Diversity, Inclusion, and Representation: It Is Time to Act

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Abstract

Although the available pool of qualified underrepresented minority and women medical school graduates has expanded in recent decades, their representation in the radiological professions has improved only marginally. Recognizing this deficit in diversity, many professional medical societies, including the ACR, have incorporated these values as core elements of their missions and instituted programs that address previously identified barriers to a more diverse workforce. These barriers include insufficient exposure of underrepresented minorities and women to radiology and radiation oncology; misperception of these specialties as non–patient care and not community service; unconscious bias; and delayed preparation of candidates to compete successfully for residency positions. Critical success factors in expanding diversity and inclusion are well identified both outside and within the radiological professions; these are reviewed in the current communication. Radiology leaders are positioned to lead the profession in expanding the diversity and improving the inclusiveness of our professional workforce in service to an increasingly diverse society and patient population.

Key Words: Diversity, underrepresented minorities, health disparities, health policy, radiology, radiation oncology, leadership, women in medicine, health equity

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Since its inception in 2013, the ACR Commission for Women and General Diversity (the "Commission") has taken the lead in changing the face of radiology [1]. The Commission formulated a strategic plan consonant with the ACR Strategic Plan of 2014, in response to its goal of increasing diversity and inclusion in the radiological professions [2]. In 2015, the ACR Council adopted Resolution 14, affirming that diversity is central to our mission, strengthens our organization, and should be measured [3]; ACR members now voluntarily report their ethnicity at membership renewal. The Commission and members have published many peer-reviewed and informal communications, in these pages and elsewhere, to expand the awareness of challenges and opportunities in diversity and inclusion, and has sponsored presentations, forums, and discussions in venues ranging from ACR 2015 and ACR 2016 to university training programs and state radiology societies. Projects pending implementation include pipeline enhancement; focused research on the barriers to improving diversity and inclusion in radiology; and diversity, inclusion, and cultural proficiency training for top leadership.

CURRENT STATE AND TRENDS IN DIVERSITY OF THE RADIOLOGICAL PROFESSIONS

Women and individuals from backgrounds underrepresented in medicine (URM)—historically, Blacks, American Indians, Alaska Natives, Native Hawaiians, Pacific Islanders, and Hispanics—are underrepresented in the diagnostic radiology [4,5] and radiation oncology [6] (RRO) physician workforce at all levels, including practicing physicians, academic faculty, and trainees. Both specialties rank near the bottom in female and URM representation

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compared with the 20 largest residency specialties, including several surgical and non–primary care specialties [7], with similar trends in radiologic subspecialties, such as vascular and interventional radiology [8,9]. For women (see Figure 1), representation among trainees (27% and 29% in radiology and radiation oncology, respectively) is improved relative to practicing physicians (24%, 26%) [10], suggesting historical gains; however, the numbers of women trainees in radiology have remained stagnant over the past 8 years [4] and show only a subtle 0.3% increase per year in radiation oncology over the past 20 years [11]. At this rate, it would take 50 years for women to reach parity with the graduate medical education trainee pool and medical school graduates (46%-48%). For URMs in RRO (see Figure 2), there have been minimal trends toward improvement, with URMs representing 8% and 9% of radiology and radiation oncology trainees, respectively, compared with 15% of both medical school graduates and graduate medical education trainees [7]. In fact, although the number of radiation oncology residents has increased approximately 30% over the past 16 years, from 493 to 644, the absolute number of Black residents, for example, remains relatively unchanged over the same time period, with only 24 residents in both 1997 and 2012 [11,12] These findings suggest that the underrepresentation of women and URM in RRO is more than just a pipeline issue.

Lessons From Outside the House of Radiology

In organizations and endeavors outside radiology, we see increasingly pervasive appreciation of and permanent commitments to diversity and inclusion.

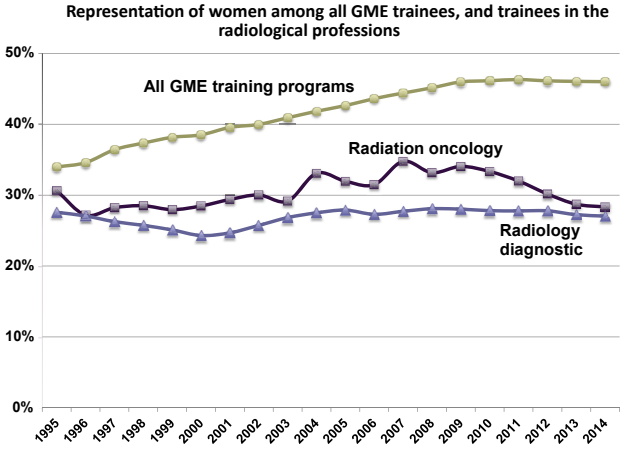

Fig 1. Representation of women as percentages of all graduate medical education (GME) trainee physicians, and in radiation oncology and radiology.

