

## VIEWPOINT

### VOICES IN CARDIOLOGY

# A Look Back, A Path Forward

## Moving Toward Diversity and Inclusion in Cardiovascular Society Presidents



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Despite the number of female cardiologists increasing over time, women comprise only <15% of practicing cardiologists worldwide.<sup>1</sup> Women cardiologists are less likely to be full professors, receive research funding, or have a registered clinical trial.<sup>2</sup> Although there has been an increase in women authors of cardiovascular scientific publications over the past 40 years, women are still less likely to be first or senior authors, and they are underrepresented on cardiovascular journal editorial boards.<sup>1,3,4</sup> It is well known that women hold few departmental leadership positions in medicine—they are less often cardiology division chiefs or fellowship program directors, and this holds true even in specialties that are female dominated.<sup>5,6</sup> Additionally, there is a dearth of women and men from diverse backgrounds. Black people comprise 13% of the U.S. population but represent only 2% of cardiologists. Black cardiologists are underrepresented in leadership roles, as well as at the level of full professor.<sup>7</sup> Similarly, only 2% of practicing cardiologists are Hispanic or Latino, and Indigenous

people are underrepresented in both medicine and cardiology.<sup>8</sup>

A recent study revealed that presidents of physician-focused medical specialty societies were predominantly men, with 10 societies having had no women presidents in a decade.<sup>9</sup> However, this study looked at only 2 cardiovascular societies. We sought to characterize and better understand the sex, ethnic, and racial representation in presidential leadership positions in major cardiovascular societies in the United States and whether this has changed over time.

### LOOKING BACK: CARDIOVASCULAR SOCIETY PRESIDENTS IN THE PAST CENTURY

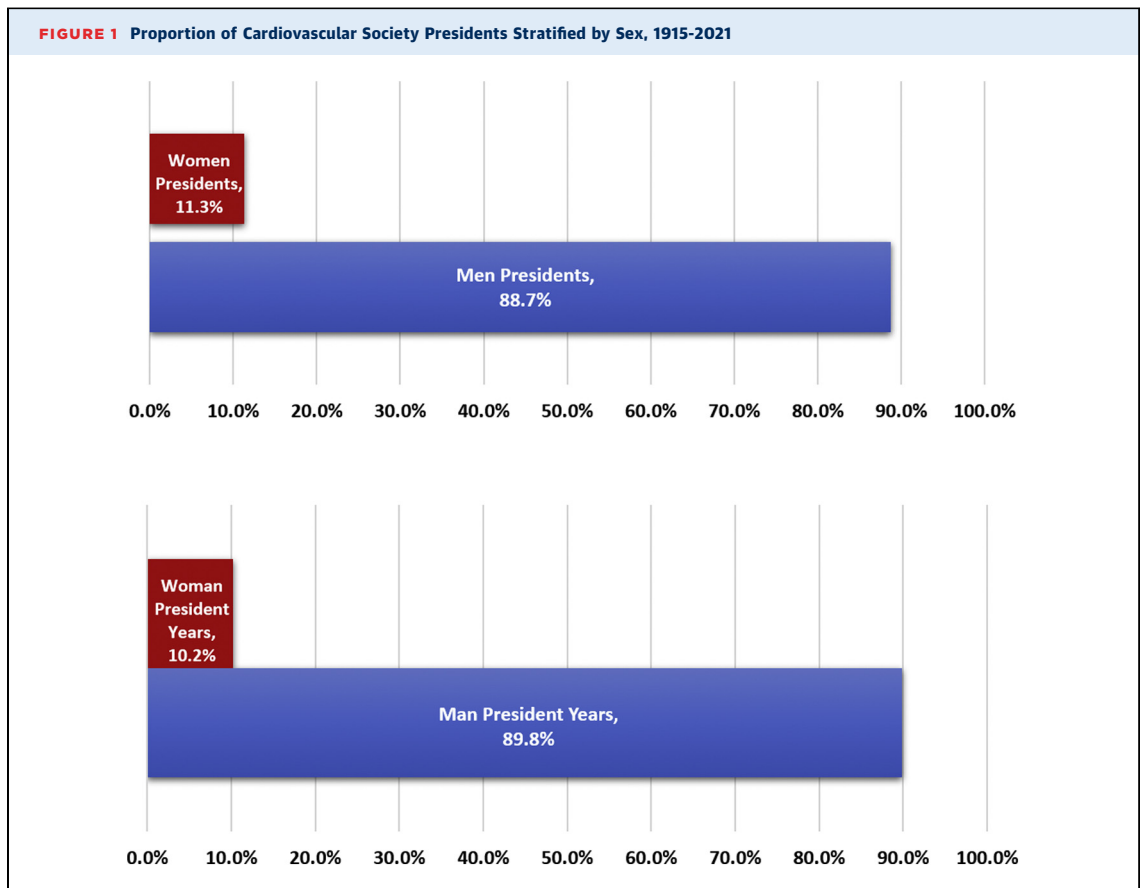
We identified and examined the major cardiovascular societies within the United States representing general cardiology, electrophysiology, cardiovascular imaging, heart failure, interventional cardiology, and preventive cardiology. These were the American College of Cardiology (ACC), American Heart Association (AHA), American Society of Echocardiography (ASE), American Society of Nuclear Cardiology (ASNC), American Society for Preventive Cardiology (ASPC), Association of University Cardiologists (AUC), Heart Failure Society of America (HFSA), Heart Rhythm Society (HRS), National Lipid Association (NLA), Society for Cardiovascular Angiography and Interventions (SCAI), Society of Cardiovascular Computed Tomography (SCCT), and Society for Cardiovascular Magnetic Resonance (SCMR). Societies that were intentionally race specific were excluded. Society websites were analyzed from the society's founding through the year 2022.

