The Women's Leadership Gap in Diabetes: A Call for Equity and Excellence

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Women are broadly underrepresented in scientific leadership positions and their accomplishments are not provided equal recognition compared with those of men, but the imbalance in the field of diabetes is unknown. Hence, we analyzed multiple aspects of historical and present-day female representation in the diabetes field. We quantified gender representation at annual American Diabetes Association (ADA) meetings; editorial board service positions for ADA and the European Association for the Study of Diabetes (EASD) journals; principal investigators for ADA, JDRF, and National Institutes of Health National Institute of Diabetes and Digestive and Kidney Diseases P30 grant funding; and ADA, JDRF, and EASD award recipients. There are many women in the field of diabetes: registration for the ADA Scientific Sessions has been 43% female since 2016, and for over five decades, women comprised 83% of ADA Presidents of Health Care and Education. Yet, only 9% of ADA Presidents of Medicine and Science have been women. Women were well represented on editorial boards for journals focused on diabetes education (*Diabetes Spectrum*, 89% female) and primary care (*Clinical Diabetes*, 49% female) but not for the more academically targeted *Diabetes Care* (34% female), *Diabetes* (21% female), and *Diabetologia* (30% female). Only one-third of ADA Pathway to Stop Diabetes and JDRF grants have been awarded to women, and females only lead 2 of 18 (11%) of the P30-supported Diabetes Research Centers. Finally, only 2–12% of major ADA, JDRF, and EASD awards were given to women, without significant change over time. Despite increasing recognition of gender imbalance in research and medicine, many disparities in the field of diabetes persist. We call for decreasing barriers for advancement of female investigators and creating environments that promote their retention and equitable recognition for their contributions to the field.

Over one-half of the population self-identifies as female (1). Nearly 60% of individuals earning undergraduate and master's degrees in the U.S. are female. Women are also well represented among persons earning MD degrees (47%) and PhD degrees in biological sciences (49%) (2,3). However, while women enter these academic pipelines at near-equal rates, they remain vastly underrepresented in upper-level positions and experience persistent disparities in hiring, career advancement, and compensation (4–6). This notion especially applies to science, technology, engineering, and mathematics (STEM) disciplines, all fields where widespread gender inequalities have been well documented (7).

In science and engineering, fewer female PhDs apply for tenure-track faculty positions than men (8). In the life

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sciences, women make up only 34% of the faculty, with more women in lower faculty ranks than in higher ranks (9). Additionally, there is significant attrition of female talent from science, technology, and engineering; nearly half of women in the private sector quit their jobs by mid-career (i.e., ~10 years into their careers) (10). Women who remain in their careers experience inequalities in salary and other forms of compensation (11,12), in attaining leadership positions (7), and in various other aspects of academic achievement including authorship on invited commentaries, promotion, and tenure (3,13). These inequalities remain, in part, due to systemic barriers and biases that result in attrition along every stage of the pipeline to recognition and positions of influence (14). In addition to these issues, other aspects of the workplace environment, implicit and explicit biases, and responsibilities outside of work play a role in ultimate underrepresentation of women. Inequitable gender distributions are present in many other areas of science and academic medicine. These include invited speaking opportunities (15,16), editorial board composition (17,18), grant funding (19), and distinguished awards (20).

As there has not been a systematic examination of data regarding the representation of women in influential positions in the field of diabetes, we sought to determine the gender distribution of attendees at the American Diabetes Association (ADA) flagship Scientific Sessions meetings, persons afforded ADA Scientific Sessions marquee speaking and moderating opportunities, editorial boards from journals overseen by two major societies representing diabetes investigators at a global level (i.e., ADA and the European Association for the Study of Diabetes [EASD]), research grant awardees, and recipients of major awards in diabetes research from ADA, JDRF, and EASD. We also examined gender representation of the National Institutes of Health (NIH) Diabetes Research Center principal investigators for the National Institute of Diabetes and Digestive and Kidney Diseases (NIDDK) P30 program. Finally, we determined whether the representation and recognition of women in diabetes in several of these arenas has changed over time.

RESEARCH DESIGN AND METHODS

Data Collection

Upon request, the ADA supplied names of registrants for Scientific Sessions for the years 2016–2020, elected ADA officers over the past five decades, ADA professional interest group award recipients, and data for full editorial board members (i.e., not advisory) for *Diabetes Spectrum*, *Clinical Diabetes*, *Diabetes Care*, and *Diabetes*. The ADA also supplied the names and genders of session chairs and invited speakers for the annual meetings held from 2016 to 2020, as well as nominees and recipients of ADA Pathway to Stop Diabetes grant funds. *Diabetologia*, the official journal of the EASD, also provided, following our request, editorial board data for the years 2016–2020. Time frames for ADA meeting attendance, editorial board membership, session chairs, invited speakers, and Pathway nominees were requested in accordance with what was predetermined to represent a "reasonable" administrative effort of staff time from these organizations, which for most categories represented an approximate 5-year time frame. JDRF currently active funding data were obtained from their publicly available website (https://grantcenter.jdrf.org/funded-research/, accessed 7 July 2020). To determine representation in leadership-level funding at a U.S. federal funding level in diabetes, we evaluated the gender of principal investigators at the 18 currently active NIH NIDDK P30 Diabetes Research Centers (https://www.diabetescenters.org/centers, accessed 13 December 2020). We also examined all-time male and female recipients of what many consider the most prestigious awards from ADA, JDRF, and EASD: ADA Banting Medal for Scientific Achievement, ADA Outstanding Scientific Achievement Award (OSAA), JDRF Gerold and Kayla Grodsky Basic Research Scientist Award (Grodsky Award), JDRF David Rumbough Award (Rumbough Award), EASD Minkowski Prize, and EASD Claude Bernard Medal. For these various career-level awards, ADA data were provided directly to us in the form of recipients' names dating back to the respective awards' inception, while JDRF and EASD data were obtained from their respective websites (https://grantcenter.jdrf.org/information-for-awardees/awards-nomination/, accessed 7 July 2020; https://www.easd.org/prizes/minkowski.html, accessed 28 October 2020; and https://www.easd.org/prizes/claude-bernard.html, accessed 28 October 2020).

