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Gender gap in medicine: a call to action for Latin America

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Introduction

Women can experience inequity in the field of medicine due to gender-based bias in several domains, including economic opportunities, health, education, and political leadership [1]. The recent Global Gender Gap Report from the World Economic Forum revealed a reduction in the gender gap from 2006 to 2023. Nevertheless, it is estimated that around 131 years are required to completely close the gender gap [2]. The gender gap is particularly large in medical research, considering that only 1 in 3 researchers is female, and women hold less than 25% of jobs in science, engineering, and information and communication technology [3]. In academia, the gender gap affects all career stages, hindering scientific productivity,

authorship and peer review, awards, and scientific funding [4]. In medical practice, women are paid an average of 30% to 40% less than men and are less likely to be addressed by their professional title [5, 6]. It has also been established that in the life sciences, a significant gender gap emerges between the post-doctoral and associate professor levels, with women transitioning to principal investigator at a rate 20% lower than men [7, 8]. In fact, gender differences in publication records account for about 60% of the lower academic rank of women [7, 8]. The gender gap is also evident in paper citations, with an under-representation of women in reference lists, as more papers include men as first and last authors than would be expected if gender were unrelated to referencing [9]. Female researchers are also underrepresented among National Institutes of Health investigators and are less likely than men to receive multiple research project grants [10].

In Latin America, despite the increasing number of women entering medical schools across the region, disparities persist in professional opportunities, leadership roles, and access to resources. The analysis of public registries of medical academies revealed that the percentage of female members ranged from 3% in Argentina to approximately 20% in Mexico, Venezuela, and Costa Rica [1]. The gender gap is also evident in universities with medical schools of Latin America. Less than 20% of 643 institutions of higher education in Latin America are led by a woman [1]. In fact, the underrepresentation of women in leadership positions severely limits the opportunities to learn from female role models.

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Gaining information about the burden of gender gap is not only an issue of justice and rights, but it is also justified by the fact that the increase of female representation in health care practice and policy leadership improves the quality of patient care [5]. For instance, clinical evidence has suggested that female surgeons select patients more carefully for surgery and are more likely to implement a patient-centered decision-making approach than male surgeons [11]. Moreover, the patients operated on by female surgeons have lower risk of adverse postoperative outcomes than those treated by male surgeons [12]. Large observational studies have demonstrated that patients attended by female clinicians benefit from better quality of care for diabetes, lower mortality and hospital readmission than those treated by male physicians [12]. Data regarding gender-based differences among clinical practice has been obtained mainly from studies in North America and Europe, and the evidence from Latin America is limited. Data generation on gender inequities can be complex and challenging. Therefore, as a first step a Latin America Women Advisory Board was created with the aim to establish a general analysis on the burden of the gender gap in the region, to identify the professional fields where the gender gap is more evident, to detect the priorities for reducing the disparities and to propose strategies to lessen the gender gap in medicine. The Advisory Board represents the viewpoints of female leaders from various medical professional fields in the region and was, therefore, intended to provide an overview of the situation in Latin America according to the experiences and situations of the Advisors.

Methods

Latin America Women Advisory Board: methodology

In October 2023, a single advisory board meeting was convened, comprising 11 physicians and 2 Merck employees, both of whom are medical doctors (M.D.). The selection criteria for the physician participants included demonstrated scientific expertise, proficiency in English, prior experience in research and publications, and an interest on the impact of gender on healthcare professionals' clinical practices. The advisory board included specialists in neurology, oncology, fertility, and cardiology, from Latin American countries (Argentina, Colombia, Peru, Costa Rica, Brazil, Mexico, and Chile).

Pre-advisory board insight collection

An independent agency was contracted to facilitate the advisory board meeting and to develop a tailored pre-advisory board survey with the aim of collecting insights to facilitate and stimulate the discussion during the advisory board. This survey was designed specifically to address the objectives of the advisory board and included

a combination of open-ended and quantitative questions (Supplementary data). It was designed based on existing literature and expert input to ensure relevance and comprehensiveness and it aimed to gather insights on several key areas, including:

- The perceived impact of gender equity on learning and training opportunities.
- The influence of caregiving responsibilities on career growth.
- Personal experiences of harassment throughout their careers.