Presidents were identified by sex, race, terminal degree, and number of years in office. Race, ethnicity, and sex of presidents were based on review of public

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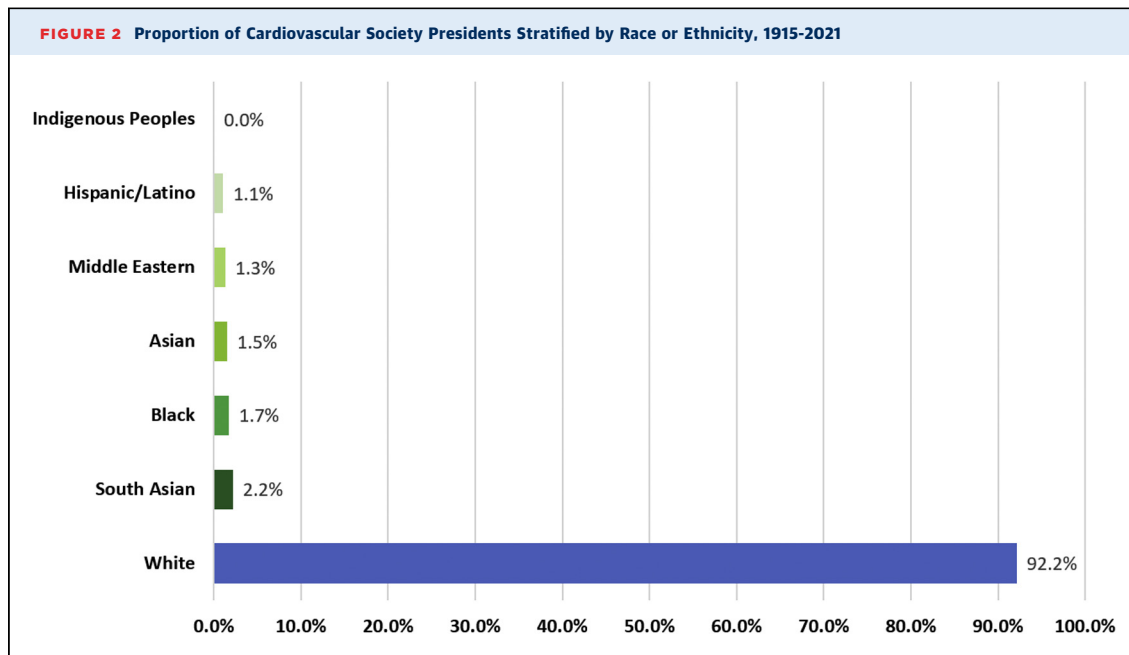


profiles and photographs available through an online search engine (Google, Inc). Number of years in office was determined from publicly available presidential rosters. The term “gender-president years” was defined as the number of years a man or woman was in office. Categorical variables are reported as absolute numbers and percentages, and chi-square tests were used to compare data, with values of  $P < 0.05$  considered significant. Linear regression was used to test the trend over time. Institutional Review Board approval for this study was not required for publicly available data, in accordance with the published institutional policies.