Assigning Gender by Name

For data sets in which gender was not supplied by either ADA or EASD, we entered first/given names into a specialized program (https://gender-api.com/) to determine the most probable gender of each individual. For ADA Scientific Sessions attendance, we report the gender as male, female, or unknown as determined using this Gender-API algorithm. For all other data sets, Gender-API outputs of unknown or with accuracy value <95 were further verified by an internet search in which website-based images (e.g., photographs) and gender pronoun notation were used to assign the most likely gender.

Statistical Analysis

Data were graphed and analyzed by χ^2 test using GraphPad Prism 9 (GraphPad Software, San Diego, CA). For many data sets, observed values were <5, precluding χ^2 analysis. P values <0.05 were considered statistically significant.

Data and Resource Availability

The data sets analyzed during the current study will be made available from the corresponding authors upon reasonable request and following written approval by the ADA for said request for ADA data. No applicable resources were generated or analyzed during the current study.

RESULTS

Women Account for Nearly Half of Attendees at the ADA Scientific Sessions but Are Underrepresented in Key Leadership Roles

From 2016 to 2020, women accounted for 43% of ADA registrants, with significantly fewer women than men attending the sessions each year ($P < 0.0001$, χ^2 test) (Fig. 1*A*). We next explored the gender distribution for ADA Scientific Sessions faculty by their role and found near-equal representation for session chairs each year ($P = 0.7$, χ^2 test) (Fig. 1*B*). Invited speakers were predominantly male overall ($P < 0.001$, χ^2 test) (Fig. 1*C*). However, a subanalysis of the 2020 Scientific Sessions, hosted virtually due to the coronavirus disease 2019 (COVID-19) pandemic, noted nearly equal representation among men and women in the session chair (male/female ratio = 58:56) and speaker roles (224:215).

In terms of governance for this organization, the primary ADA scientific leadership positions are those of President of Health Care and Education, held by a non-MD leader in clinical management of diabetes principles and practices, and President of Medicine and Science, held by a leader in basic or clinical diabetes research. Since the 1970s, 83% of persons appointed as ADA President of Health Care and Education have been women (Fig. 2*A*), but only 11% of those appointed as ADA President of Medicine and Science have been female (Fig. 2*B*).

ADA Journals Editorial Boards Reflect Historically Gendered Roles in Diabetes Research

Male and female representation on editorial boards was determined for the four major ADA journals. Since 2014, 89% of editorial board members for *Diabetes Spectrum* (Fig. 3*A*) have been women. *Diabetes Spectrum* primarily publishes articles related to diabetes education. Meanwhile, *Clinical Diabetes*, which typically hosts articles directed at diabetes care providers including nonacademic and primary care physicians, had a near-equal gender