Additionally, the survey required participants to collect publicly available data regarding the gender composition of their respective medical societies, major universities, and hospitals. Specifically, the participants were asked to provide information on the gender of the president and vice-president, the total number of individuals on the directive commission, and the number of women within that commission of their medical societies, as well as similar information on the main universities and hospitals involved in the training of physicians of their specialty within their country. To address harassment situations, the survey included questions on whether participants had experienced any of the following five behaviors during their careers: unwelcome sexual comments, sexual harassment, offensive and degrading language, gender defamation, and hierarchical abuse of power.

Data compilation and analysis

The data collected through the survey were compiled by the independent agency and presented during the advisory board meeting. The results were discussed among the 11 healthcare professionals, who collaboratively identified and prioritized the main gaps in gender equity within the medical field.

To facilitate this process, the advisory board members were divided into three workgroups to analyze the survey findings and propose criteria for gap prioritization. To determine which gender gaps should be prioritized to achieve gender equality, the criteria for selecting gaps included the ability to measure the size of the gap, focusing on those with high impact, generalizability, and replicability across different levels and sectors. In addition, priority gaps need to show high influence on other areas, including industry and non-governmental organization. A 2×2 prioritization matrix was utilized, assessing the impact of addressing each gap against the effort required for implementation. Each axis was graded using a 5-point scale (0: low impact and low effort to 4: high impact and high effort). The matrix allowed for a structured evaluation of the

identified gaps, focusing on those with the highest potential impact and the lowest implementation effort.

As a result of a brainstorming activity proposed at the end of the meeting, the Advisory Board members suggested initiatives to address the two prioritized gender gaps that were identified.

Results

Latin America Women Advisory Board: results of the pre-work activity

The survey was answered by 10 of the 11 participating physicians, including information on 10 medical societies, 12 hospitals and 9 universities from LATAM. The analysis of the composition of 10 medical societies from the region revealed that 80% of them are led by men and the participation of women in steering committees does not exceed 50% in any of them being, on average, 29.7%. In the same way, only 17% of twelve hospitals of Latin America are led by women. Moreover, on average, female participants of steering committees of hospitals represented only 23.6% of the total composition (Table 1).

The Advisory Board has found a similar gender gap in the academic setting, considering that 8 out of 9 universities from Latin America are led by men and they largely exceed women in governing councils (only 36% of women on steering committees on average) (Table 1). However, a remarkable aspect is that female professionals still manage to access promotion opportunities despite the need to take care of their children, according to the opinion of the physicians of the Advisory Board.

Of note, 90% of the Advisory Board members had experienced at least one of the five inquired harassment behaviors, encompassing unwelcome sexual comments, offensive and degrading language, gender defamation, and hierarchical abuse of power. Furthermore, 50% of them had experienced at least 3 of the 5 behaviors during their careers.

Latin America Women Advisory Board: gaps to be prioritized

The members of the Advisory Board concluded that the gender gap, in terms of leadership positions and training opportunities, continues in Latin America despite a greater female physician enrollment. Although the interest in gender inequalities has increased in the region, there are barriers hindering progress in situations of violence. The salary, research positions, and leadership gaps are the main aspects that need to be addressed in the region to achieve gender equity.

The Advisory Board considered the need to ensure equal treatment during medical training and to guarantee equal opportunities by implementing a blind selection process. To effectively close the gender gap, it is necessary to put an end to the predominance of men in leadership positions and to stop normalizing harassment situations by promoting safe work environments. The strategies for reducing the gender gap must be centered in the medical education at the university by exposing unconscious bias. In addition, women must be encouraged to apply for leadership positions of different institutions.

Based on the input from the Advisory Board members, the prioritized gaps in Latin America (higher impact, lower effort) are the reduction of gender inequity in medical societies and the addressing of harassment situations (Fig. 1).

