

Brief Opinion

Gender Equity in Radiation Oncology: Culture Change Is a Marathon, Not a Sprint



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Abstract

The specialty of radiation oncology's gender diversity is lagging other medical specialties. The lack of gender diversity in radiation oncology has been demonstrated at all stages of career, from medical schools to department chairs. Multiple articles have demonstrated literature-based benefits of inclusion of a diverse group of female colleagues. This editorial is intended to note areas of progress and highlight resources available to support gender equity in the field of radiation oncology.

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Introduction

The specialty of radiation oncology is at a pivotal point in time with field growth threatened by lower applicant numbers over the past several years, and lagging behind other medical specialties in terms of racial, ethnic, and gender diversity.¹⁻³ Radiation oncology leaders and stakeholders are being forced to reflect on the current

perception of the field. Nationally recognized leaders in diversity, equity, and inclusion have highlighted the lack of gender diversity in radiation oncology.⁴⁻⁷ The lack of gender diversity in radiation oncology has been demonstrated at all stages of career, from medical schools to department chairs.^{4,8} Multiple articles,⁹⁻¹¹ including an editorial from Foster et al,¹¹ demonstrated literature-based benefits of inclusion of a diverse group of female colleagues. Enhancing diversity and inclusion is paramount to providing culturally competent care to our patients and for field growth through recruitment of new trainees and retention of talented underrepresented minorities and women.¹²⁻¹⁴ This editorial is intended to note areas of progress and highlight resources available to support gender equity in the field of radiation oncology.

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Progress has been made in the number of women in leadership positions in professional society organizations.^{13,15} Diversity and inclusion efforts have been enhanced in the American Society for Radiation Oncology (ASTRO) through the recent addition of the Health Equity, Diversity, and Inclusion Council, with representatives serving as ex-officio board members. ASTRO also commissioned a gender equity task force tasked with baseline assessment, advisory, and advocacy for gender equity initiatives. Women are currently holding several prestigious oncology leadership positions. Currently, the ASTRO president and president-elect are women, and a total of 5 board members are women. The 2020 to 2021 president of the American Society of Clinical Oncology was a woman, an underrepresented minority, and a radiation oncologist. The American College of Radiation Oncology has had 2020 and 2021 term presidents as women. The *International Journal of Radiation Oncology • Biology • Physics* has actively promoted diversity within its editorial board. The journal has named a woman editor-in-chief beginning in 2022, representing the second woman to hold the role of editor-in-chief of a major journal in the radiologic and imaging sciences.¹⁶ Notably, women now represent 40% of the *International Journal of Radiation Oncology • Biology • Physics*' editorial board members. These accomplishments merit recognition; however, because of historic and current lack of equity, they are remarkable and still feel unattainable to many. So, caution is needed to avoid conflating achievements of a select few with gender equity and advancement for the entire field.

Additionally, gender equity doesn't exist in a vacuum and cannot be fully accomplished without identifying the intersectionality of gender, race, age, ability, and so forth for individuals. Intersectionality acknowledges that individuals can be part of more than 1 marginalized group.^{17,18} Even more work is necessary to ensure voices of women of underrepresented minorities are fully included and not left at margins of diversity and inclusion efforts.^{17,19}

On the whole, evidence suggests that women still have to work harder and accomplish more than men to achieve the same levels of recognition in medicine.^{6,20,21} This is highlighted by a 35-year report demonstrating no narrowing of gap over time in women physicians in academic medical centers being promoted to associate or full professor or appointed to department chair compared with men.²² Within radiation oncology, greater than 50% of residents surveyed felt that gender-specific bias existed in their programs.²³ The COVID-19 pandemic has added stress and amplified disparity and inequity, particularly for those pursuing research careers.²⁴ Some proposed factors that have contributed to that gender inequity in radiation oncology were described by Holliday et al¹³ in 2018. These factors included unconscious bias, sexual harassment, collision between biological and professional clocks, and lack of mentorship/sponsorship. In the following sections, we have listed barriers¹³ followed by a selection of

available resources and references that provide evidence and mitigation measures for the observed barriers (Tables 1 and 2). Recent changes toward more humane parental leave policies demonstrate a tangible benefit to all genders from advocacy efforts.²⁵ Resources and policies are only helpful if individuals and leadership are aware and intentional in resource utilization to make positive cultural changes.²⁶