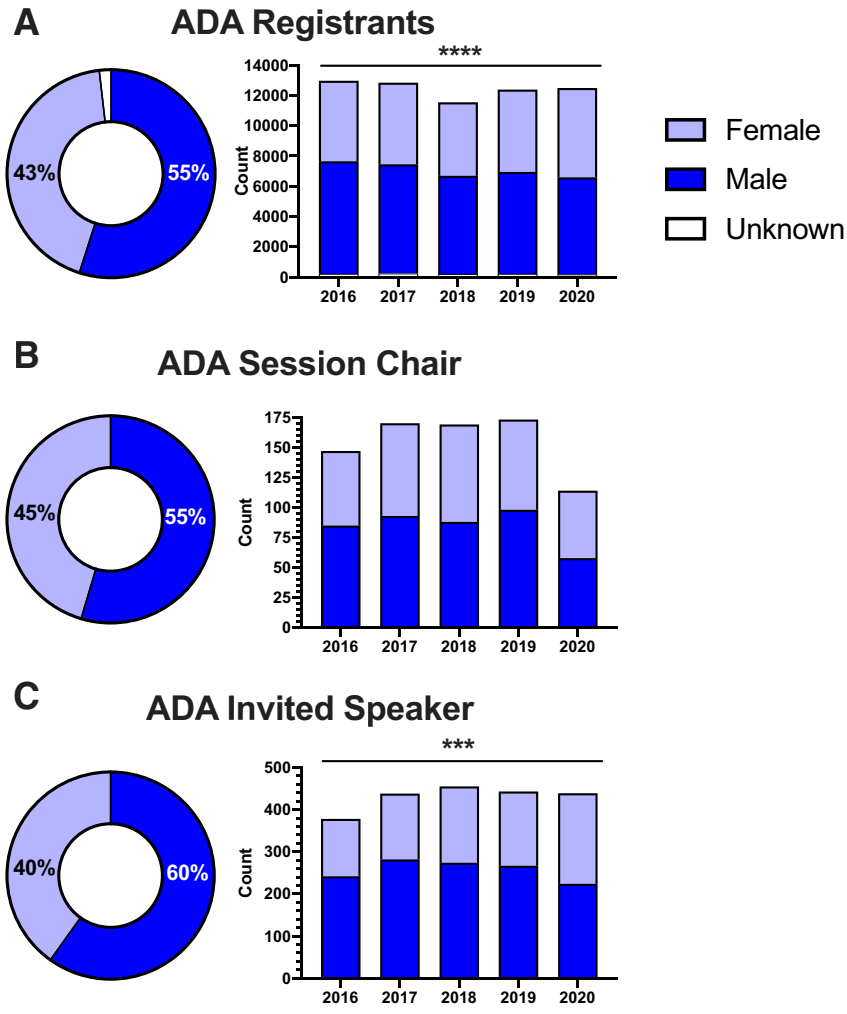

Figure 1—ADA Scientific Sessions. Overall registration (****$P < 0.0001$) (*A*), session chair ($P = 0.7$) (*B*), and invited speakers (***$P < 0.001$) (*C*) are displayed for male and female investigators at the ADA annual meetings from 2016 to 2020. Data were analyzed by χ^2 test.

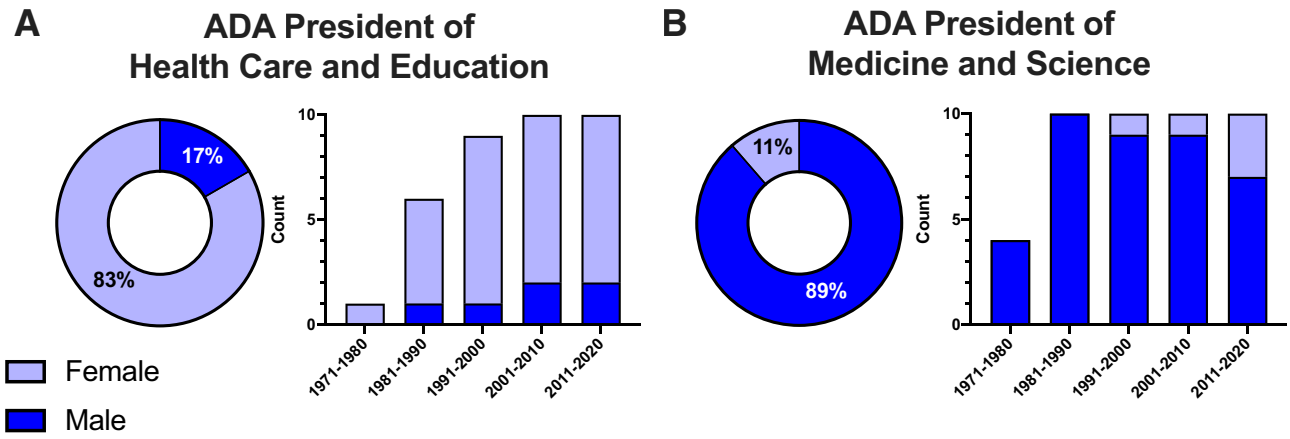

Figure 2—ADA officers. All-time male and female investigators holding the elected positions of President of Health Care and Education (*A*) and President of Medicine and Science (*B*). Counts <5 precluded statistical analysis by χ^2 test. ADA requirements that define these leadership positions include leadership and knowledge in clinical management of diabetes care principles and practices in the health care and education profession (*A*), and application of the scientific method, publication in basic or clinical science, and translation of scientific findings into clinical care within the medicine and science profession (*B*), as detailed further at https://www.diabetes.org/sites/default/files/2020-07/Officer%20Position%20descriptions.pdf.

distribution ($P = 0.2$, χ^2 test), with the current board having a slight female preponderance (Fig. 3*B*). In contrast, the editorial boards for *Diabetes Care* and *Diabetes*, which respectively publish clinical and basic science targeted to a largely academic audience, have historically been and continue to be predominantly male with no significant change in the gender distributions over time ($P = 0.97$ and $P = 0.6$, respectively, χ^2 test)

