

Organizational Interventions and Strategies to Enhance Female Leadership in Healthcare Sector: A Scoping Review of Recent Studies (2020–2025)

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Background: Women comprise a substantial share of the healthcare workforce but remain underrepresented in leadership roles due to structural barriers, including the glass ceiling, exclusion from decision-making networks, and implicit biases. This scoping review examines organizational interventions and strategies designed to enhance women's healthcare leadership and proposes an integrative framework to guide organizational leadership practice and policy.

Methods: Following Arksey and O'Malley's framework and PRISMA-ScR guidance, we searched Scopus, Web of Science, and PubMed for English-language studies (2020–2025) reporting interventions to enhance female careers in healthcare sector. Twenty-three publications met the inclusion criteria.

Results: Evidence was predominantly from high-income countries. Interventions were mapped into a three-cluster framework. Cluster 1 (capability-building) focused on developing leadership competencies and self-efficacy through mentorship, coaching, sponsorship, and structured leadership training. Cluster 2 (opportunity and networks) expanded access to career opportunities and influence via professional networks, digital platforms, leadership communities, and initiatives supporting male allyship. Cluster 3 (institutional transformation) targeted organizational context through inclusive culture change, intersectional approaches, and policy reforms aimed at removing structural barriers. Across studies, programs commonly reported gains in leadership skills, confidence, and career progression. However, recurrent constraints included unequal access to programs, limited institutional support, weak evaluation designs, and challenges to sustainability and scale—issues that appeared more pronounced in low-resource contexts.

Conclusion: The three-cluster framework clarifies how leadership development programs, organizational strategies and interventions can be aligned to accelerate women's careers in the healthcare sector. For healthcare leaders and managers, it offers a pragmatic structure for designing integrated interventions that combine capacity-building, network expansion, and institutional reform. For policy-makers, the findings underscore the need for sustained institutional commitment and context-sensitive implementation, alongside stronger evaluation and evidence generation in low- and middle-income settings, including Central Asia.

Keywords: female leadership in healthcare, organizational interventions and strategies, gender equality, mentorship, scoping review

Introduction

Women constitute a substantial portion of the global healthcare workforce, yet they remain underrepresented in leadership and decision-making positions.^{1,2} Despite various international efforts aimed at promoting gender equality, women in healthcare continue to encounter multiple systemic and structural barriers to career advancement.³ These challenges include the glass ceiling phenomenon, exclusion from key decision-making networks, and a lack of institutional support mechanisms.^{4,5} In this context, the glass ceiling refers to invisible, structural constraints that limit women's progression into senior leadership roles, distinct from barriers related to restricted access to informal power networks or the absence of formal organizational support structures.

Seminal work by Kanter⁶ laid the foundation for understanding how organizational structures and institutional norms produce gendered inequalities in leadership. Subsequent studies have expanded this perspective by highlighting hidden mechanisms of exclusion, including implicit gender bias, socio-cultural stereotypes, and informal power dynamics that constrain women's advancement into senior roles.^{7–10} Within the healthcare sector, empirical evidence demonstrated that the gender gap was particularly pronounced in certain specialties and leadership levels across the world. Although women account for approximately 37–40% of the overall physician workforce in many high-income countries, they represent only about 29% of surgeons and less than 20% of senior surgical consultants or department heads, indicating a sharp vertical segregation within medical leadership.¹¹ Similarly, women remain underrepresented in senior management positions in healthcare organizations, occupying roughly 25–30% of executive leadership roles, despite constituting the majority of the healthcare workforce in several professions.¹²

In response to these persistent disparities, a growing number of organizational programs and interventions have been developed to support women's advancement into healthcare leadership. These initiatives include mentorship and sponsorship programs, structured leadership development training, institutional policy reforms, and digital networking platforms. Such interventions have been implemented predominantly in high-income countries—such as the United States, the United Kingdom, Canada, and Australia—while more limited evidence is available from low- and middle-income settings.^{1,5,12} In this review, country income classifications follow the World Bank Country and Lending Groups, which categorize countries based on gross national income per capita.

Recent research has emphasized the importance of structured leadership frameworks and sustained institutional commitment to advancing women's leadership in academic medicine and healthcare organizations.¹³ However, despite the increasing number of initiatives, there remains a lack of comprehensive scoping reviews that systematically map, categorize, and assess the range of existing interventions, particularly with regard to their underlying mechanisms and applicability across different resource contexts. While several scoping and systematic reviews have examined gender-related barriers in healthcare leadership^{14,15} or focused on specific aspects such as mentoring or particular specialties, including radiology,¹⁶ these studies have not provided an integrated, intervention-focused synthesis of organizational strategies designed to advance women's leadership.