Latin America Women Advisory Board: brainstorming initiatives for prioritized gaps

Several strategies have been proposed by the Advisors to reduce the gender gap in medical societies. For example, the inclusion of medical residents in medical societies and the organization of lectures to highlight the gender gap, could significantly contribute to reducing gender inequity. Moreover, as per the Advisory Board, medical societies ought to establish a women's chapter or division and promote activities to raise awareness about the gender gap. The implementation

Table 1 Medical Societies, reference centers and main universities survey results

Number of institutions/societies assessed	Current president gender female (n, %)	Number of people in the steering committee (median, range)	Percentage of women in steering committee (mean, range)
Medical societies			
10	2 (20%)	6 (4–10)	29.7% (0–50%)
Reference centers (Public hospitals or private centers)			
12	2 (16.7%)	7.5 (2–10)	23.6% (0–50%)
Universities			
9	1 (11.1%)	6 (2–10)	36.5% (16.7–50%)

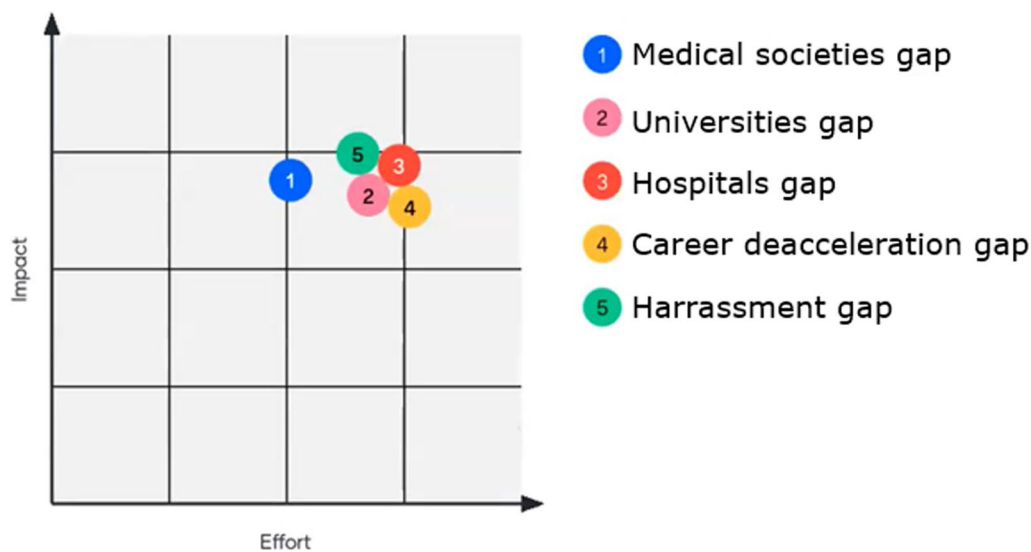


Fig. 1 Prioritization matrix of gender gap in Latin America

of quotas and the rotation of positions based on gender could help increase the representation of women in steering committees.

To further diminish gender gaps in leadership roles within universities and hospitals, additional initiatives could include mentorship programs and leadership training tailored specifically to women in medicine. These programs would empower women to pursue leadership roles confidently and competently, addressing the underrepresentation of women in top positions within academic and healthcare institutions.

In addition, efforts should be made to mitigate career slowdown related to maternity. This could involve advocating for flexible work policies, such as part-time opportunities and parental leave, as well as implementing family-friendly policies like on-site childcare facilities and lactation support programs. These measures would facilitate the retention and advancement of female physicians throughout their careers, ensuring that maternity does not hinder their professional development.

Finally, addressing harassment situations is crucial in creating a more inclusive and equitable environment for women in medicine. Educating to reduce stigma around harassment, establishing reporting channels, and implementing peer support can help mitigate harassment. It is also essential to assess sanctions and develop policies to bring visibility to cases of harassment, fostering a culture of accountability and support within medical communities.