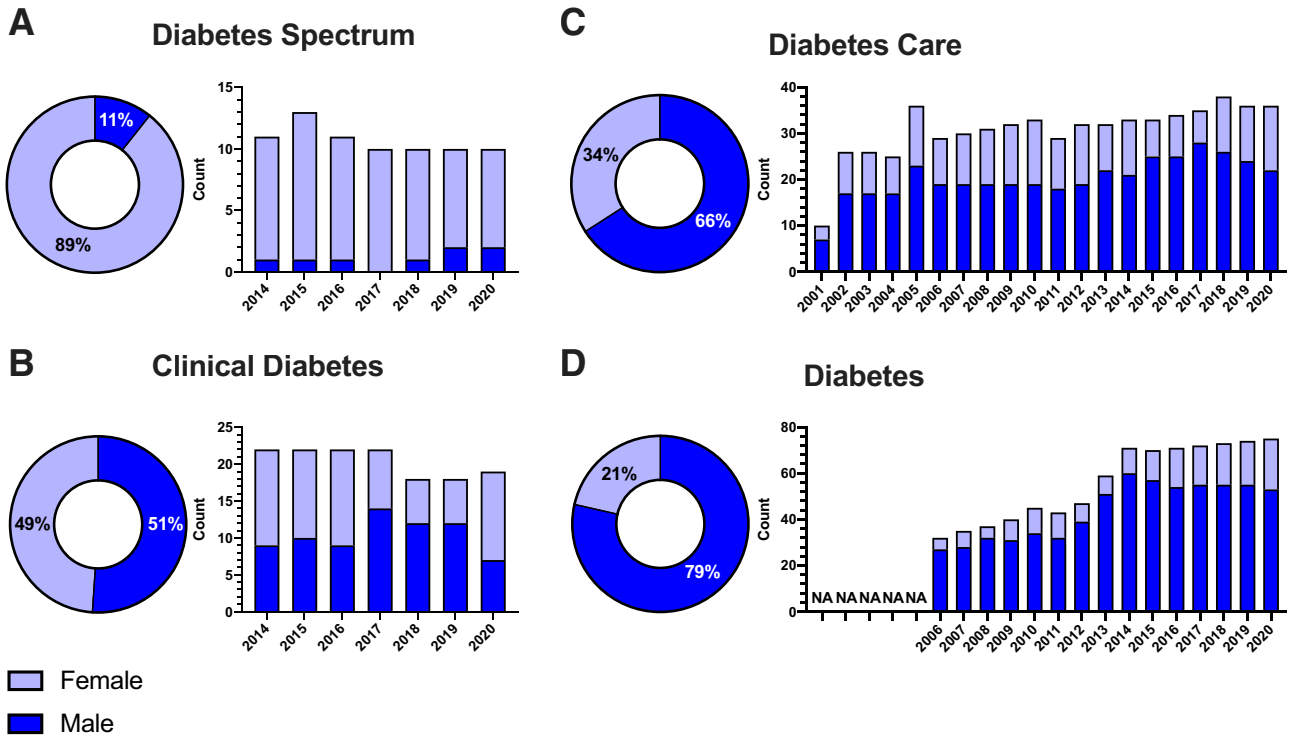

Figure 3—ADA editorial board membership. Men and women serving on the editorial boards for *Diabetes Spectrum* (*A*), *Clinical Diabetes* ($P = 0.2$) (*B*), *Diabetes Care* ($P = 0.97$) (*C*), and *Diabetes* ($P = 0.6$) (*D*). Data were analyzed by χ^2 test with the exception of *Diabetes Spectrum*, where counts <5 precluded statistical analysis. NA, not available.

(Fig. 3*C* and *D*). Similarly, from 2016 to 2020, women accounted for only 17 of 56 (30%) associate editors for the EASD-associated journal, *Diabetologia*.

Male Investigators Receive the Vast Majority of Diabetes Research Funding

We next investigated the gender distributions for both nominees and recipients of ADA Pathway to Stop Diabetes grants, which support exceptional postdoctoral fellows as they transition to independence (Initiator Award) (Fig. 4*A*), early career investigators (Accelerator Award) (Fig. 4*B*), and established investigators who are new to diabetes research (Visionary Award) (Fig. 4*C*) and who are thought to have a high likelihood of making seminal contributions to the field of diabetes research. Importantly, Pathway award candidates must be nominated by their institution with an annual limit of one nominee at each institution. We found that women accounted for nearly half of Initiator Award nominees (51 of 111) but only one-third of eventual recipients (3 of 9) (Fig. 4*A*). Meanwhile, only 35% (122 of 345) of Accelerator Award nominees and 27% (67 of 249) of Visionary Award nominees were female (Fig. 4*B* and *C*), suggesting a key barrier to women advancing into the elite echelon of diabetes investigators.

Outside of ADA, we looked at other private and public funders to identify the potential for gender bias. Specifically, we evaluated active JDRF research grants and observed that only 35% were awarded to women (Fig. 4*D*); these grants represented an even lower percentage of total funding dollars (30%) (Fig. 4*E*). At a public level, we determined the gender of center directors for the 18 NIH NIDDK Diabetes Research Centers. Of 19 center directors (one site has two directors), only two (11%) were female.