This study addresses that gap by conducting a scoping review that synthesizes the available literature on organizational initiatives aimed at advancing women in healthcare leadership. Beyond mapping existing programs, the review adopts an analytical lens focused on intervention mechanisms and leadership strategies. Specifically, it develops an integrative three-cluster framework that systematizes interventions according to their primary mode of action: (1) leadership capability-building, (2) expansion of professional opportunities and networks, and (3) institutional and organizational transformation. The objective of this scoping review is to identify, map, categorize and analyze organizational programs and strategies supporting women's leadership development across global healthcare settings. By linking individual-level development initiatives with organizational and structural reforms, the proposed framework is intended to inform leadership practice, organizational decision-making, and policy design, with particular attention to context-sensitive applications in low- and middle-income countries.

Methods

This scoping review was conducted in accordance with the methodological framework proposed by Arksey and O'Malley¹⁷ refined by Levac et al¹⁸ and guided by the PRISMA-ScR reporting guidelines.¹⁹ A comprehensive literature search was performed across three electronic databases (Scopus, Web of Science, and PubMed Central) covering publications from January 2020 to April 2025. The search strategy combined terms related to gender barriers and leadership (eg, “glass ceiling”, “women leaders”, “female executives”, “healthcare”) with keywords referring to support initiatives (eg, “program”, “policy”, “mentorship”, “initiative”, “measure”) to identify relevant interventions. We included peer-reviewed English-language studies that focused on women in healthcare leadership and described interventions or policy measures aimed at advancing female professionals. Studies unrelated to healthcare, lacking a specific focus on leadership, or not centered on women-focused initiatives were excluded.

The detailed search strategy, including the keywords and concepts, is summarized in [Table 1](#).

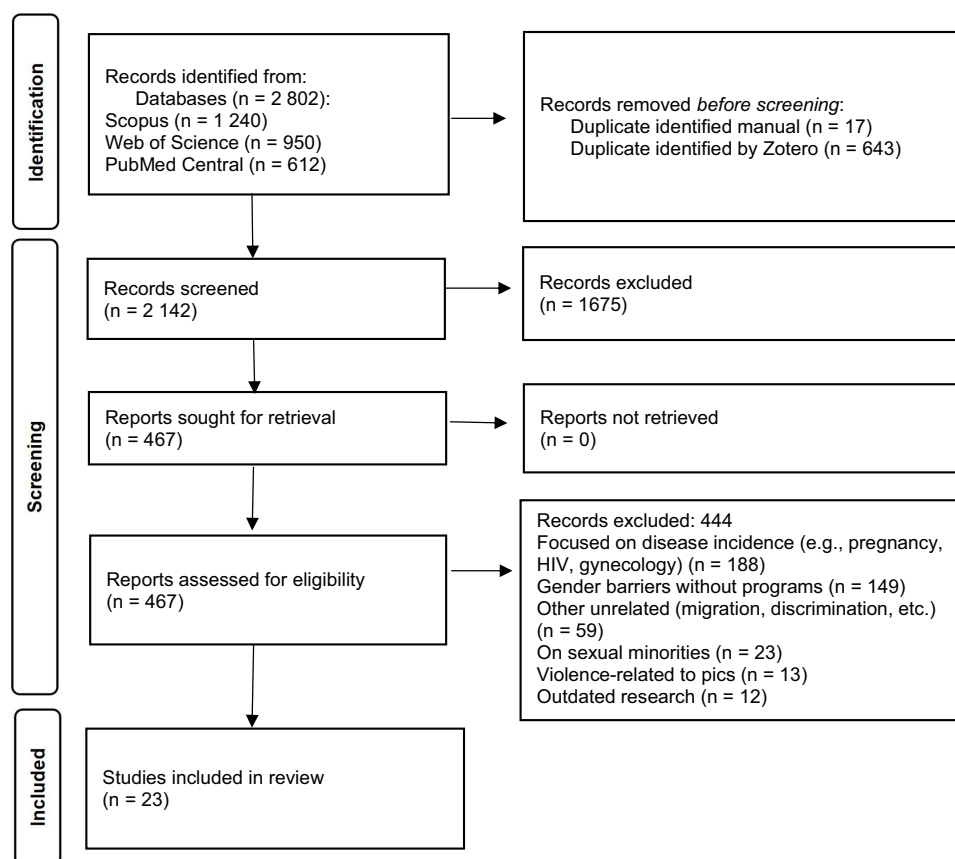
The initial search yielded 467 articles, which were imported into and processed using Zotero reference management software to remove duplicates and facilitate categorization (see [Figure 1](#)). Titles and abstracts were independently screened by two reviewers. Articles were excluded based on the following criteria:

Table 1 Search Strategy Included the Following Keywords

MeSH: Gender Barriers	MeSH: Female	MeSH: Healthcare	MeSH: Support Initiatives
Keywords: glass ceiling, gender barriers, gender inequality, gender gap, gender differences	Keywords: women, female professionals, working women, female employees, female health care workers	Keywords: healthcare, health services, hospitals, clinics, health, medicine, medical institutions	Keywords: mentorship, program, coaching, leadership training, intervention, development, policy, quotas, flexible work. measure, initiative, workplace activity

Note: Compiled by authors.