Between 1915 and 2021, the number of national cardiology societies increased, with a total of 12 societies by 2005 and a total of 460 society presidents with 524.5 president-years by 2021. Presidents were predominantly male, with 88.7% (408) male presidents and 89.8% (471) male-president years vs 11.3% (52) female presidents and 10.2% (53.5) female-president years ( $P < 0.001$  for both) (Figure 1). There were 4.5% (19) of men presidents vs 7.7% (4) of women presidents who served as president for more than 1 society or for more than 1 term in the same society ( $P = 0.35$ ).

Although the AHA had the highest total number of female presidents (10; range across societies 1-10), the ASE and HFSA had the highest proportion of female presidents (18.8% or 6 of 32 and 3 of 17, respectively; range across societies 6.3%-18.8%), and the HFSA and NLA had the highest female-president years (15.4% or 4 of 26 years and 15.0% or 3 of 20 years, respectively; range across societies 5.9%-15.4%). Across all societies, there was a significantly higher proportion of nonphysician female than nonphysician male presidents (13.5% vs 2.5%;  $P < 0.001$ ).

Presidents were 92.2% (424) White, 2.2% (10) South Asian, 1.7% (8) Black, 1.5% (7) Asian, 1.3% (6) Middle Eastern, 1.1% (5) Hispanic or Latino, and 0% Indigenous peoples (Figure 2). Since 2015, 6 of 7 years had  $\geq 33.3\%$  women presidents annually, with a high of 50% women presidents in 2020. Since 2018, 3 of 4 years had  $\geq 25\%$  presidents from traditionally underrepresented racial and ethnic backgrounds, with a high of 33.3% presidents from traditionally underrepresented racial and ethnic backgrounds in both 2019 and 2021 (Figure 3). Between 2012 and 2021 (10 years), there were 27 woman-president years and 18 non-White president years ( $P < 0.001$ ).