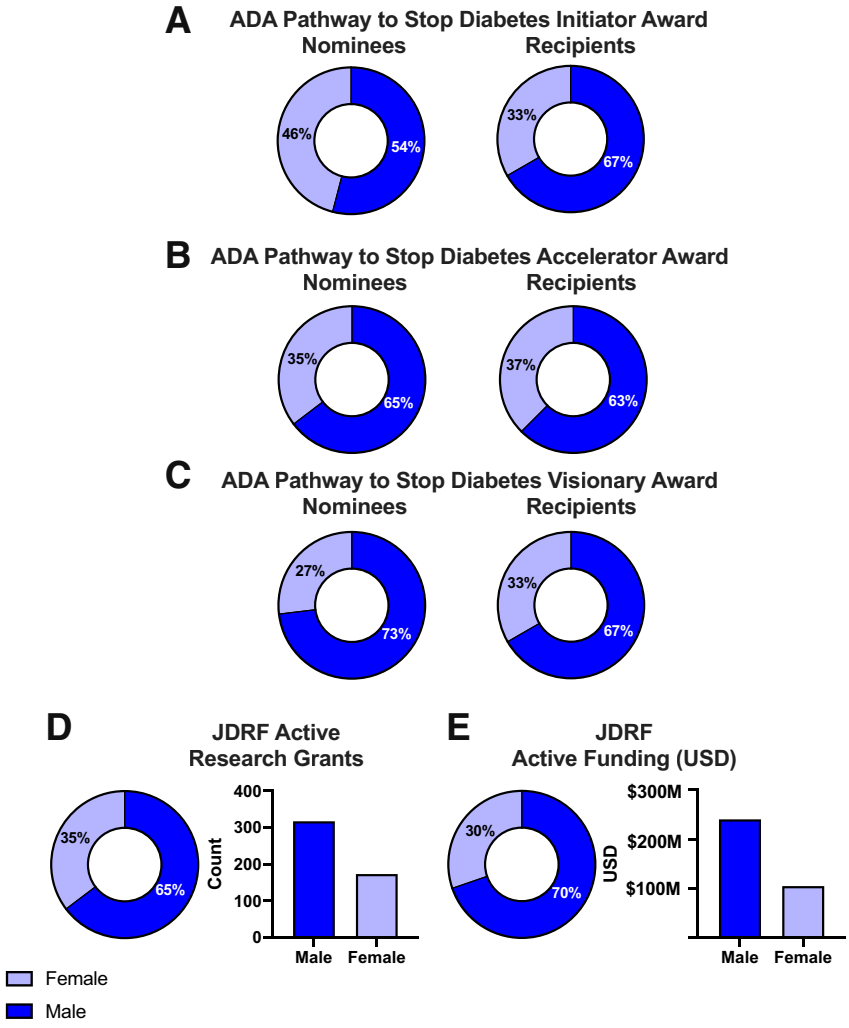

Figure 4—ADA and JDRF grant funding. *A*–*C*: Male and female nominees (left) and recipients (right) of ADA Pathway to Stop Diabetes awards since the program's inception in 2014. *D*: Number of male and female investigators having JDRF active research grants. *E*: JDRF active funding to male and female investigators in U.S. dollars (USD).

Female Investigators Account for a Small Fraction of Career Achievement Award Recipients

We tabulated the number of male and female recipients of ADA professional interest group awards over the past three decades. This includes the Edwin Bierman Award recognizing research accomplishments in diabetes-related macrovascular disease (Fig. 5*A*), the Richard R. Rubin Award for behavioral medicine and psychology-related diabetes work (Fig. 5*B*), the Roger E. Pecoraro Award for research on diabetes foot care (Fig. 5*C*), and the Norbert Freinkel Award for achievements in the areas of pregnancy and reproductive health in diabetes (Fig. 5*D*). In all four areas, male investigators received the vast majority of these awards with little movement toward parity in gender distribution in recent years.

In addition, we evaluated all-time male and female recipients of the six highest scientific awards put forth by the ADA (Banting Medal for Scientific Achievement and OSAA), JDRF (Grodsky and Rumbough Awards), and EASD (Minkowski Prize and Claude Bernard Medal). Strikingly, women represented only 6 of 101 (6%) Banting Medal recipients for "highly meritorious career achievement in the field of diabetes research" (Fig. 6*A*) and 4 of 64 (6%) recipients of OSAA for leading-edge diabetes research conducted by investigators younger than 50 years of age (Fig. 6*B*), with no appreciable change in distribution over time. Somewhat similarly, women have received only 12% (3 of 26) of Grodsky Awards to PhD researchers for "pioneering contributions to type 1 diabetes research" (Fig. 6*C*), and just 5% (4 of 83) of Rumbough Awards for "outstanding achievements in the field of type 1 diabetes research that have significantly accelerated the JDRF mission" were presented to women (Fig. 6*D*). Women received only 11% (6 of 55) of the EASD Minkoswki Prizes recognizing European scientists with no more than 10 years full-time experience as an independent investigator for "research contributing to the advancement of knowledge concerning diabetes" (Fig. 6*E*). Perhaps most remarkably, the EASD Claude Bernard Medal for "innovative leadership and lifetime achievements in diabetes research" has been awarded to only a single female investigator since the award's introduction in 1969 (1 of 52, 2%) (Fig. 6*F*). Again, and in sum, there has been no appreciable shift toward equity in recent decades for any of these awards.

CONCLUSIONS

The health care and medical research communities focused on diabetes (e.g., educators, physicians, basic researchers, nurses, dietitians, and exercise physiologists) comprise multitudes of individuals serving in