- A total of 188 articles focused on the gender composition of disease incidence (eg, pregnancy, gynecological conditions, HIV/AIDS), unrelated to leadership or career development;
- A total of 149 articles explored gender-related barriers such as the glass ceiling or inequality, but did not describe support programs or interventions;
- 23 articles addressed issues related to sexual minorities, which were beyond the scope of this review;
- 13 articles focused on violence against women, which was not relevant to leadership or career advancement;
- 59 articles covered miscellaneous topics, such as female migration, refugee health, and general discrimination, without discussing leadership support;
- 12 articles were excluded because their data collection periods were outdated or studies conducted before the relevant timeframe of this review.

**Figure 1** A PRISMA-ScR flow diagram illustrating the study selection process.

After applying these exclusion criteria, 23 articles were selected for full-text review and final inclusion (see [Annex 1](#)). These publications specifically focused on institutional programs, leadership interventions, and strategies aimed to support women's advancement in healthcare leadership.

From the included studies, data were extracted on publication characteristics, type of organizational intervention or strategy, target population, intervention level (individual, organizational, or system-wide), and the type of evaluation or outcomes reported. Data synthesis followed a thematic generalization approach, whereby interventions were compared, grouped, and descriptively summarized. This process resulted in the development of a three-cluster analytical framework reflecting dominant intervention mechanisms in healthcare leadership development.

Results

The selected 23 studies included interventions implemented across diverse healthcare systems and income contexts, with the majority conducted in high-income settings and a smaller number originating from low- and middle-income environments. The reviewed publications primarily addressed healthcare sectors where gender disparities in leadership are well documented, including academic medicine, selected clinical specialties, and healthcare management. While institutional- and policy-oriented interventions were numerically dominant among the included studies, the most detailed and consistently evaluated initiatives focused on individual-level leadership development, particularly mentoring and leadership training programs. In contrast, interventions targeting organizational culture, professional networks, and structural reform were more frequently described at a conceptual or descriptive level and were less often accompanied by systematic outcome evaluation (see [Annex 1](#)).

This scoping review identified eight key categories of programs aimed at supporting women in leadership positions. These included mentoring initiatives, leadership skills training, professional networks, digital platforms, institutional reforms, policies promoting inclusivity, intersectional approaches, and the involvement of male allies. Altogether, these programs illustrate the diversity of tools designed to advance women's representation and impact in leadership roles.

We grouped the described programs and interventions into three clusters (see [Table 2](#)):

Table 2 A Typology of Organizational Support Programs and Interventions to Advance Women's Leadership in Healthcare

Cluster of support programs	Programs Included	Description/Aims
1. Development of Leadership Competencies and Confidence	• Leadership Development • Mentorship	Programs designed to build leadership skills, strengthen self-efficacy, and support professional identity formation through training workshops, coaching, and mentoring relationships. These initiatives aim to empower women to take on leadership roles confidently and effectively.
2. Expansion of Professional Opportunities and Networks	• Professional Networks and Peer Support • Digital Platforms • Male Engagement Initiatives	Interventions that create opportunities for women to connect with peers, mentors, and allies. They include formal and informal networking groups, online communities, and strategies to engage male colleagues as advocates. The goal is to increase visibility, access to information, and collaborative support.
3. Transformation of the Institutional Environment	• Institutional Reforms and Policies • Intersectional Approaches • Inclusive Organizational Culture Initiatives	Structural measures aimed at addressing systemic barriers. This includes gender quotas, flexible work policies, integration of intersectional perspectives to account for multiple identities, and promoting an inclusive organizational culture. These programs target sustainable change at the policy and cultural level.

Note: Compiled by authors.

1. First, several programs were aimed at developing leadership competencies and building confidence among women, most notably through structured mentorship initiatives and leadership training programs.
2. Second, a number of efforts focused on expanding access to professional opportunities and networks - this included digital platforms for connection and collaboration, peer support initiatives, and programs that intentionally engaged men as allies in promoting gender equity.
3. Finally, some interventions sought to transform the institutional environment by implementing inclusive policies, reforming organizational practices, promoting intersectional approaches, and fostering a culture that supports diversity and inclusion at all levels.

First Cluster of the Programs: Development of Leadership Competencies and Confidence

Programs within this domain focus on building individual capacity through training, mentoring, and coaching to strengthen women's self-efficacy and readiness to assume leadership positions. Such initiatives emphasize not only knowledge transfer but also the transformation of self-perception and professional identity.