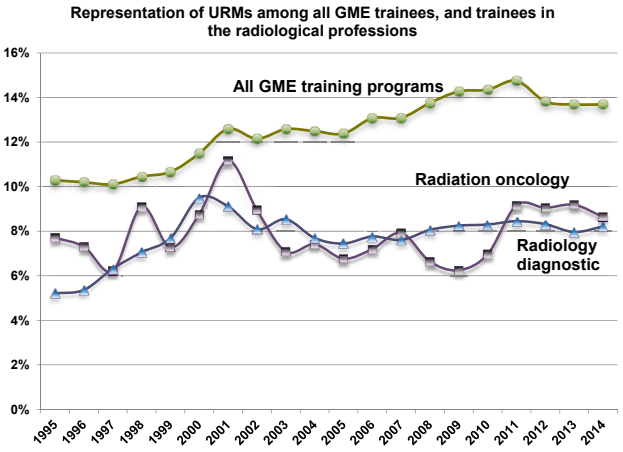

Fig 2. Representation of underrepresented minorities (URMs) as percentages of all graduate medical education (GME) trainee physicians, and in radiation oncology and radiology.

Diversity and Performance

That more diverse organizations have better economic performance than their less representative peers has been part of the business research and educational canon for decades [13]. For example, a study of 454 large global organizations demonstrated that those with diversity strategies had a cash flow 2.3 times greater per employee; smaller, mature organizations had a cash flow 13 times higher [14]. McKinsey similarly demonstrated above-median financial performance, innovation, decision making, and customer orientation among more diverse enterprises [15].

A dramatic illustration of high-functioning organizations committing to a diverse and inclusive future is that of the Academy of Motion Picture Arts and Sciences (AMPAS). Following two consecutive years of Oscar nominations with no artists of color, in January 2016 the Board of Governors unanimously voted sweeping changes to increase diversity, including limiting voting status to active filmmakers; launching global recruitment; immediately expanding the Oscars' Board with three nontraditional board members; and committing to doubling the numbers of women and URM members by 2020 [16]. In June 2016, the Academy added 683 distinguished filmmakers to its membership, of which 46% were women (increasing female representation from 25% to 27%) and of which 41% were people of color (increasing ethnic diversity from 8% to 11%) [17,18]. AMPAS's initiatives were clearly controversial, but the commitment to excellence through diversity was widely applauded [19,20]. AMPAS's diversity and inclusion initiatives illustrate four critical success factors: (1) external considerations, not

solely altruism, helped drive innovation: AMPAS was responding to the #OscarsSoWhite movement and to its own customers [21]; (2) the commitment of top leadership was essential in establishing diversity as central to the organization's mission; (3) adopting an aspirational goal is required to motivate the organization's progress toward living its core values; and (4) high-performance vanguard organizations leading major industries can and should do exactly that: "The Academy is going to lead and not wait for the industry to catch up" [16].

Inclusion and Selectivity

Leading institutions of higher learning have long been committed to expanding diversity and participation of all groups in our society. Without violating the state's Proposition 209 prohibition of considering race in admissions, the University of California has improved its admissions diversity to 4.9% African American and 32.3% Latino freshmen, without significant change in selectivity [22]. The Harvard College class of 2020 was the most selective ever, admitting 5% of applicants. It is also the most diverse, including 14% African Americans, 22% Asian Americans, 13% Latinos, 2.2% Native Americans, and 48% women; this highly selective diversity ensures that these graduates will be among the leaders of tomorrow [23]. The success of these leading institutions illustrates that selectivity and inclusivity are not mutually exclusive, and are in fact complementary in better serving the missions of public service enterprises.

Organizations successfully improving gender representation and creating inclusive environments often do so through deliberate, informed, "intelligent design"[24]. Google discovered that its loss of talented young women was more specifically attrition of young mothers. Improving maternity leave reduced attrition to no more than any other group [25]. As a result of deliberate "blinding" of instrumentalist auditions for orchestras by having all candidates play behind a curtain, women in top symphony orchestras increased from 5% in the 1970s to over 35% recently [26]. At Salesforce, its CEO's review of compensation prompted a deliberate, informed solution: pay women more [27].

Though the radiological professions can learn from enterprises outside our own, there is at least one instance where we serve as a positive example. In a selected sample of 24 academic medical centers at public universities in 12 states, radiology is the specialty showing the least gender disparity in faculty salaries [28]. In the studied medical schools, our sister specialties may identify radiology as an aspirational goal, and seek to learn how to diminish their relatively much greater gender salary disparities. However, these encouraging results from a small number of institutions may not be reproducible in other public and private universities, and especially in private radiology practices. Further research, most importantly by radiology leadership, is needed to analyze gender differences in earnings among radiologists in multiple practice settings and considering different salary models.

Collaborations Among our Commission and Sister Medical Societies

Members of the Commission have inspired or spearheaded numerous efforts to promote diversity by partnering with radiology specialty organizations. For example, the theme of the entire 2016 Annual Meeting of the Association of University Radiologists was "Diversity, Inclusion and Cultural Competency in Academic Radiology"; the conference included extensive programming on key issues related to diversity and inclusion, unconscious bias, and strategies to overcome existing barriers. Diversity and inclusion is the theme of the Intersociety Committee summer meeting of 2017.

