

## Gender equity in interstitial lung disease

We have witnessed transformative events in the field of interstitial lung disease over the past decade. Multiple international consensus guidelines have unified our clinical approach and best practices for the diagnosis and management of patients with idiopathic pulmonary fibrosis.<sup>1</sup> The results of positive clinical trials for pharmacological treatments for idiopathic pulmonary fibrosis have also led to renewed hope and enthusiasm for finding a cure for what has traditionally been considered a terminal disease.<sup>2,3</sup> Similarly, considerable advances have been made in the treatment of systemic sclerosis-associated lung disease and progressive fibrosing interstitial lung diseases with the completion of large multicentre trials and new indications for therapies.<sup>4-6</sup> Although we acknowledge these advances, we are prompted to reflect on the composition of the teams driving the work forward, viewed through the lens of diversity and growing calls for inclusiveness. Herein we address the issue of gender inequity.

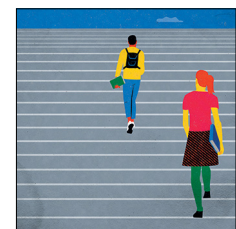
Women are under-represented in leadership roles in the field of interstitial lung disease. This might be because of a historical predominance of men in this field, particularly in its early years. However, during the past decade, the proportion of women doing clinical research in interstitial lung disease has grown, as reflected in the authorship of original papers, narrowing the gender gap. Furthermore, women increasingly are elected as interstitial lung disease representatives in respiratory societies, such as the European Respiratory Society. Despite this, women remain a minority in some positions. We summarised the authorship of major publications from 2010 to 2019 on interstitial lung disease, with a focus on guidelines and large clinical trials, where authorship contribution typically occurs by invitation (appendix). To date, not one published industry-sponsored clinical trial of pulmonary fibrosis therapy has been led by a woman.<sup>2-6</sup> Furthermore, the contribution of women to clinical guidelines (the authors of which are usually designated by international societies), is also strikingly rare.<sup>7</sup>

Although gender inequality in medicine might be unintentional, research suggests it is the effect of both implicit and explicit biases.<sup>7</sup> Sociocultural factors also contribute to gender inequality, especially for women with caregiver and home responsibilities.<sup>8</sup> The pattern of

gender inequity has been consistent across high impact publications, with the magnitude of the gap varying among countries and regions, suggesting that its causes relate more to structural and systemic barriers than to individual preferences.

The paucity of women in leadership roles is a reflection of historical systemic biases in academia and medicine, which lead to, and perpetuate, the so-called glass ceiling and leaky pipeline effects. Although for more than 2 decades at least half of graduating medical students have been women, women still represent a disproportionately small number of medical school deans,<sup>9</sup> department chairs, and full professors. A robust and growing body of evidence shows gender inequity in conference presentations and authorship of peer-reviewed publications across diverse fields.<sup>10-13</sup> With increased awareness of this issue, there are evolving and concerted endeavours to improve gender equity in leadership roles within the broad field of pulmonary medicine, and specifically in the field of interstitial lung disease. Notable efforts have been made by different interstitial lung disease representatives (such as organisers of the International Colloquium on Lung and Airway Fibrosis, and the International School for Interstitial Lung Disease) to highlight women leaders, speakers, and session chairs.

Fortunately, other organisations and institutions are increasingly aware and motivated to take action. The most recent international consensus guidelines on idiopathic pulmonary fibrosis have the greatest representation of women physicians to date (appendix).<sup>1</sup> In addition, pulmonary, critical care, and sleep medicine division chiefs from medical schools across the USA addressed gender inequality head-on in a 2018 publication, with prescriptive solutions provided.<sup>14</sup> Encouragingly, forthcoming interstitial lung disease guidelines sponsored by international pulmonary societies also include greater representation of women, in both authorship and leadership, and the same rebalancing is slowly evolving in industry-sponsored trials. Respiratory societies have also committed themselves to ensuring diversity of speakers at their conferences and have included discussions of gender and diversity in their agendas. At the 2019 meeting of the American Thoracic Society, members of



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For more on **women in academic medicine** see <https://www.aamc.org/data-reports/faculty-institutions/data/2015-2016-state-women-academic-medicine-statistics>

See Online for appendix

For more on **unconscious bias** see <https://www.theglobeandmail.com/canada/investigations/article-investigation-into-southlake-hospital-emergency-centre-finds-changes/>

For more on **explicit bias** see <https://www.theguardian.com/world/2018/aug/08/tokyo-medical-school-admits-changing-results-to-exclude-women>

For the video series on gender equity see <https://www.youtube.com/playlist?list=PL9EbB8TuQyO39YnfWurU3w9H7-Vrf7rio>

the international interstitial lung disease community recorded a video series on gender equity, which is now available on the American Thoracic Society YouTube channel. Initiatives to achieve gender equity must also include specific plans to create structural change for other groups—including those who face discrimination on the basis of their race, ethnicity, or sexuality, and those at the intersectionality of under-representation.

Issues of gender equity are complex and require awareness, acknowledgment, intention, and deliberate action to be addressed adequately. Inequity, systemic bias, and under-representation are important barriers to scientific progress. It is encouraging to see these issues being tackled across various disciplines of academia and medicine. Professional medical societies, editorial boards, and pharmaceutical companies must continue to evaluate and revise their processes to ensure continued growth towards diversity in representation. Organisational diversity leads to organisational success.<sup>15</sup> In a field as complex as interstitial lung disease, we need all ideas and all voices at the table.

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