Leadership Development

Leadership development programs were highlighted in a subset of studies.^{20–24} These interventions typically offered targeted workshops and training modules on topics such as negotiation, time management, strategic decision-making, and self-confidence building. The goal of such programs was to cultivate leadership competencies and empower women to overcome self-efficacy barriers and societal stereotypes that often impede their advancement. Some evaluations reported positive outcomes: women who completed leadership development courses demonstrated higher rates of career progression and were more likely to pursue or assume leadership positions within their organizations.^{21,22} However, many leadership programs were concentrated in academic or urban healthcare centers, which can limit accessibility for women in rural or under-resourced areas. Additionally, without integration into formal career pipelines or accompanying institutional support, the impact of standalone leadership training may be short-lived. One study emphasized that leadership training should be embedded within the institution's broader gender equity strategy – including clear policies for equal opportunity – in order to ensure long-term improvements.²⁵

Mentorship

Mentorship and mentoring-adjacent supports were among the most frequently described forms of support across the reviewed studies.^{20–32} These initiatives included both formal and informal mentoring structures, spanning peer-to-peer pairings, intergenerational mentorship, and virtual mentoring models. Participation in mentoring was widely reported to bolster women's confidence, leadership skills, professional networks, and career progression. For example, two large multi-site programs combined mentorship with structured career planning and leadership training, yielding participants who reported greater self-efficacy and higher rates of pursuing leadership roles.^{21,22} Despite the recognized benefits of mentorship, access to quality mentors remains uneven. Several studies noted a lack of structured mentoring opportunities-especially for junior women and those in resource-limited settings-and the absence of formal evaluation frameworks to assess mentorship outcomes.^{25,28} Moreover, the limited pool of senior female mentors was identified as a challenge for scaling and sustaining effective mentorship programs.²⁵ Overall, capability-building interventions demonstrated consistent short-term benefits at the individual level, but their impact was often constrained by limited integration with organizational structures.

Second Cluster of the Programs: Expansion of Access to Professional Opportunities and Networks

This domain highlights the importance of creating communities of practice, peer support systems, and alliances-including male allyship-that provide women with enhanced visibility, access to critical information, and collaborative career

advancement. Digital platforms play a vital role in mitigating geographic and organizational barriers, especially in global health contexts.

Digital Platform

Digital platforms have emerged as a modern modality for supporting women in healthcare leadership, discussed in four of the reviewed studies.^{27,29,31,32} Examples include the use of collaborative tools like Slack groups, regular Zoom meetings, and dedicated virtual forums to facilitate mentorship, professional networking, and communities of practice. During the COVID-19 pandemic, these virtual platforms became especially prominent, enabling continuity of mentorship and peer support despite restrictions on in-person gatherings. Digital environments can broaden access to leadership support programs, particularly benefiting participants in geographically dispersed or resource-constrained regions by overcoming physical barriers to engagement.²⁹ Nevertheless, several studies highlighted challenges associated with digital interventions: maintaining participant engagement over time, providing adequate mentorship moderation and IT support, and ensuring equitable access to the necessary technology. In some cases, sustaining long-term engagement required deliberate strategies, including regular communication, structured moderation, and technological support.^{29,31,32} Despite these hurdles, virtual platforms are likely to remain a valuable and scalable component of women's leadership initiatives in the post-pandemic era.

Professional Networking and Peer Support

Professional networks and peer support communities play a vital role in amplifying women's leadership development. Several studies^{27,29,31–34} examined formal organizations (eg, women physicians' associations) and informal communities (such as online peer groups) that facilitate knowledge exchange, mentorship, and career opportunities for women in healthcare. Participation in professional networks was reported to have motivational and identity-affirming effects, helping women overcome isolation and gain confidence through shared experiences.³¹ Networking was also linked to tangible benefits like increased access to information about job openings, leadership opportunities, and skill-building resources.^{29,31,33,34} However, the literature cautions that without deliberate inclusion, women may be left out of influential professional networks and thereby miss critical opportunities for advancement.^{26,31} Ensuring the sustainability of networking initiatives requires dedicated resources and institutional recognition of these groups. Strategic planning and ongoing community engagement were recommended to maintain active networks that can continually support new cohorts of women leaders.^{29,31}

Male Allyship and Engagement

Engaging men as allies in pursuit of gender equity emerged as a promising yet underexplored approach in three studies.^{26,35,36} These interventions involve active participation of male colleagues and leaders in mentorship programs, bias-awareness training, and advocacy for fair promotion practices.^{26,36} For instance, one initiative provided a toolkit for senior male leaders outlining concrete steps to mentor and sponsor female colleagues and to interrupt gender bias in workplace interactions.³⁶ Institutions that cultivated male champions for women's leadership reported improvements in organizational culture and faster progress toward equity goals.^{26,36} Since men continue to hold a majority of top positions in many healthcare settings, their buy-in and commitment are crucial for driving systemic change.³⁵ Effective allyship requires more than nominal support; it calls for genuine partnership, ongoing self-reflection, and a willingness among male leaders to share power and cede space for women's advancement.³⁶ These studies suggest that when male leaders actively model inclusive behavior and publicly support their female colleagues, it can create a more supportive environment and accelerate the pace of change.^{26,36} These findings suggest that network-based and digital interventions enhance visibility and peer support, yet their effectiveness depends on sustained engagement and institutional recognition.