Unconscious Bias and Sexual Harassment

The spectrum of gender bias is broad and starts in early childhood as societal influences deter women from pursuing interests in science, technology, engineering, and mathematics (STEM) fields,^{20,27} and the effects of these influences continue into careers.^{13,28} Bias in writing letters of recommendation (eg, “grindstone” adjectives such as “hard-working” have been reported more commonly for women vs “standout” adjectives such as “successful” for men) is an example of a modifiable contributing factor.²⁹ Although not all trainings are effective, studies have identified approaches toward eradicating unconscious bias and promoting civility and respect in the workplace that are promising interventions.^{30,31} Mandated early intervention and continuing medical education are important within the workplace for those of all genders.^{30,31} Although most departments voice a zero-tolerance policy for sexual harassment, we know from movements such as #MeToo and evidence collected directly from women in radiation oncology that sexual harassment is pervasive.²³ Without prevention efforts that emphasize civility, respect, and allyship and provide strategies for bystander intervention and victim protection like those described in *Standing Up Against Gender Bias and Harassment*,³² perpetrators will remain (Table 1).

Gendered Expectations of Society and Collisions Between Biological and Professional Clocks

Radiation oncology training and early career often overlap with other life events, including marriage, childbirth, and elder caregiving, which can intensify family demands typically expected to be performed by women. Simultaneously, important career milestones occur, such as completion of training and preparation for certification and independent practice, interviewing for jobs, attainment of grant funding, and transition to partnership. Fixed timelines that appear neutral, such as number of years to obtain promotion of academic rank or partnership, exacerbate the challenges faced by women.³³ Additionally, some women who desire children but delay conception due to professional obligations may experience mental and

Table 1 Selection of resources with relevance to radiation oncology community to address known gender barriers

Known barriers	Selected resources
Bias and sexual harassment	<p>Educational resources</p> <ul style="list-style-type: none"> • Unconscious bias resources for health professionals (Association of American Medical Colleges): https://www.aamc.org/what-we-do/diversity-inclusion/unconscious-bias-training • Reference article: “Response to observed instances of sexual harassment and gender bias”³² • Reference website (test if recommendation letter is biased): https://www.tomforth.co.uk/gender-bias/ <p>US equal employment opportunity laws: https://www.dol.gov/general/topic/discrimination</p> <ul style="list-style-type: none"> • Family and Medical Leave Act (1993) • Civil Rights Act of 1964, Title VI, VII, and IX (ref) Title VI prohibits discrimination on the basis of race, color or national origin under any program or activity receiving federal financial assistance. Title VII prohibits discrimination in employment on the basis of race, color, religion, sex, or national origin. Title IX: An employee of the recipient conditioning the provision of an aid, benefit, or service on an individual’s participation in unwelcome sexual conduct. Any unwelcome conduct determined by a reasonable person to be so severe, pervasive, and objectively offensive that it effectively denies a person equal access to the recipient’s education program or activity. Sexual assault (as defined in the Clery Act), dating violence, domestic violence, or stalking as defined in the Violence Against Women Act (VAWA). • Civil Service Reform Act of 1978 (prohibited personnel practices) • Equal Pay Act of 1963, as amended • Lilly Ledbetter Fair Pay Act of 2009 • Pregnancy Discrimination Act of 1978
Collision between biological and professional clock	<p>Family leave</p> <ul style="list-style-type: none"> • American Board of Medical Specialties policy: https://www.abms.org/policies/parental-leave/ <ul style="list-style-type: none"> ◦ Summary: “Member Board eligibility requirements must allow for a minimum of 6 weeks of time away from training for purposes of parental, caregiver and medical leave at least once during training, without exhausting all other allowed time away from training and without extending training. Member Boards must allow all new parents, including birthing and non-birthing parents, adoptive/foster parents, and surrogates to take parental leave.” • ABR: https://www.theabr.org/exam-details/residency-leave-policy <ul style="list-style-type: none"> ◦ Summary: “Beginning with the 2021-2022 academic year, residents will be considered eligible for Initial Certification without an extension of training with “Time Off” that does not exceed an average of eight weeks (40 work days) per academic year over the duration of the residency.” • Link to ASTRO and SCAROP letter to ABR: https://www.astro.org/About-ASTRO/diversity-and-inclusion/Parental-Leave <p>Maternal-specific: Lactation</p> <ul style="list-style-type: none"> • 2010 Affordable Care Act: https://www.congress.gov/111/plaws/publ148/PLAW-111publ148.pdf <ul style="list-style-type: none"> ◦ Summary: “Employers are mandated to provide an on-site private space, other than a bathroom, shielded from view and free from intrusion in addition to ‘a reasonable amount’ of break time for mothers to express breast milk, continuing 1 year after the child’s birth.” • Accreditation Council for Graduate Medical Education: https://www.acgme.org/Portals/0/PFAsets/ProgramRequirements/CPRResidency2021.pdf <ul style="list-style-type: none"> ◦ Summary: In 2018 “[a]dded lactation facilities to list of common program requirements”
Lack of mentorship and/or sponsorship	<p>References for rationale of developing a network, as each connection provides different support for your journey</p> <ul style="list-style-type: none"> • Mentor networks in academic medicine: moving beyond a dyadic conception of mentoring for junior faculty researchers.⁴⁴ • “Identifying and Utilizing Mentors” chapter in <i>Career Development in Academic Radiation Oncology</i>.⁴²