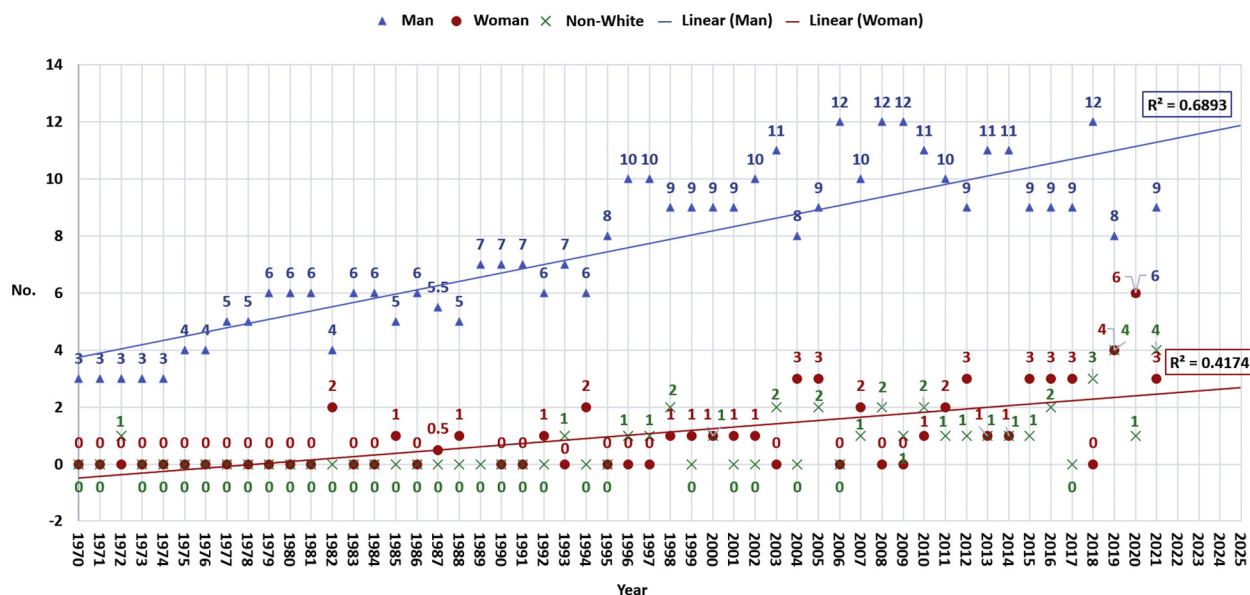


for trend). Between 1915 and 2011 (97 years) there were 25.5 woman-president years and 16 president from traditionally underrepresented racial and ethnic backgrounds years (Figure 3).

### A PATH FORWARD: DIVERSITY IN LEADERSHIP, DEEPENING THE PIPELINE, PERPETUATING POSITIVE CHANGES

Our findings demonstrate important data on the sex and race or ethnicity of presidential leaders within the cardiovascular community and show a paucity of diversity until the past 10 years, with increasing diversity most notable in the past 5 years. Our findings also corroborate, are consistent with, and add to previous studies showing underrepresentation of women and persons of diverse racial and ethnic backgrounds in medical and health care leadership.<sup>5,9-11</sup> For almost a century, nearly 90% of presidential leadership positions in major cardiovascular societies in the United States have been held by men, >90% White men. The origins of these societies encompass a time when there were no cardiologists who were women or from diverse backgrounds and also predate the inclusion of these practitioners into medical societies. Thus, understandably the earliest dates of this analysis correspondingly had a lack of diversity within the presidential leadership, given the lack of diversity within the membership ranks of the societies themselves.

Although data have not been systematically collected across all societies, sex, racial, and ethnic diversity of society memberships has progressively increased over time. Diversity of society memberships is directly affected by the number of trainees entering the cardiology field and subsequently the cardiology workforce. Currently, women comprise one-half of U.S. medical school graduates, but attracting women trainees to cardiology remains a challenge. Women trainees in cardiology have increased from 22% in 2010 to only 25% in 2019, a low percentage comparable to most surgical subspecialties.<sup>12</sup> In fact, when comparing cardiology with non-internal medicine Accreditation Council for Graduate Medical Education (ACGME) accredited subspecialties, cardiology had the second greatest underrepresentation of women trainees, coming just behind orthopedic surgery.<sup>13</sup> Attrition of women from cardiology after fellowship completion occurs as well; of 22,502 active U.S. cardiologists, only 14.9% are women.<sup>12</sup> Similarly, racial and ethnic diversity continues to increase at an unacceptably slow pace for all of medicine, including cardiology. From 2006 to 2016, the percentage of adult cardiology fellows from diverse backgrounds increased minimally from 11.1% to 12.4%, with practicing adult cardiologists increasing only slightly more, from 5.3% to 7.5%.<sup>14</sup> This is despite individuals from racially and ethnically diverse groups comprising >33% of the current U.S. population. In addition, the proportions of Black

**FIGURE 3** Number of Male, Female, and Non-White Cardiovascular Society Presidents Over Time, 1970-2021, With Projection to the Year 2025

Red circles, female presidents; blue triangles, male presidents; green "x," non-White. Linear regression trend lines are shown in red for female presidents and blue for male presidents with projection to the year 2025.

