

Plugging the Leak: Addressing the Mid-career Pipeline Challenge in Radiology

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Women constitute the majority of health workers, and should be appropriately represented in leadership positions in the field. However, the progress of women in global health leadership has stalled in recent years.¹ Women hold only 25% of senior healthcare leadership positions around the world, indicating a persistent gender imbalance. Although there has been an increase in the representation of women leaders in Fortune 500 healthcare companies, the situation is different for female ministers of health, where the number of women leaders has declined. This decline mirrors the global trend of women's underrepresentation in political leadership, with only one-fifth of government ministers being women. These statistics highlight the need for concerted efforts to address the gender gap and ensure greater representation of women in health leadership.

In medicine, a similar leadership disparity is observed. A 2021 report by the Association of Faculties of Medicine of Canada shows more women than men enter and graduate from medical school.² In both Canada and the US the representation of full-time women faculty in medicine is only 41-42%.³ This underrepresentation becomes even more pronounced in higher leadership positions, where only 28% of full professors in Canada are women and in the US only 18% of department chairs and deans are women. In both countries, the majority of faculty at the lowest rank of instructor are women. Among full-time women faculty in the US, 13% come from underrepresented minority groups in medicine, with the highest proportion found among assistant professors and instructors. When considering career advancement after seven years, men have higher progression rates compared to women. These findings suggest ongoing barriers that hinder the advancement of women in academic medicine.

A positive relationship exists between representation of women faculty and the number of women in leadership positions.³ Departments with a higher proportion of full-time women faculty have more women in leadership roles, indicating a correlation between women's representation in faculty and their advancement to leadership positions. Women faculty leaders are often found in roles focused on diversity, faculty development, and student affairs, highlighting their active involvement in fostering inclusivity and supporting the academic community. However, women are less commonly represented in leadership positions associated with clinical

affairs and research within medical schools. This suggests gender compartmentalization of leadership roles.

Women and men faculty have notably different perceptions of opportunities provided by medical schools. Only 65% of women faculty believe their medical schools offer equal opportunities, whereas 85% of men share this perception. This discrepancy suggests gender-related disparities in how equal opportunities are perceived within the academic environment.

A recent study published in the *New England Journal of Medicine* including 559,098 graduates from 134 US medical schools revealed troubling patterns regarding the advancement of women in academic medicine.⁴ A persistent disparity in the promotion of women to higher positions and their appointment as department chairs was found compared to men. These findings reveal a concerning trend: fewer women than expected are promoted to associate or full professor positions or are appointed as department chairs. These findings highlight persistent and significant gender disparities within academic promotions and appointments.

In radiology, female radiologists have demonstrated a greater inclination toward pursuing careers in academic medicine than their male counterparts.⁵ In the US, gender representation varies across different academic ranks and leadership roles. Of all academic radiologists, women represent 38% of instructors, 31% of assistant professors, 28% of

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associate professors, and 22% of professors. There is a notable drop when it comes to department chair positions, of which women only represent 17%. Additionally, a persistent imbalance in female authorship in research exists, with female senior authorship remaining lower compared to first authorship over the past two decades.

The concept of the leaky pipeline* pertains to the attrition experienced by professionals from underrepresented groups as they advance in their careers. This term suggests that there are gaps in the route intended to facilitate the upward mobility of diverse talent, leading to the loss of these individuals. In the field of medicine including radiology, the mid-career phase has been identified as a pivotal juncture where underrepresented groups, particularly women and minority physicians, face significant attrition. Various factors contribute to this mid-career leak, including insufficient institutional support, discrimination, biases, limited mentorship opportunities, and challenges related to responsibilities outside work. These factors collectively contribute to the departure of experienced radiologists during a critical phase of their professional journey.

Losing mid-career radiologists from underrepresented groups carries significant ramifications. It restricts the presence of varied perspectives and expertise, impeding innovation and creative problem-solving. It reinforces gender-based disparities in leadership roles and compensation.

The lack of role models from underrepresented groups hinders the growth of aspiring radiologists, perpetuating the cycle of underrepresentation. These consequences extend beyond patient care and research, adversely affecting the overall satisfaction and well-being of radiologists and heightening the risk of burnout.

To improve diversity and inclusion in radiology, it is necessary to adopt a comprehensive approach encompassing individuals, institutions, and society. This involves implementing mentorship and sponsorship programs that offer support and guidance to underrepresented individuals, nurturing their professional growth and progress. Prioritizing work-life balance and flexibility is essential in establishing an inclusive environment that caters to the needs of a diverse faculty and promotes overall well-being. Heightening awareness of unconscious biases and enhancing diversity and inclusion practices are crucial steps towards dismantling barriers and fostering an equitable and inclusive radiology community. These solutions require

ongoing commitment and collaboration from all stakeholders to achieve and sustain a more favorable work environment.

Addressing mid-career challenges in radiology is critical to enhance diversity and equity. Opportunities for improvement include fostering a workplace culture that embraces diversity, prioritizing professional growth, and ensuring a healthy work-life balance. Intentional support for radiologists throughout their careers will be required to retain talented individuals, leverage their expertise, attract investment, and ultimately drive advancements in patient care and overall health outcomes.

*Some argue the term “pathway” is more appropriate as careers may be circuitous or more indirect than a pipeline.

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