New committees for diversity and inclusion were implemented and special sessions delivered during the annual meetings of multiple radiology organizations, including the Society of Nuclear Medicine and Molecular Imaging, the American Society for Therapeutic Radiology and Oncology and the Society of Interventional Radiology. Directly addressing the barriers to URM and women medical students electing radiology, the Society of Interventional Radiology has budgeted specifically for outreach to these candidates; Commission members presented information sessions at the Student National Medical Association and the Latino Medical Students Association.

As of mid 2016, at least three state ACR chapters have developed committees or programs (one chaired by a Commission member) to promote diversity, inclusion, and radiology awareness among women and URM medical students. These steps are laudable and may lead to sustained intensive efforts. We look forward to expanded interactions and partnerships with other organizations similarly committed to our common diversity and inclusion efforts.

BARRIERS AND NEXT STEPS: A CALL TO ACTION

The argument that an insufficient applicant pool is an impediment to improving diversity is a false one that demonstrably falls flat: half of graduating medical students are women, and 15% of graduating medical students are

URM. Radiology and radiation oncology are not taking advantage of the diversity in the existing pipeline [29]. We see here an opportunity to improve recruitment and retention into the radiological professions and academic careers, and to raise the bar of the performance of our specialties in this area. Though there are parallels between the engagement of women and URMs in medicine, URM participation in medicine has not kept pace with changing U.S. demographics [30].

Potential deterrents and barriers to diversification in RRO specialty training include:

1. Inadequate specialty exposure, limited mostly to elective rotations late in the medical school curriculum, especially at schools without radiological sciences residencies;
2. Less interest in a specialty (inaccurately) perceived as having less patient contact or being of lesser direct service to the community [31];
3. A relative lack of female and URM role models and mentors [32], including, for women, male predominance of the field [33]; and
4. Bias, often unconscious or implicit whereby an equally qualified candidate is ranked lower for a position because of his or her gender, race, or ethnicity [34].

It is insufficient for medical societies simply to articulate the need for improved diversity—the vision must resonate within every practice and training hospital. Though many may appreciate diversification and inclusion as the right things to do, just as with the Oscars, altruism alone is not enough. Medical societies must drive this culture shift through leading by example, continually emphasizing the importance of diversity and inclusion as both business and clinical imperatives. Our own college projects a self-image of quality and diversity; we need to work to have the faces match the facts [35,36]. As high-performance, high-responsibility organizations, radiologic specialty societies should lead the way and not wait for our colleagues to catch up.

Change does not come easy in medicine, but early success inspires continued innovation. Some projects with proven previous success can be implemented quickly to address some of the above-stated barriers:

- Expand early exposure programs for RRO specialty training (e.g., student interest groups, 1-week clinical electives) to include medical schools with larger numbers of URM students. Be intentional about expansion, and provide exposure at schools without robust RRO training programs.
- Encourage URM student application to existing summer fellowships (e.g., American Society for Therapeutic Radiology and Oncology, RSNA). At national meetings, showcase faculty and practitioners who formally mentor students.
- Create RRO summer internship programs to enhance the competitiveness of committed future applicants. Focus on first- and second-year students.
- Improve marketing and education about the radiological professions, focusing on relationships with patients and service to the community.
- Implement more holistic selection criteria for residency training programs. Include new and diverse members on residency selection committees and faculty search committees.

Developing long-term goals and strategies to improve workforce diversity will require an investment of thought, planning, time, and resources by our professions, our academic departments, and our practices. Whether within our national organizations or at the institutional level, successful programming will be preceded by embracing diversity and inclusion as core values central to the mission; senior leadership demonstrating long-term commitment to diversity goals; building diversity from the top down; seeking buy-in at all levels; assessing cultural and diversity needs; and tailoring diversity training for all, from the Board to new hires.

Other proven and required strategies include implementation of accountability and performance measurements that reward dedication to diversity among leadership and employees; setting specific diversity goals around recruiting, training, and professional development; requiring cultural proficiency as a necessary component of patient care; and blending professional and community activities [36].

Expanding the diversity of radiology professionals is a mission-critical step. Long-term investment in diversity of all types and creation of inclusive work environments require continuing commitment of leadership and practicing physicians to achieve the ultimate goals of delivering culturally sensitive care and improved patient experiences for our increasingly diverse society.

TAKE-HOME POINTS

- Women and minorities remain relatively underrepresented in the radiological professions, despite there being an underutilized pipeline of medical graduates available to training programs.

- Leading professional societies have made commitments and developed programs to improve diversity and representation in radiology and radiation oncology.
- Critical success factors for improving diversity and representation include incorporation of these values into the core mission of the profession, dedication of top leadership to diversity and inclusion, and identification of short-term achievable and long-term aspirational goals.
- Now is the time for radiology leaders to actively take the lead in enhancing diversity and inclusion to improve the quality of our professional workforce and our service to our patients and society.

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