Discussion

The Latin America Women Advisory Board has identified a significant gender gap in medical societies, hospitals, and universities across several Latin American countries. This gap is evident in lower participation in leadership roles and instances of harassment. The board noted that only 20% of analyzed medical societies were led by women, with less than 30% of leadership positions occupied by women. This finding aligns with global reports on gender representation in medical societies. For instance, Silver et al. reported underrepresentation of women as medical society presidents, noting that only 17.4% of the years were led by women when assessing over 40 medical societies across various medical specialties from 2008 to 2017 [13]. Additionally, a recent study revealed a mere 10% ratio of female presidents and 31.5% female representation among board members in medical societies affiliated with the World Federation of Neurology [14]. Scientific societies play an essential role in addressing the gender disparities that persist within the medical field [15]. As key stakeholders, these organizations are uniquely positioned to implement effective strategies that promote gender equity, foster inclusive environments, and empower women in health professions. By educating members about the importance of gender equity and its implications for healthcare delivery, scientific societies can cultivate a culture that values diversity and inclusion. Initiatives such as mentorship programs, leadership training, and workshops on unconscious bias can empower women and equip them with

the tools necessary to navigate their careers successfully. By engaging with the broader scientific community, these organizations can advocate for policies and practices that promote gender equity at all levels of healthcare [15]. This advocacy can lead to systemic changes that enhance the representation of women in leadership roles and decision-making positions, ultimately benefiting the entire healthcare system. Scientific societies are the crucial nexus where most potential solutions converge. Thus, raising awareness within scientific societies and towards their scientific communities would positively impact the empowerment of women in health, influencing changes over time.

The insights from the pre-advisory work also revealed that most of the advisors had experienced at least one form of harassment during their careers, with over 50% reporting more than three forms of harassment. Research has shown that harassment and inequality are mutually reinforcing, leading to severe psychological and physical consequences [16]. Despite this understanding, minimal progress has been made on this issue over the past 30 years, highlighting the critical need to prioritize the establishment of anti-harassment policies [16].

Some limitations of the present work need to be acknowledged, including sample size and representation, self-reported data, focus on specific factors and temporal limitations. Also, intersectionality with other identities (e.g., ethnicity, socioeconomic status) could affect experiences in the medical field and have not been accounted for in the present analysis. In addition, the members of the Advisory Board were mainly key opinion leaders with leadership positions, which may have resulted in an underestimation of the burden of the gender gap in the region experienced by female healthcare physicians with lower-ranking positions. These limitations should be considered when interpreting the findings from the survey.

Nevertheless, the Latin America Women Advisory Board represents an initial approach to the comprehensive identification of the burden of the gender gap in different specialties and medical areas in the region, as well as the development of potential solutions to reduce gender disparities. Lowering the gender gap in Latin America cannot only improve gender parity but also enhance patient access to better medical care. [10–12]

Conclusions

Despite the growing recognition of gender equity gaps in the healthcare sector, the implementation of easily applicable and high-impact strategies has not been mapped out in collaboration with opinion leaders who have ascended to leadership positions. Understanding their perspectives, gaining insights, and listening to proposals

that can be implemented across different countries were the primary objectives of this advisory board.

The two prioritized gaps identified by the members of the Advisory Board, based on the maximization of impact versus effort, were increasing the representation of women in leadership positions within medical societies and addressing instances of harassment.

By incorporating insights from Latin American physicians regarding the prioritization of the gender gap in the region, a roadmap can be developed to begin addressing these issues in alignment with previously established best practices [15]. Implementing these strategies can create a more equitable and inclusive environment for women in medicine, ultimately benefiting patient care.

Supplementary Information

The online version contains supplementary material available at <https://doi.org/10.1186/s12960-025-00998-1>.

Supplementary material 1.

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Author contributions

L. Negrotto and I.A. Díaz contributed to the study conceptualization and methodology design, formal analysis, visualization and writing of the original draft. All authors contributed to the acquisition of data, manuscript review and editing.

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Data availability

Data is provided within the manuscript. Additional data can be shared by the corresponding author upon reasonable request.

Declarations

Competing interests

Negrotto L. is an employee of Merck S.A., Buenos Aires, Argentina, an affiliate of Merck KGaA. Díaz I.A. is an employee of Merck Panamá, an affiliate of Merck KGaA, Darmstadt, Germany. Corona T., Ibañez C., Montenegro P., Monterrey P., Pupareli C., Ruiz-García E., Saldarriaga C., Samama M., Samaniego T., Sowley T., Ysraelit M.C. declare no conflict of interest in relation to the present work.

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