(continued on next page)

Table 1 (Continued)

Known barriers	Selected resources
	National programs <ul style="list-style-type: none"> • ASTRO: https://mydigitalpublication.com/publication/?m=38997&xi=711017&view=articleBrowser&article_id=4054507&ver=html5 • ACRO: https://www.acro.org/residents/resident-mentor-program/ Gender-specific national programs • SWRO: https://www.societywomenradiationoncology.com • AAWR: https://www.aawr.org/Events/AAWR-Mentoring-Program
<p><i>Abbreviations:</i> AAWR = American Association for Women in Radiology; ABR = American Board of Radiology; ACRO = American College of Radiation Oncology; ASTRO = American Society for Radiation Oncology; SCAROP = Society of Chairs of Academic Radiation Oncology Programs; SWRO = Society for Women in Radiation Oncology.</p>	

Table 2 Manifestations of gender inequity with selected resources

Inequity in salary	<ul style="list-style-type: none"> • Standardize and normalize sharing through peer and near peer mentor. • Novel methods for compensation based on service, such as coverage for colleague on short notice, mentorship, administrative tasks, and teaching that are exchanged for credits.⁶¹ • Reference article: “Closing the gender pay gap in medicine”⁶² • Reference website: Association of American Medical Colleges report on faculty salary⁶³
Underrepresentation in leadership	<p>Leadership programs</p> <ul style="list-style-type: none"> • Women in Medicine Summit: https://www.womeninmedicinesummit.org • American Society for Radiation Oncology Leadership Pipeline Program: https://www.astro.org/About-ASTRO/Board-and-Leadership/Leadership-Pipeline-Program • Executive Leadership in Academic Medicine⁵⁰: https://drexel.edu/medicine/academics/womens-health-and-leadership/elam/

physical distress and infertility.³⁴⁻³⁶ Policies and culture that facilitate work-life integration are essential, as well as parental leave policies that allow women and men to participate more fully in parenting.^{26,37} Upon return to work,

policies that recognize the unique physical needs, such as support for lactation,^{34,38} are also important to allow women equal opportunities to engage in the workplace while fulfilling family needs (Table 1).

Table 3 Examples of media resources supporting equity

Media type	Sample resources
Social media	
Twitter	Field exposure: #WomenWhoCurie, ¹⁵ #RadOncWomen Addressing sexual harassment: #MeToo, #MedToo, ⁶⁴ #HeForShe
Facebook	1. Radiation Oncology Women Physicians Group 2. Society for Women in Radiation Oncology
Other media	
ROhub	Gender equity community
Webinar series	DEInRO (ASTRO webinar series): https://www.astro.org/Meetings-and-Education/DEInRO
Podcasts	ASCO example: “Addressing gender disparities in the global oncology workforce and sexual harassment” (https://dailynews.ascopubs.org)
<p><i>Abbreviations:</i> ASCO = American Society of Clinical Oncology; ASTRO = American Society for Radiation Oncology; DEInRO = Diversity, Equity and Inclusion in Radiation Oncology; Rad Onc = radiation oncology; RO = radiation oncology.</p>	

