>	174	67	241	28
<b>Total No. of awards from all organizations by year</b>				
2014	29	8		22
2015	39	7		15
2016	31	16		34
2017	38	16		30
2018	37	20		35
Society	Named for men	Named for women	Unnamed awards	% Named for women
<b>Named awards by organization</b>				
AAEM	5	0	2	0
ACEP	4	1	6	9
CAEP	3	2	3	25
CORD	1	0	10	0
SAEM	3	0	3	0
<b>Total</b>	16	3	24	16

to a total of 241 individuals. The proportion of female awardees during these 5 years was 28%. Table 1 displays the tabulation of the award numbers and gender distribution for all 5 organizations. Nineteen percent of Canadian awards given by their main organization (CAEP) were given to female recipients, which was lower than the proportion of female emergency physicians in Canada during this span (25% to 31%).<sup>7</sup> Awards from American organizations fared better, with 29% of awardees across the 3 organizations (AAEM, ACEP, and SAEM) from 2014 to 2018 being identified by our study as women. The κ for both extraction points (names and awards; gender of awardee) was 1.0.

Also shown in Table 1 is the percentage of awards given to women by year. There has been variability over time; however, there is an overall trend toward an increased percentage of national awards going to women. Most recently, 2018 had the highest percentage in this 5-year period, with 35% of all national awards going to women, from a nadir of 15% in 2015.

Finally, Table 1 lists the percentage of awards named for each sex. Of 43 total awards, 19 (44%) were named after people. Among these named awards, only 3 were named after women, with two thirds associated with the Canadian organization.

Table 2 lists the total number of awards received by each sex in regard to award type and career phase. Women were more likely to receive awards pertaining to the advancement of women and advocacy, whereas men were favored for awards recognizing mentorship and organizational contributions. Examining the trends within the awardee proportions in early-career awards (eg, young educator or early career investigator) versus late-career awards (eg, lifetime achievement) demonstrated a tendency toward giving women early-career awards, whereas men were more likely to be given late-career awards.

**LIMITATIONS**

This study has several limitations. First, gender is nonbinary and self-determined. Our method of assigning gender to awardees through either personal knowledge or Internet search may not accurately reflect an individual’s personal gender identity.

Second, our data span only a 5-year window. We selected this date range to more accurately reflect the current landscape in emergency medicine; however, there may have been gender trends before 2014 that were not represented in this study. Third, we did not include non-English-speaking organizations or organizations outside of North America, so our results may not generalize to other countries. Because of the retrospective nature of our present study, we were not able to establish a clear definition of early versus late career status for many of the awardees. Also, because our search for awards was performed by review of organizational Web sites, there is potential for missed awards if they were not listed online.

Third, there may be other important intersectional traits (eg, training pathways, fellowships, certification types [eg, American Board of Emergency Medicine, Fellow of the Royal College of Physicians of Canada, Canadian College of Family Physicians–Emergency Medicine], community versus academic practice) that we did not examine. The focus of this article was to examine only the sex of awardees in a retrospective manner, but our findings may give rise to new questions and ideas about other important facets that may intersect with gender.

**DISCUSSION**

Emergency medicine is unique among other specialties in that it has a relatively proportionate number of women represented among award recipients from major national organizations. Unfortunately, this is incommensurate with equitable gender representation in other arenas within emergency medicine and academic medicine as a whole. Various factors likely contribute to this inequity, and it is

**Table 2.** Awardee Gender Distribution Across Types of Awards.

	Total Men	Total Women	Total Awards in 5 Years	% Women
<b>Awardees by award category</b>				
Education (n=18)	71	32	103	31
Research (n=4)	23	8	31	26
Contributions to emergency medicine (n=3)	18	1	19	5
Leadership (n=4)	14	5	19	26
Lifetime achievement (n=3)	13	1	14	7
Organizational contributions (n=2)	7	3	10	30
Professionalism/humanism (n=2)	6	2	8	25
Clinical disaster (n=1)	5	1	6	17
Advancement of women (n=1)	0	5	5	100
Advocacy (n=1)	1	4	5	80
Clinical EMS (n=1)	3	2	5	40
Health policy (n=1)	3	2	5	40
International emergency medicine (n=1)	4	1	5	20
Mentorship (n=1)	5	0	5	0
Special (n=1)	1	0	1	0
<b>Awardees by career phase of award</b>				
Not specified	106	46	152	30
<b>Early career</b>				
SAEM Early Investigator Award (3–4/y); AAEM Young Educator Award (1/y); ACEP National Emergency Medicine Junior Faculty Award (3–5/y)	22	16	38	42
<b>Late career</b>				
AAEM Master of the Academy of Emergency Medicine (3 awards/y); CORD Academy Distinguished Educator Award (2–3 awards/y); 1 award/y for the following: AAEM David K. Wagner Award; ACEP James D. Mills Outstanding Contribution to Emergency Medicine Award; ACEP John A. Rupke Legacy Award; CAEP Honourary Life Member Award; CAEP President's Award; CAEP Richard Kohn Memorial Award for Mentorship in Emergency Medicine)	46	5	51	10