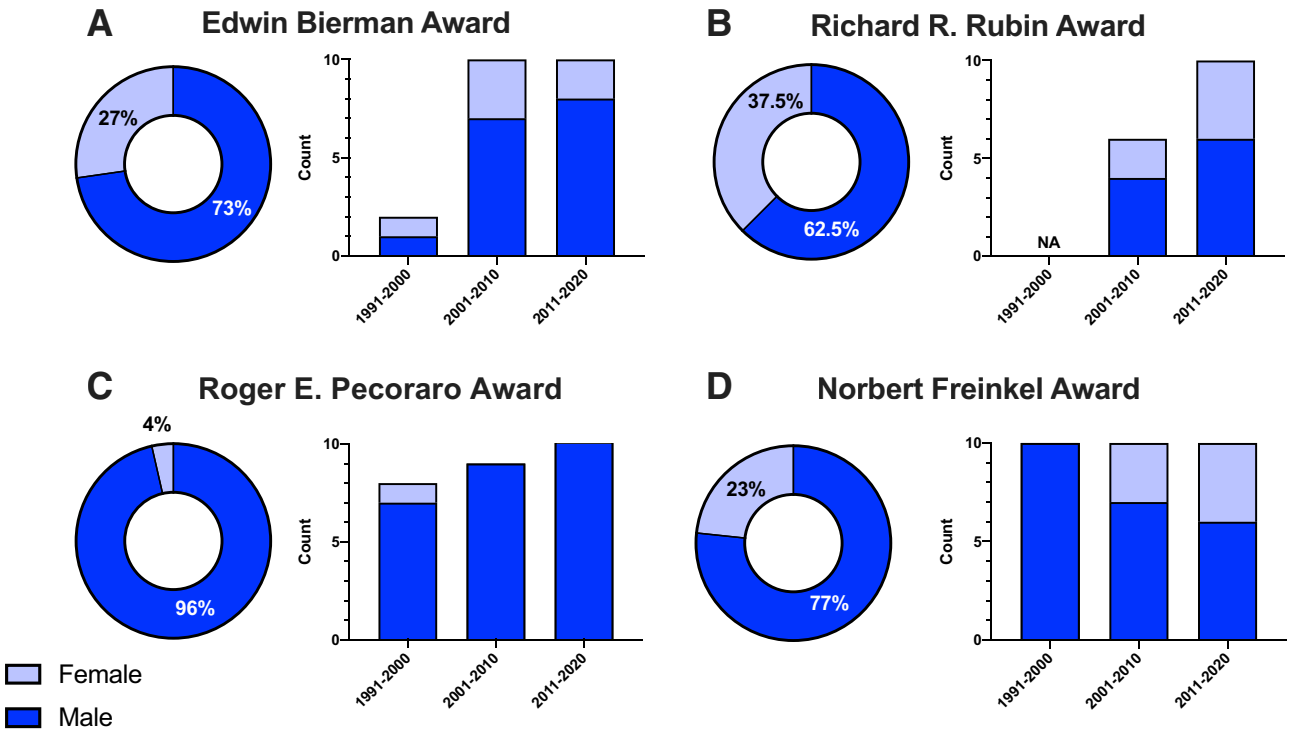

Figure 5—ADA interest group awards. Male and female recipients of the Edwin Bierman (*A*), Richard R. Rubin (*B*), Roger E. Pecoraro (*C*), and Norbert Freinkel (*D*) ADA interest group awards. Counts <5 precluded statistical analysis by χ^2 test. NA, not available.

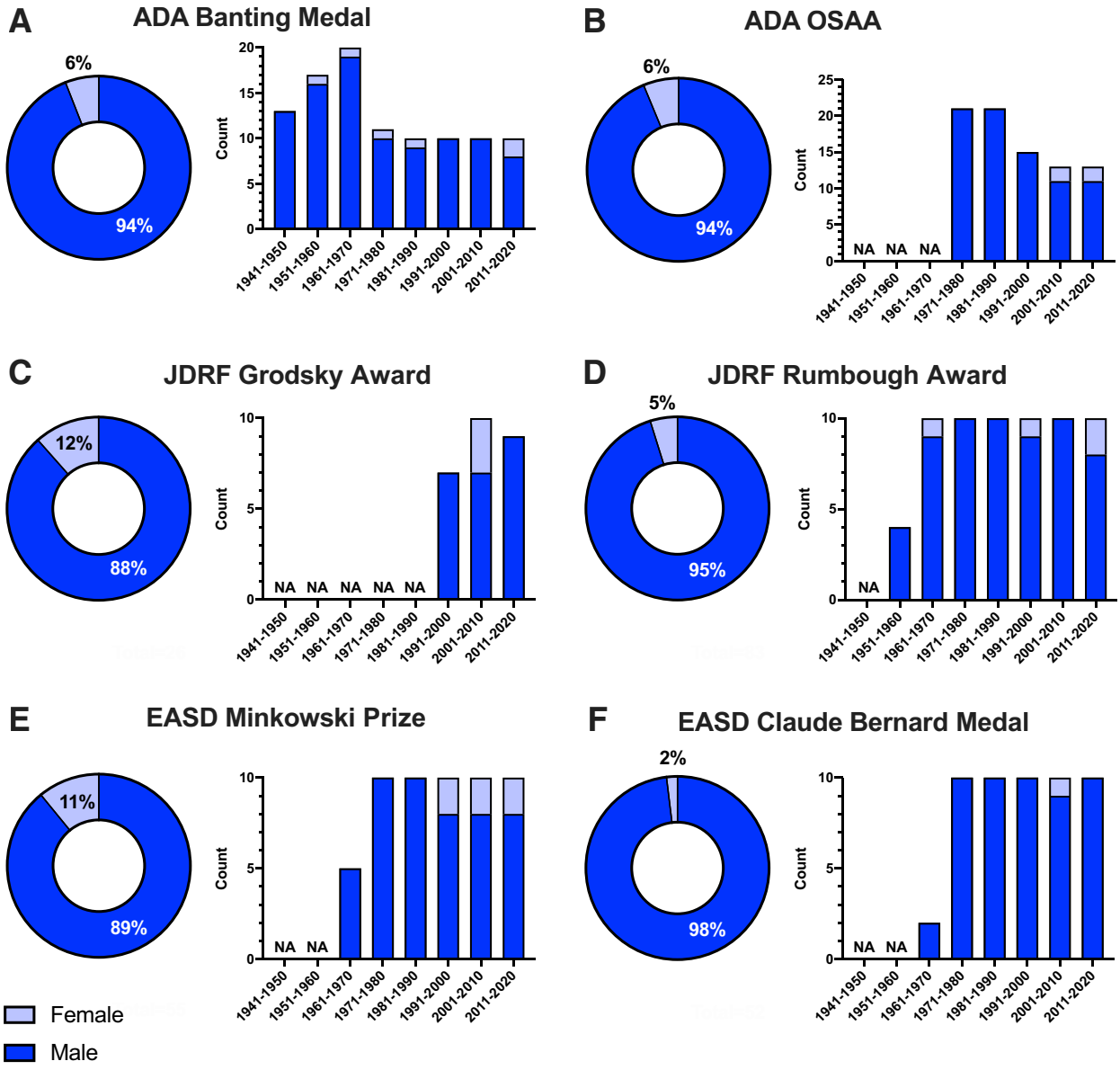

Figure 6—ADA, JDRF, and EASD merit-based awards. All-time male and female recipients of the ADA Banting Medal for Scientific Achievement (*A*), ADA OSAA (*B*), JDRF Grodsky Award (*C*), JDRF Rumbough Award (*D*), EASD Minkowski Prize (*E*), and EASD Claude Bernard Medal (*F*). The criteria for the OSAA have changed over time, with a recent elevation of the investigator age limit to 50 years. Counts <5 precluded statistical analysis by χ^2 test. NA, not available; OSAA, Outstanding Scientific Achievement Award.

very diverse roles. This makes it impossible to determine the gender distribution of the overall workforce dedicated to diabetes care and research. Yet, for much of the last century, women have dominated roles classically associated with careers in nursing and medical education, with males predominantly serving as physicians and basic/clinical researchers. Thankfully, these classical associations have seen dramatic shifts over recent decades.