Third Cluster of the Programs: Transformation of the Institutional Environment

Structural reforms and organizational policies are essential for dismantling systemic obstacles and promoting inclusive cultures. These approaches involve revising promotion criteria, introducing flexible work arrangements, and embedding gender-sensitive practices that recognize intersectional identities and address persistent inequities.

Institutional Reforms and Policies

Structural and policy-level interventions were identified as foundational drivers of lasting change in several studies.^{25,26,35–37} These interventions ranged from implementing organizational gender quotas and overhauling promotion pathways, to introducing flexible work-hour arrangements, enhanced parental leave, and gender-bias training within institutions. Such reforms seek to dismantle systemic barriers and formally prioritize women's leadership within healthcare organizations. However, many policy changes were implemented in a piecemeal fashion and often lacked robust monitoring and enforcement. For instance, even progressive policies were sometimes found to have minimal impact in practice due to weak accountability or persisting cultural resistance. Mousa et al²⁶ and Borger et al³⁵ cautioned that without a supportive organizational culture, well-intended policies may not translate into meaningful improvements. Successful implementation of institutional reforms was reported to require committed leadership at all levels and alignment of new policies with existing organizational incentives and norms.^{25,36}

Intersectional Approaches

Several studies^{23,35,38–42} emphasized the importance of applying an intersectional lens to women's leadership initiatives, while other work highlighted the continued gap in explicitly intersectional evaluations.⁴¹ An intersectional approach recognizes that women's experiences and challenges in the workplace are shaped by multiple overlapping identities and factors – including ethnicity, race, age, socioeconomic status, parenthood, and migration background.^{35,39} Interventions grounded in intersectionality sought to address the compounded disadvantages faced by women belonging to marginalized subgroups.^{38–40,42} For example, programs that were co-designed with participants and culturally tailored were better able to engage women from diverse backgrounds and were associated with higher satisfaction and retention rates.²³ Conversely, leadership initiatives lacking sensitivity to intersectional differences often failed to reach or benefit the most disadvantaged groups of women.^{39,40} To maximize inclusivity, some authors advocate for participatory program design, culturally adaptable content, and regular inclusivity audits to ensure that leadership interventions remain equitable and relevant to the full spectrum of women in healthcare leadership.^{23,39}

Inclusive Organizational Culture

Fostering an inclusive organizational culture was identified as a critical long-term strategy in three studies.^{24–26} Rather than focusing solely on adapting women to existing systems, these interventions aimed to transform the systems themselves to be more equitable and welcoming to diverse leaders.^{25,26} This entails implementing transparent organizational processes, ensuring equal access to opportunities and resources, and actively recognizing diversity in leadership.^{25,26} One study called for moving beyond isolated “women's programs” and instead embedding inclusivity as a core value across all levels of the organization.²⁵ Creating a psychologically safe environment – where women feel empowered to speak up, lead initiatives, and be recognized – was highlighted as a key outcome of true inclusion.²⁴ Importantly, inclusion was framed not as a standalone project but as an overarching principle guiding policies, leadership behaviors, and institutional norms.^{25,26} When women perceive their workplace as inclusive and fair, their engagement and leadership aspirations tend to flourish, thereby amplifying the effectiveness of specific programs such as mentorship or training.^{24,25}

23 reviewed publications highlighted the necessity of integrating interventions across these three domains to achieve sustained improvements in gender equity and leadership representation. Institutional and cultural reforms appear critical for long-term change, but their success relies heavily on leadership commitment and enforcement mechanisms. With respect to evaluation approaches, most included studies relied on self-reported outcomes such as participant satisfaction, perceived confidence, or skill development. Fewer studies reported career-related outcomes, and evidence of organizational-level change was limited.

Across the reviewed publications, most interventions were implemented within a single domain, while only a limited number combined individual, network, and institutional components, highlighting a gap between conceptual recommendations for multi-level change and practical implementation. Formal evaluation frameworks were rarely applied, and most studies relied on short-term or self-reported outcomes rather than assessing sustained behavioral change or organizational-level impact.

Discussion

This scoping review categorized organizational strategies supporting women's advancement into healthcare leadership into three interconnected domains: (1) leadership capability-building at the individual level, (2) expansion of professional opportunities and networks, and (3) institutional and organizational transformation through inclusive policies and structural reform. While these clusters were empirically derived in the Results section, the present Discussion interprets their broader implications for leadership practice, organizational decision-making, and future research.