EMS, Emergency medical services.

important to consider how we might integrate the observations from other specialties to continue improving conditions in emergency medicine.

First, medicine in general has an established leadership gap. Women have composed a significant portion (and now compose the majority) of all medical school matriculants.<sup>2,3</sup> However, they account for only 15% of department chairs and 16% of deans in the United States.<sup>11</sup> In Canada, 41% of physicians are women; however, only 11% are deans.<sup>12</sup> This leadership gap is present in emergency medicine as well, with fewer women holding a chair, chief, or vice-chair position.<sup>13</sup> Given the importance of awards in academic

promotion,<sup>1</sup> it is plausible that despite the recent trend of increased female representation in national awards identified in our study, the lack of female presence in leadership roles may reflect a lag time between receiving national awards and earning academic promotion. Second, medicine has an established gender pay gap.<sup>14,15</sup> Within emergency medicine, women on average earn \$19,000 less per year than their matched male counterparts.<sup>13</sup> The reason for this gender pay gap is multifactorial; however, some experts have suggested that one component is a gender difference in salary negotiation.<sup>16-18</sup> Having proportionate national recognition for professional

achievement may provide women with an important bargaining tool when entering salary negotiation.

Our data have identified that the proportion of women receiving awards is increasing and that women have successfully closed the gender gap in awards granted by US organizations, whereas Canada appears to lag behind, with only 19% of awards going to women despite national representation of 31% female emergency physicians in 2018.<sup>7</sup> SAEM stood out among all other organizations, with 44% of awards from SAEM going to women, more than twice the percentage of AAEM and CAEP. One explanation for this is that women are relatively better represented in academic emergency medicine, composing 32.6% of the academic emergency medicine workforce compared with 27.6% of the overall emergency medicine workforce.<sup>13</sup> The early-career award percentages are likewise encouraging, with 42% of these awards going to women. Some organizations have a higher number of female awardees, indicating that certain organizations may understand the biases inherent in the academic landscape and should be acknowledged for their contributions to correcting this by recognizing women with national awards. There may be a causal relationship between more early-career awards and more female awardees, but our study was not designed to determine this relationship. Vigilance and surveillance will be required of all organizations to assess and audit their awards processes to increase and maintain equality and equity. One way to achieve this may be to increase the number of awards created in honor of achievements by women because only 16% of the named national awards are named for women.

Outside of national organization leadership, academic department leaders can improve female representation in national awards by making conscious efforts to nominate eligible and qualified female colleagues while aiming for consistency in internal nomination statistics to ensure equity. Furthermore, women who think they meet the terms of an award should ask colleagues to nominate them. Given that recipients of academic awards demonstrate ongoing academic productivity, subsequent grant funding and research publications, and satisfaction with their academic careers,<sup>19</sup> actively seeking nomination for awards will help women in their pursuit of academic success.

The variability between the national organizations' awarding patterns suggests that there may be certain procedures used by some organizations that help with gender parity in their awards. More research should be conducted to determine whether there are procedural differences in the award nomination and selection processes among the various national emergency medicine societies that could explain the differences.

Overall, women are represented in national emergency medicine awards proportionate to their gender representation in the field of emergency medicine. However, there are notable differences between the individual organizations' awarding patterns. The high proportion of female awardees is particularly noteworthy among early-career awards and awards from ACEP, COD, and SAEM, whereas 2 national organizations (AAEM and CAEP) give a much lower percentage of awards to women than the other organizations. Ultimately, the trend toward proportionate awarding practices may signal a coming change with respect to closing gaps in areas persistently plagued by gender disparity, including leadership roles, rank, and pay gap.

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The following are the planned sites and dates for the future annual meetings of the American College of Emergency Physicians:

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October 1-4, 2022	San Francisco, CA
October 9-12, 2023	Philadelphia, PA