Lack of Mentorship and/or Sponsorship

There is continued need for additional mentorship and sponsorship programs. For example, female senior authorship on articles in major oncology journals and number of endowed chairs has not kept pace with the increase of women in oncologic fields—medical, radiation, and surgical oncology³⁹ and lower number of endowed chairs.^{21,22} Mentors are key to providing important insights for career development and academic productivity.⁴⁰⁻⁴² Sponsors are senior leaders who can take an additional step of advocating on behalf of a junior person's career advancement such as nomination for national committee.⁴³ Mentor and sponsor networks allow individuals to navigate the complexities of work-life balance and career advancement.⁴⁴ Although it may be ideal to identify local mentors and sponsors, there are a wide array of opportunities for individuals through national organizations, particularly in an era of increased virtual connectedness (Table 1).^{12,41}

These previously listed barriers have led to gender inequity. If not systematically addressed by institutional and radiation oncology leadership, these barriers will continue to perpetuate current salary inequity and a lack of women in radiation oncology leadership.¹³ Institutional leadership needs to set equity goals and report progress as done in the publication from University of Florida.^{45,46} National organizations need to commit to a goal of being equity leaders through allotment of resources to support committees like the gender equity task force and be responsive to feedback for internal improvements (ie, focus on continued pursuit of equity for board member) and external advocacy (ie, support of parental leave policies)²⁵ to ensure the gender gap narrows until it, ideally, disappears.

Inequity in Salary

“Pay gap” is another societal issue that is much more far reaching than just medicine or radiation oncology.⁴⁷ Transparency and awareness are first steps, but active correction of bias is needed to help mitigate this gap.⁴⁸ Intentional peer mentorship and senior mentorship are necessary to allow honest conversations about expected pay and reimbursement (Table 2).

Underrepresentation in Leadership

Exposing the next generation of radiation oncologists to the field in a way that intentionally promotes gender diversity remains a challenge. It is imperative to have and support women leaders, especially because the current role of women in radiation oncology leadership continues

to lag.⁴ Leadership training addresses gaps in skills important to all radiation oncologists, especially identifying bias, honing and expanding negotiation skills, and providing peer mentorship (Table 2).^{6,49,50}

In the last several years, grass roots gender equity efforts have extended into many different media platforms.^{15,51} Table 3 provides a sample of currently available media resources and successful social media campaigns in support of gender equity. Social media is a powerful way to amplify exposure to data, resources, and ideas on gender equity.^{15,51} For example, #WomenWhoCurie has played a prominent role in exposure of radiation oncology,^{15,52} and social media campaigns have fostered communication, micromentorship, and education among oncologists worldwide while providing a platform for discussion of gender equity accessible to leadership and individuals.^{51,53-55} However, with the rise in social media, caution should be exercised to recognize potential harm, including but not limited to implicit bias and restricting civil debate through cancel culture.⁵⁶ Additionally, engagement in performative allyship and activism can have a detrimental effect on building genuinely inclusive workplace environments.⁵⁷

The limitations of this article include recognition that resource tables represent a sample rather than a comprehensive list of resources pertaining to gender equity. Most cited articles are focused on the North American population and physician-centered literature. Important research and advocacy are being performed outside of the United States and by other members of the health care team, including physicists and others, that could not be adequately reviewed in the scope of this article.^{5,58}

All people benefit from intentional promotion of gender equity and diversity through enhanced productivity,⁵⁹ policy change,²⁵ and improved patient outcomes.^{11,60} The tables are a compilation of select recent and relevant resources for interested individuals and leaders seeking to support gender equity. As a professional field, we must commit to implementing change, which promotes gender equity and eliminates detrimental gendered expectations. The accomplishment of no gender gap requires radiation oncology organizations and institutional leadership to allocate resources for systematic and continuous quality improvement. Change begins with baseline and then periodic assessment, followed by recognition of areas of concern, proposal and implementation of solutions, and metrics to evaluate progress. If leaders are not careful, 2 disruptive forces—decreased enrollment and COVID-19—could be threats to progress made in reducing the gender gap. Ideally, these events could be used to establish better resources and assessment tools. In conclusion, the authors hope this article spreads awareness and promotes continued discourse, story sharing, data collection, and resource utilization and development.

Let's keep advocating!

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