A central finding across the reviewed literature is the limited use of robust and standardized evaluation approaches. Most interventions were assessed using self-reported indicators such as participant satisfaction, perceived self-efficacy, confidence, or skill acquisition. Several studies employed short-term pre-post designs, while only a small number reported intermediate career-related outcomes, such as appointment to leadership roles or increased participation in decision-making bodies. Explicit assessment of sustained behavioral change or organizational-level outcomes—such as changes in governance structures, promotion systems, or leadership composition—was rare. When viewed through established evaluation models, such as the Kirkpatrick framework, most reported outcomes broadly correspond to early evaluation levels, highlighting a persistent gap in evidence on long-term and institutional impact.

With respect to intervention design, the majority of included programs focused on a single domain, most commonly individual skill development, rather than implementing integrated, multi-level approaches. Although many studies articulated the importance of addressing leadership barriers across individual, organizational, and systemic levels, relatively few interventions operationalized more than one domain in practice. Programs centered exclusively on leadership training or mentoring often encountered limitations when implemented in organizational contexts characterized by rigid hierarchies or resistant cultures. In contrast, interventions that combined individual development with institutional reforms—such as transparent promotion criteria, inclusive governance practices, or flexible work policies—tended to report more sustained and system-oriented outcomes. While direct comparative effectiveness was not assessed, this pattern underscores the conceptual and practical value of multi-level intervention strategies. In parallel with the peer-reviewed evidence identified in this review, policy-oriented initiatives have increasingly highlighted the strategic role of male allyship as an institutional lever for advancing gender equity in health leadership, particularly through sponsorship, advocacy, and accountability mechanisms.⁴³

Several recent scoping and systematic reviews have addressed women's leadership in healthcare, providing important contextual foundations for the present study. For example, Mousa et al synthesized organizational interventions with a strong emphasis on structural barriers and cultural norms, but did not propose a coherent typology linking intervention types to leadership mechanisms. Holman et al focused narrowly on leadership development programs within academic medicine, largely excluding policy-level and institutional reforms. Chung et al offered a comprehensive catalog of global health leadership resources, yet their analysis remained predominantly descriptive and did not articulate how different interventions function or interact. Other reviews examined specific tools, such as mentorship, or focused on single specialties, limiting the transferability of their findings across healthcare systems.

The present scoping review extends this literature by shifting the analytical focus from identifying barriers or cataloguing isolated tools to systematizing organizational interventions according to their underlying mechanisms of action. By integrating evidence across individual, network, and institutional levels, the proposed three-cluster framework offers a coherent analytical lens for understanding how leadership development initiatives operate within complex healthcare organizations. This framework contributes conceptually by clarifying relationships between intervention types, substantively by encompassing a broader range of organizational strategies, and methodologically by combining scoping review methods with thematic generalization.

Finally, this review highlights important gaps for future research. Evidence remains limited regarding the scalability, sustainability, and institutional embedding of leadership interventions, as well as their effectiveness across diverse organizational and socio-cultural contexts. Rather than conducting a comparative regional analysis, which was beyond the scope of this review, the findings underscore the need for future empirical studies that explicitly examine context-sensitive design, longitudinal outcomes, and organizational-level change. Addressing these gaps is essential for advancing evidence-informed leadership strategies and achieving sustained gender equity in healthcare leadership.

Conclusion

This scoping review proposes a structured three-cluster framework for understanding organizational support for women's leadership in healthcare. The framework brings together interventions operating at the individual level (leadership capability development), the relational level (access to professional networks and opportunities), and the organizational level (institutional policies and cultural transformation). Taken together, these clusters reflect a three-level model through which leadership barriers are addressed and leadership pathways are shaped.

Rather than evaluating the effectiveness of specific programs, the review maps how different types of interventions function within and across these levels. The findings show that most existing initiatives are concentrated within a single cluster—most commonly individual-level skill development—while relatively few interventions explicitly combine individual, network-based, and institutional components. This pattern highlights a disconnect between the widely articulated need for multi-level change and the way leadership programs are currently designed and implemented.

Across clusters, the evidence base remains uneven. Interventions focused on mentoring and leadership training are the most established and consistently reported, whereas approaches targeting organizational culture, intersectionality, and male allyship are less frequently implemented and more weakly evaluated. In addition, evaluation practices across studies are largely limited to short-term and self-reported outcomes, with little systematic assessment of behavioral change, organizational impact, or long-term sustainability.

By synthesizing interventions through a three-cluster, three-level analytical lens, this review extends existing scoping and systematic reviews that have primarily focused on identifying barriers or cataloguing individual tools. The proposed framework offers a coherent way to conceptualize how leadership development initiatives interact with organizational structures and professional environments, and how fragmented efforts may limit sustained progress.

From a practice-oriented perspective, the framework may serve as a reflective tool for healthcare organizations to assess whether existing leadership initiatives are concentrated at a single level or balanced across individual development, professional networks, and organizational conditions.