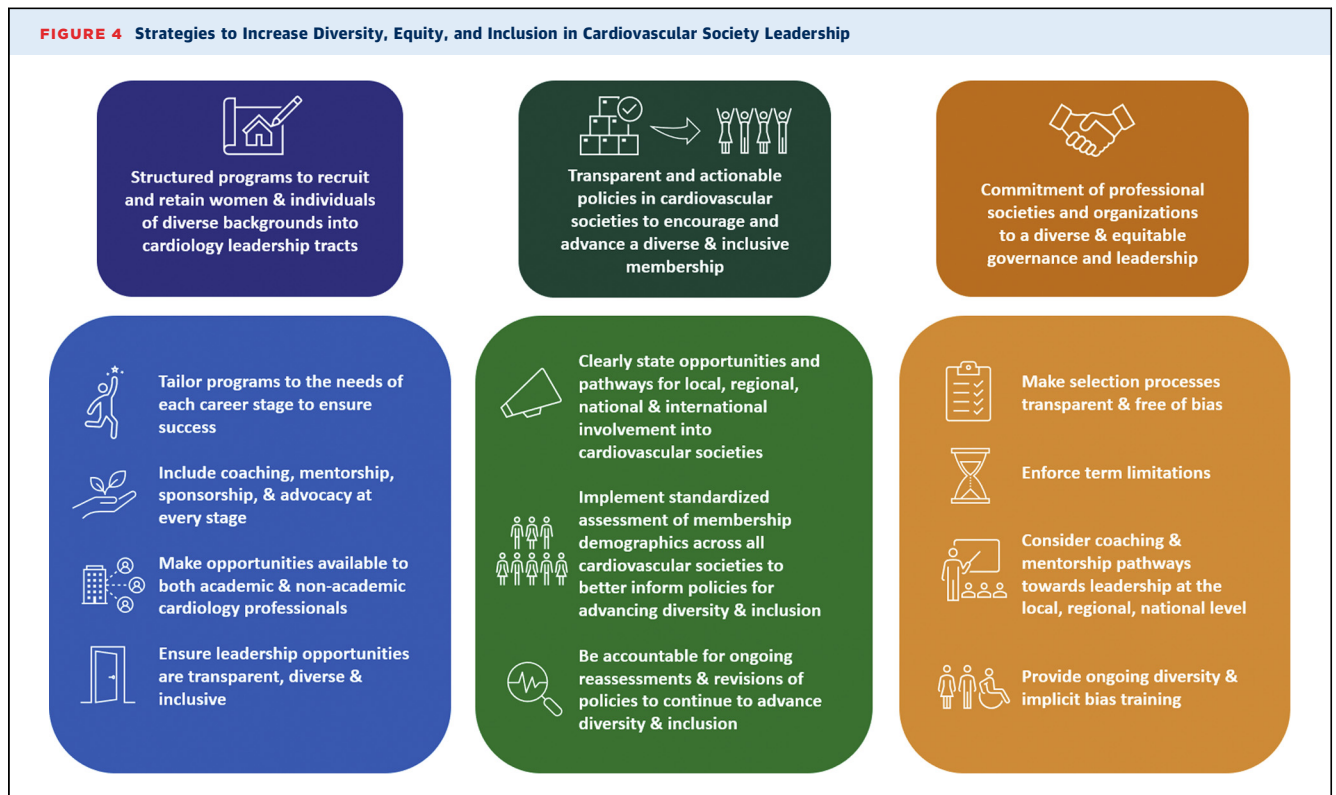
and Latino or Hispanic U.S. adult cardiologists were 14% and 10.4% lower, respectively, when normalized to their representation in the general population.<sup>15</sup>

Despite the low diversity in the cardiology workforce, and although the absolute numbers and proportions of diverse cardiovascular society presidents relative to both the general U.S. population and the latest U.S. adult cardiology demographic data remain low, the last 10 years have seen more women and persons from diverse backgrounds serve as cardiovascular society presidents than the previous 96 years combined. In 2019, one-third of sitting presidents were non-White (2 South Asian, 2 Middle Eastern). In particular, 2020 was a historic year for women—50% of cardiovascular societies selected women presidents that year, namely the ACC, ASE, AUC, HFSA, HRS, and SCAI. Although the overall rate of change has been slow and the total numbers remain small, this more recent accelerated and positive change coincides with contemporary concerted efforts by several cardiovascular societies toward diversity, equity, and inclusion.<sup>16-18</sup>

Organizations that have diverse and inclusive leadership teams have been shown to outperform those that are less diverse.<sup>19</sup> Society presidents have significant influence on the organizations they lead. They help craft the organization's policy on national

matters, including during times of crisis. Presidents who are women or from diverse backgrounds can help advocate for women's health initiatives and champion racial health equity. Diverse leaders bring perspectives that spark "outside of the box" ideas from the teams they lead, thus spurring further creative thinking, innovation, and improved problem solving. Most importantly, sex, racially, and ethnically diverse society presidents encourage and inspire diversity in current and future generations of cardiologists by role modeling; this leads to engagement, retention, and deepening of the cardiology pipeline as a whole. More diverse society presidents would help transform the cardiology community to better reflect our diverse patient populations and encourage culturally responsive cardiovascular care. Diversity, equity, and inclusion within cardiovascular society leadership not only brings value to the boardroom of the organization and its national platform, but also benefits the health of our nation as a whole.<sup>19</sup>

