



COMMENT ON DUNNE ET AL.

The Women's Leadership Gap in Diabetes: A Call for Equity and Excellence. *Diabetes* 2021;70:1623–1633

Gary Tse,^{1,2,3} Tong Liu,^{1,2} Leonardo Roever,^{1,3} and Sharen Lee¹*Diabetes* 2022;71:e1–e2 | <https://doi.org/10.2337/db21-0686>

Recently, a series of articles on women's leadership in diabetes, which reflects the gender disparity in academic medicine, was published in *Diabetes* (1–3), centered around the article by Dunne et al. (1). The underrepresentation of female talent in the field of clinical medicine has been a longstanding and well-established issue. Women in academia are disproportionately disadvantaged in terms of first author and senior author publications, representation on editorial boards of journals, and leadership roles within academic societies (4). Different strategies that enable leadership development and remove barriers have been proposed to attract and retain female talent (3).

The Cardiovascular Analytics Group was established with the core values of promoting open collaborations without institutional or national boundaries and research integrity where authorship is determined based on intellectual contributions rather than seniority of the team members (5). Our strategy focuses on mentorship at the earliest stages of academic careers as undergraduate students. We recognize the power of collaboration and collective intelligence, where students can develop appropriate research questions and lead research projects when there is an opportunity to shine. Students receive mentorship on the topics of study planning and execution and are supported by a group of international principal investigators who provide feedback as well as administrative and scientific input (Supplementary Fig. 1, top). Our model is based on a student-centric research ecosystem where students have the academic freedom to lead projects of their choice while receiving support on different aspects of

research project management (Supplementary Fig. 1, bottom). Mentorship is provided virtually in both formal settings, such as monthly group meetings and smaller group sessions, and informal settings via social media platforms. Accessibility is enhanced by reducing hierarchy and empowering students to ask questions and raise concerns early, thereby providing a supportive culture. This decentralized management has produced a positive impact on gender equality for academic research within the team.

Our group has provided mentorship support for 110 members from 16 countries (by birthplace) between 1 August 2015 and 17 August 2021, of whom 47 (43%) are female. A total of 86 researchers (78%) joined as undergraduates. Over the mentorship period (median 313 days; interquartile range 56–826 days), 109 publications were published on PubMed. Regarding these publications, 52 female researchers occupied key authorship positions as first, co-first, co-corresponding, or corresponding/last author. Of the top 10 performing group members, based on the number of publications, 50% are female.

Author S.L. now has more than 45 publications with an H-index of 9 despite having just entered the final year of medical school. She has led numerous first-author original research articles on diabetes, with a central theme of risk stratification of complications, having established one of the largest population-based cohorts of more than 270,000 individuals (6,7). Notably, she is mentoring younger trainees, serving as a senior author of upcoming manuscripts produced by our team. Her responsibilities include project planning and a selection of appropriate biostatistical

¹Medical Education Unit, Cardiovascular Analytics Group, Laboratory of Cardiovascular Physiology, Hong Kong, China

²Tianjin Key Laboratory of Ionic-Molecular Function of Cardiovascular Disease, Department of Cardiology, Tianjin Institute of Cardiology, Second Hospital of Tianjin Medical University, Tianjin, China

³Kent and Medway Medical School, Kent, U.K.

Corresponding authors: Gary Tse, gary.tse@kmms.ac.uk, and Sharen Lee, sharen212@gmail.com

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methodologies, such as propensity score matching and weighting, regression, and supervision of manuscript writing.

However, several limitations should be recognized. First, our research group was only started 6 years ago by author G.T. as a junior faculty member, and most of the mentees are yet to complete, or have recently completed, their undergraduate degrees. Therefore, it was not possible to assess the impact of our research mentorship model on research careers, such as attainment of tenure positions or academic promotions. In an environment where there is a gender imbalance at the principal investigator or faculty level (1), we believe that gender equity is best achieved by providing research opportunities at a young age. These limitations notwithstanding, our experiences show that with the availability of a level playing field, female undergraduate students have the potential and capability to lead and manage research teams and can achieve outcomes that are expected of junior faculty. It is incumbent on all of us, who are in the position to do so, to make positive changes for achieving gender equity. The presence of role models will hopefully inspire more talents to pursue rewarding careers in academic medicine (8).

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References

1. Dunne JL, Maizel JL, Posgai AL, Atkinson MA, DiMeglio LA. The women's leadership gap in diabetes: a call for equity and excellence. *Diabetes* 2021; 70:1623–1633
2. Munoz CE, Weinstock RS, Brown TD, Gabbay RA. Women and the American Diabetes Association. *Diabetes* 2021;70:1638–1639
3. Sandoval DA, Alonso LC, Gannon M, Sander M, Sussel L, Reusch JEB. Career advancement for women in diabetes-related research: developing and retaining female talent. *Diabetes* 2021;70:1634–1637
4. Yeung C, Baranchuk A. Gender equity trends in academic productivity and influence by subspecialties of cardiology. *J Am Coll Cardiol* 2018;72: 3228–3229
5. Cardiovascular Analytics Group. Cardiovascular Analytics Group Est. 2015 China – United Kingdom. Accessed 22 October 2021. Available from <https://www.cardiovascularanalyticsgroup.co.uk/>
6. Lee S, Zhou J, Guo CL, et al. Predictive scores for identifying patients with type 2 diabetes mellitus at risk of acute myocardial infarction and sudden cardiac death. *Endocrinol Diabetes Metab* 2021;4:e00240
7. Lee S, Liu T, Zhou J, Zhang Q, Wong WT, Tse G. Predictions of diabetes complications and mortality using hba1c variability: a 10-year observational cohort study. *Acta Diabetol* 2021;58:171–180
8. Tricco AC, Bourgeault I, Moore A, Grunfeld E, Peer N, Straus SE. Advancing gender equity in medicine. *CMAJ* 2021;193:E244–E250