Overall, the review underscores the need for future research and practice to move beyond isolated interventions toward more integrated approaches that address individual, relational, and organizational dimensions of leadership development. Strengthening evaluation designs, embedding intersectional perspectives, and examining how context-sensitive programs can be institutionalized over time are critical steps for advancing inclusive and sustainable leadership pathways for women in healthcare.

Disclosure

The authors report no conflicts of interest in this work.

References

1. Dhatt R, Theobald S, Buzuzi S, et al. The role of women in global health leadership: the time is now. *Lancet*. 2017;389(10069):602–604. doi:10.1016/S0140-6736(17)30185-2
2. Newman C. Time to address gender discrimination and inequality in the health workforce. *Hum Resour Health*. 2014;12(1):25. doi:10.1186/1478-4491-12-25
3. World Health Organization (WHO). *Delivered by Women, Led by Men: A Gender and Equity Analysis of the Global Health and Social Workforce*. Geneva: WHO; 2021.
4. Litchfield LC, Li Y, White J. Gender and leadership in academic medicine: implications for career advancement. *J Women's Health*. 2019;28(1):31–36. doi:10.1089/jwh.2018.7234
5. Kuhlmann E, Ovseiko PV, Kurmeyer C, et al. Closing the gender leadership gap: a multi-centre cross-country comparison of women in management and leadership in academic health centres in the European Union. *Hum Resour Health*. 2017;15(1):2. doi:10.1186/s12960-016-0175-y
6. Kanter RM. *Men and Women of the Corporation*. New York: Basic Books; 1977.
7. Morrison A, White R, Van Velsor E. *Breaking the Glass Ceiling: Can Women Reach the Top of America's Largest Corporations?* Reading, MA: Addison-Wesley; 1987.
8. Slaughter A-M. *Unfinished Business: Women Men Work Family*. New York, NY: Random House; 2012.
9. Lorber J. *Paradoxes of Gender*. New Haven, CT: Yale University Press; 1994.
10. Williams CF. The glass ceiling and the wealth of nations. *Geo J L Pub Poly*. 1992;xx:I–II.