Recently, cardiovascular societies, councils, and leaders within cardiovascular research have published documents detailing recommendations for improving sex, racial, and ethnic diversity in cardiovascular research.<sup>20-24</sup> These recommendations detail interventions that can be done not only at the patient or research participant level, but also at research team



and institutional levels. Similarly, it will be critical to apply these same multilevel interventions to improve diversity, equity, and inclusion at the highest levels of cardiology leadership because changes cannot occur by intervening at the leadership level alone. Conscious, intentional, and accountable efforts must encompass all parts of the cardiology pipeline, from medical school through late career, in academicians and nonacademicians, as well as in leadership, society, and institutions. Although a future cardiovascular multisociety concerted effort, or “think tank,” should be considered to help further identify barriers and provide specifically tailored and actionable solutions, some current solutions that are based on the previous publications mentioned earlier may include the following (Figure 4):

1. Structured programs aimed at increasing recruitment and retention of women and individuals of diverse backgrounds into or within cardiology and cardiology leadership tracts
  - a. Tailor programs to the needs and wants of each career stage starting with premed, medical school, and postgraduate training and continuing throughout early, middle, and late career to ensure success.
  - b. Include coaching, mentorship, sponsorship, and advocacy at every stage.
  - c. Make opportunities open and available to both academic and nonacademic cardiology professionals.
  - d. Ensure that leadership opportunities are open and transparent, diverse, and inclusive.
2. Transparent and actionable policies in cardiovascular societies to encourage and advance a diverse and inclusive membership for all career stages
  - a. Clearly state the opportunities and pathways for local-, regional-, national-, and international-level involvement into cardiovascular societies.
  - b. Implement standardized assessment of membership demographics across all cardiovascular societies to better inform policies for advancing diversity and inclusion.
  - c. Engage in and be accountable for ongoing reassessments and revisions of policies to continue to advance diversity and inclusion.
3. Commitment of professional societies and organizations to a diverse and equitable governance and leadership
  - a. Make selection processes transparent and free of bias.
  - b. Enforce term limitations.



- c. Consider coaching and mentorship pathways toward leadership at the local, regional, and national level.
- d. Provide ongoing diversity and implicit bias training.

**STUDY LIMITATIONS.** First, we were unable to assess accurately the annual number of practicing cardiologists by sex, race, or ethnicity in the United States or within the membership of the societies studied. As previously stated, these data have not been collected in a systematic fashion across all societies for all years. In addition, the referenced analysis of the demographics of all U.S. adult cardiologists does not include data since 2016; thus, our findings could not be normalized to a more contemporary cohort.

Second, several men and women held presidential leadership positions more than once in the same society, or in more than 1 society over the study period, and thus were “double counted.” It is quite an expected trajectory for many to initially be president of a specialty society before becoming president of the 2 largest societies (ACC, AHA). However, no single person overlapped in a year serving as president of more than 1 society, and this did not change our overall findings.

Third, membership and the office of society president are often open to noncardiologists as well as cardiologists. Thus, adjustment of the percentages of presidents to the representation of cardiologists vs noncardiologists was not possible, but it should be considered in future assessments, particularly because noncardiologist women were more likely to hold a presidential position than noncardiologist

men. Fourth, the designations of race, ethnicity, and sex of presidents were based on review of public profiles and photographs available through an online search engine; we acknowledge that this may lead to inaccuracies. Finally, this study was performed for cardiovascular societies only in the United States, and findings may not be applicable to, or representative of, other regions.

## CONCLUSIONS

Society leadership roles have considerable influence on both professional organizations and the cardiology community as a whole. Although the change is small, it is reassuring to see improved diversity in cardiovascular society leadership in the last decade and even more so in the past several years. National cardiology societies must continue these concerted, conscious, and intentional efforts and must remain committed and accountable to increasing the diversity of fellows-in-training, of the membership at large, and at the highest levels of leadership in cardiology.

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