At the same time, emerging data suggest that female physicians and scientists continue to face barriers to upper-level leadership, research funding, marquee speaking positions, and recognition (3,7–21). Equitable gender distribution in groups is, however, critical for ensuring the diversity in thought that is needed to optimize outcomes (22). There has recently been substantial pressure to increase female representation and leadership in research, perhaps most notably heralded by the 2019 statement from Francis S. Collins, MD, PhD, director of the NIH, declaring his intent to decline speaking invitations at events lacking equitable representation of women and other underrepresented groups (23). While this is a critical first step, we found substantial underrepresentation of women in most categories we evaluated with respect to the field of diabetes.

Editorial boards, in particular, serve as a microcosm of gender inequity in the research arena where

antiquated "gender roles" are reinforced, with the more academic venues being both historically and largely led by men. This concept found support in our studies of diabetes, as gender clearly appeared associated with a particular journal's focus. Indeed, we observed clear evidence for a male predominance on the editorial boards of journals with a focus on physician-based health care and basic research, including the ADA journals *Diabetes* and *Diabetes Care* and EASD's *Diabetologia*. This was in direct contrast with female predominance on the ADA journal *Diabetes Spectrum*, whose readership is composed primarily of diabetes educators and nonacademic care providers.

Because data were not available regarding the gender of ADA or EASD members, we reported male and female registrants, session chairs, and invited speakers for the ADA annual Scientific Sessions as a proxy for membership, and, indeed, women have accounted for nearly half (40–45%) in each of these categories since 2016. Despite this, there has not been an increase in female representation over recent years with respect to many leadership roles including the elected position of ADA President of Medicine and Science, on editorial boards, as principal investigators for research funding awards, or as recipients of other special interest and career-level awards examined here. In particular, the dramatic difference in representation among ADA Presidents of Health Care and Education (83% women) versus ADA Presidents of Medicine and Science (11% women) further emphasizes the continuation of outdated "gender roles." Aside from the ADA Pathway to Stop Diabetes awards, it was difficult to obtain award nominee data as a means to enumerate potentially eligible candidates. Notably, however, even though 46% of nominees for the Pathway Initiator Award were women, they made up only 33% of recipients, highlighting an impediment to advancement for early-career female investigators. The greatest disparities were evident in the highest tier of merit-based awards across these organizations. These data build on a recent report by Waseem et al. (24) demonstrating that women are underrepresented among board members for various diabetes and endocrinology societies. At present, the three organizations examined herein have boards of directors comprising 44% women (8 of 18) at ADA (25), 33% (5 of 15) at JDRF (26), and 25% (3 of 12) at EASD (27). Additionally, when Volerman et al. (28) examined study sections from one 2019 cycle of NIH funding, they found men were more likely to be reviewers and chairs, whereas women were more likely to hold less influential positions, including temporary affiliations and serving on study sections with lower total funding dollars or number of research grant awards. Indeed, in order to identify possible remedies for this clearly pervasive situation, there remains a need to more precisely identify the various stages in the career pipeline where inequities arise (e.g., promotion and tenure, award nomination, and selection committee bias) in addition to those reported here (editorial board participation, receipt of grant funding, and award recipients), altogether contributing toward the dilution of women from upper levels of leadership.

Importantly, these disparities are not inherently unique to the field of diabetes (29). Disparities are often evidenced by and reinforced by microaggressions. Among the many examples of this latter facet is that women's professional titles are not used as commonly as men's in many forms of communication (30). Other well-documented workplace microaggressions include women being interrupted in meetings, not being listened to, hearing others credited with their idea or work, being accused of plotting with other women, or being excluded from group decisions or informal events (e.g., golf outings, football parties, and poker nights) (31). Sometimes these workplace experiences also include macroagressions, including overt sexual harassment; indeed, in one recent report, 30% of women reported being sexually harassed in the workplace in comparison with only 4% of men (32). Women often cite the energy devoted to dealing with such macroaggressions as a factor in their loss of professional productivity and a reason for leaving the field (13,33). Hence, it is essential that women are not only represented, but make up an equitable proportion of these positions of authority in order to overcome these ingrained biases and cultural challenges.

Despite all the challenges women face in scientific careers, and especially in the diabetes field, recent data, like the gender distribution for 2020 ADA Scientific Sessions chairs and invited speakers, suggest that when opportunities are made available that alleviate some of the cultural and logistical constraints (e.g., funding, travel, and time away from family), female participation is more likely. However, the underlying implicit biases, the reliance on women to be the primary caregivers in the home, and the imbalance in rewards for women must all be corrected in order for there to be true equity in the field. Conversations must center not only around enticing more women to become scientists at early stages but also on implementing important administrative and policy changes to accommodate the needs of women throughout their careers. These are particularly important as endocrinology becomes an increasingly female-predominant specialty, with adult endocrinology, in particular, becoming the most female-predominant specialty in internal medicine (34).