11. Hirayama M, Fernando S. Organisational barriers to and facilitators for female surgeons' career progression: a systematic review. *J R Soc Med.* 2018;111(9):324–334. doi:10.1177/0141076818790661
12. Holman D, Walker S, McClure K, DallaPiazza M. A scoping review of leadership development programs for women in academic medicine. *J Women's Health.* 2022;31(3):371–381. doi:10.1089/jwh.2021.0185
13. Williams WE, Wiebe AJ, Billings R, et al. A framework for leadership in organizational development: a novel approach for advancing women administrative and faculty leaders in academic medicine. *J Healthc Leadersh.* 2025;17:75–87. doi:10.2147/JHL.S467122
14. Mohammed A, Lobaid A, Gosling CM, et al. Challenges faced by female healthcare professionals in the workforce: a scoping review. *J Multidiscip Healthcare.* 2020;13:681–691. doi:10.2147/JMDH.S260020
15. Muraya KW, Govender V, Mbachu C, Uguru N, Molyneux S. 'Gender is not even a side issue...it's a non-issue': career trajectories and experiences from the perspective of male and female healthcare managers in Kenya. *Health Policy Plann.* 2019;34(4):249–256. doi:10.1093/heapol/czz034
16. Cleveland EC, Ramsey A, Kuo A, Batavia A. Women in academic radiology: a scoping review of barriers and strategies. *Acad Radiol.* 2022;29(4):559–567. doi:10.1016/j.acra.2021.09.005
17. Arksey H, O'Malley L. Scoping studies: towards a methodological framework. *Int J Soc Res Methodol.* 2005;8(1):19–32. doi:10.1080/1364557032000119616
18. Levac D, Colquhoun H, O'Brien KK. Scoping studies: advancing the methodology. *Implement Sci.* 2010;5(1):69. doi:10.1186/1748-5908-5-69
19. Tricco AC, Lillie E, Zarin W, et al. PRISMA extension for scoping reviews (PRISMA-ScR): checklist and explanation. *Ann Internal Med.* 2018;169(7):467–473. doi:10.7326/M18-0850
20. Mohamed S. Women in academic radiology: barriers and benefits of representation, mentorship, coaching, and advocacy. 2024.
21. Shen MJ, Tzioumis E, Andersen E, et al. Impact of mentoring on academic career success for women in medicine: a systematic review. *JAMA Network Open.* 2022;5(9):e2233981. doi:10.1001/jamanetworkopen.2022.33981
22. Lee JK, Tackett S, Skarupski KA, et al. Inspiring and preparing our future leaders: evaluating the impact of the early career women's leadership program. *Healthcare Leadership.* 2024;16:287–302. doi:10.2147/JHL.S470538
23. Mucheru MM, Mollel H, Gilmore B, Kesale A, McAuliffe E. Advancing gender equality in healthcare leadership: protocol to co-design and evaluate a leadership and mentoring intervention in Tanzania. *BMJ Open.* 2024;14(4):e078736. doi:10.1136/bmjopen-2023-078736
24. Kalbarczyk A, Beyan-Davies K, Anyango S, et al. Development, implementation, and evaluation of a new course on essential skills for women's leadership. *Ann Glob Health.* 2021;87(1):96. doi:10.5334/aogh.3463
25. Mousa M, Rowley E, Bramley L, et al. Experiences of organisational practices that advance women in healthcare leadership: a qualitative study. *BMJ Leader.* 2023;7(4):266–272. doi:10.1136/leader-2022-000653
26. Mousa M, Boyle J, Skouteris H, et al. Advancing women in healthcare leadership: a systematic review and meta-synthesis of multi-sector evidence on organisational interventions. *eClinicalMedicine.* 2021;39:101084. doi:10.1016/j.eclinm.2021.101084
27. Chung M, Kalbarczyk A, Santhosh L, et al. A scoping review on resources, tools, and programs to support women's leadership in global health. *Lancet Glob Health.* 2023;11(1):e104–e111. doi:10.1016/S2214-109X(22)00487-4
28. Ifikhar S, Yasmeen R, Khan RA, Arooj M. Barriers and facilitators for female healthcare professionals to be leaders in Pakistan: a qualitative exploratory study. *J Healthc Leadersh.* 2023;15:71–82. doi:10.2147/JHL.S399430
29. Weinberg JL, Kalbarczyk A, Kiplagat S, et al. We aren't just 'Slack'ing off: utilizing a digital tool to connect emerging women leaders in global health. *Ann Glob Health.* 2022;88(1):8. doi:10.5334/aogh.3735
30. Mousa M, Teede HJ, Garth B, Winship IM, Prado L, Boyle JA. Using a modified Delphi approach and nominal group technique for organisational priority setting. *BMJ Open.* 2022;12(4):e055665. doi:10.1136/bmjopen-2021-055665
31. Iyengar K, Ehrlich J, Chung E, et al. Evaluation of a virtual networking event for emerging women leaders in global health. *Ann Glob Health.* 2022;88(1):73. doi:10.5334/aogh.3779
32. Kalbarczyk A, Harrison M, Chung E, et al. Supporting women's leadership development in global health through virtual events and near-peer networking. *Ann Glob Health.* 2020;86(1):110. doi:10.5334/aogh.2942
33. Kalbarczyk A, Banchoff K, Perry KE, et al. A scoping review on the impact of women's global leadership: evidence to inform health leadership. *BMJ Glob Health.* 2025;10(2):e015982. doi:10.1136/bmjgh-2024-015982
34. Hermosura T, Bourgeault I. It takes a village to raise a leader: overcoming gender-specific barriers in healthcare leadership. 2024.
35. Borger JG, Longley RJ, Taylor MF, Motrich R, Payne JAE, Kemp RA. Global perspectives to enhance strategies for advancing women in healthcare and STEMM leadership. *Immunol cell biol.* 2025;103(3):207–218. doi:10.1111/imcb.12632
36. Bourgeault IL, Decady R, Pascual J, Hermosura BJ. Leading practices for men to support women's health leadership: a toolkit of resources. *Women's Health Rep.* 2022;3(1):222–229. doi:10.1089/whr.2022.0047
37. Sharma A. Assessing and improving women representation in radiology leadership positions. 2024.
38. Muktar H, Tessema GA, Zeleke B. Exploring the opportunities and challenges of female health leaders in three regional states of Ethiopia: a phenomenological study. *BMC Women's Health.* 2022;22(1):430. doi:10.1186/s12905-022-02005-w
39. Zeinali Z, Muraya K, Theobald S, Marchant T. The use of intersectional analysis in assessing women's leadership progress in LMICs: a scoping review. *BMJ Glob Health.* 2021;6(9):e006560. doi:10.1136/bmjgh-2021-006560
40. Mucheru MM, McAuliffe E, Kesale A, et al. A rapid realist review on leadership and career advancement interventions for women in healthcare. *BMC Health Services Res.* 2024;24(1). doi:10.1186/s12913-024-11348-7
41. Saville N, Uppal R, Odunga SA, et al. Pathways to leadership: what accounts for women's (in)equitable career paths in India and Kenya? *Global Health Action.* 2022;15(1):2057830. doi:10.1080/16549716.2022.2057830
42. Sabarwal S, et al. Comparing barriers and enablers of women's health leadership in India, East Africa, and North America. *Global Health.* 2022;10(4). doi:10.9745/GHSP-D-21-00635
43. Kituu L. *Role of Male Allies in Forging Gender Equity in Health Leadership.* WomenLift Health; 2024.

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