Ethics itself would suggest a need exists to advocate for all diabetes community members, regardless of gender, to receive equitable opportunities to see their work published, gain relevant experience, form collaborations, compete for funding, speak in public forums as a platform for their research, and experience career advancement in a space historically dominated by males. In contrast with the recent controversial publication by AlShebli, Makovi, and Rahwan (35), it is our view that mentorship

opportunities for women in science must exist, not only to advocate and advise in their mentee's career trajectories, but also to increase female leadership within academic institutions and foster personal career advancement. Every institution, both public and private, must have a zero-tolerance policy for sexual harassment or discrimination in the workplace, and an independent community commission could be created for women in all sectors to report discriminatory policies and behaviors, including but not limited to sexual harassment. Based on our data and literature review, we have identified a series of potential solutions that would diversify diabetes and make progress toward alleviating these unacceptable career and workplace outcomes (Table 1).

In general, there is also a need to reduce and eventually remove implicit bias, defined as bias that operates at the unrecognized, unconscious level, as a crucial step for not only the scientific fields, but also for our society. A strong need exists for widespread implementation of gender bias training, with monitoring by committees for accountability, in both the public and private sector. Efforts should be exerted to avert gender bias in the processes of peer review, hiring, mentoring, performance evaluation, promotion, and tenure as well as in the allocation of grant funds, speaking invitations, and awards. In peer review, including publications, grants, and institutional review boards, blind reviews should be considered. Similarly, for tenure promotions, an independent review of the tenure process and awardees should be implemented at every institution to assure fair reviews and promotions. Progress over time should be monitored, with corrective steps and implementation of new policies and procedures to decrease gender disparity.

It is important to note that recent strides have been made in these areas to address gender inequities in the diabetes field. To support the careers of women in diabetes research, in 2017, the Women's Interprofessional Network of the American Diabetes Association (WIN ADA) was established with key objectives including *1*) strengthening the voice and presence of women in diabetes, *2*) recognizing the scientific contributions of women, and *3*) providing professional development opportunities to women of varying career stages. WIN ADA has since grown to >2,700 members, created an advisory group consisting of 16 interdisciplinary women that provides guidance on ADA professional activities, hosted career development seminars, and launched multiple awards presented at the Scientific Sessions acknowledging women. Further, in 2018, ADA established leadership teams for each interest group (53% female in 2020) and a membership advisory group (50% female in 2020), providing increased professional development and engagement opportunities for women. ADA's Focus on Fellows program, which provides both mentorship

Table 1—Recommendations and potential solutions put forth as a means to diversify the field of diabetes research

Institutions	Objectives	Actionable recommendations
Journal editorial boards	Encourage transparency and active surveillance for disparities	• Make diversity part of organizational missions • Mandate systematic reviews
Academic institutions	Accommodate differences in trajectory by gender	• Provide mentoring and professional development opportunities for underrepresented groups across pipelines • Actively nominate women for awards and positions of leadership • Adopt and enforce zero-tolerance policies for investigators who violate harassment policies • Foster opportunities for advancement in alternative career tracks (e.g., nontenure or flexible timeline for promotion and tenure application) • Diversify promotion and tenure advisory committees
Professional organizations	Support gender/racial equity across missions	• Create public, searchable databases highlighting expertise of underrepresented investigators • Diversify nominating committees • Refuse to sponsor meetings that fail to create equitable speaking/chairing opportunities for women and minorities
Public and private funding agencies	Activate sponsors	• Make diversity and equity core to organizational missions • Establish and promote target dates for parity in funding and leadership roles • Create targeted funding and advancement opportunities for women, particularly early career • Mandate systematic reviews of diversity measures • Diversify grant review committees

As more complete data become available, the approach might be further targeted to address specific disparities, regions, or subpopulations, allowing for greater specificity in intervention.

and educational components, aims to develop the next generation of clinical and research leaders in adult and pediatric endocrinology and related fields. Importantly, this competitive program has ~75% female enrollment.

With women accounting for approximately half of the MD and PhD-level graduates for at least the past 10 years (2,36), there most certainly exist qualified female candidates for many of the diabetes research leadership positions examined herein. Hence, there is no justifiable reason to exclude female investigators from these roles. Ultimately, achieving parity will require policy implementation from public and private funders, industry, universities, and editorial outlets as discussed above and put forth in Table 1.

An important limitation to the current study is our inability to assess representation of nonbinary and gender-nonconforming individuals in positions of leadership among academic investigators in diabetes. Additionally, the current study surveyed disparities in representation but did not assess prevalence of workplace discrimination or overt sexual harassment in diabetes research. Finally, this effort did not examine important disparities in diabetes research related to race or ethnicity, which are known to be pervasive in academic medicine and have a significant interaction effect with gender resulting in vast underrepresentation for women of color in STEM careers (3,37). Our hope is to subject these important issues to future examination.

In conclusion, it is our hope that the professional diabetes community, in all its forms, will demonstrate public and actionable support for the advancement of women in the field by consciously nominating and advocating for female investigators to hold positions of leadership and receive equitable recognition for their research contributions. With such actions, the diabetes community could be a model for other medical disciplines where similar inequities exist. Our studies indicate that change is necessary across all aspects of the pipeline to establish gender equity within the diabetes research community. Though impact areas range in magnitude from smaller (meeting attendance) to great (awards of recognition), all must be subject to continual evaluation and action taken when disparities appear.

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