

# The Emerging Diverse Radiology Workplace: Case Studies on the Importance of Inclusion in Radiology Training Programs

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Radiology remains one of the least diverse fields in medicine. With increasing understanding of the benefits of workforce diversity on health care outcomes, radiology society leadership and radiologists are engaging in necessary efforts to improve diversity, equity, and inclusion. To date, much of the initiatives have focused on pipeline development and recruitment strategies. Literature from organizational psychologists, human resources and business strategists suggest that incorporation of inclusion could overcome some of the persistent barriers to workforce diversity. Using case studies from real-life residency programs, we describe challenges associated with being a member of an underrepresented minority group in radiology. We illustrate concepts in inclusion, proposing concrete ideas for personal and institutional growth in this area, as a strategy for improving workforce diversity and team effectiveness.

**Key Words:** Diversity, Equity, Inclusion; Underrepresented minorities; Teamwork.

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## INTRODUCTION: WHY IS INCLUSION IMPORTANT?

With increasing understanding of the benefits of workforce diversity for improving health care outcomes (1–3), the field of radiology is engaging in necessary efforts to improve diversity, equity, and inclusion (DEI) as radiology remains one of the least diverse fields in medicine (4). Diversity (as defined by the American College of Radiology) extends beyond race/ethnicity and gender identity to include other dimensions such as organizational (educational history or veteran status), personality (introversion versus extroversion), biography (parenthood, marital status), physical ability and sexual orientation (1). In radiology, there is poor gender (approximately 23% of radiologists are women) (5), and racial/ethnic diversity. For example, only 1.7% of radiologists are Black and 3.7% Hispanic or Latino, compared to 6.2% and 5.3% of medical school graduates, and 13% and 18% of the general population, respectively (6,7). Only 0.2% of radiologists are Native Americans (7). Among radiologists in training, 4% of residents identify as Black (7).

**Acad Radiol 2022; ■:1–8**

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The increasing focus on DEI in radiology has shown limited success given the stagnant proportion of female radiologists since 2007 despite decades-long initiatives to address the issue (4,5,8–11). The radiology community is proposing greater measures to increase racial and ethnic diversity, with most of the focus on pipeline development and recruitment (7).

Inclusion, however, has been identified as a key strategy to unlocking the benefits of diversity in workplaces (9,12–14). Diversity 3.0 considers equity as essential to workplace excellence and aims to expand radiology DEI efforts beyond diversity to inclusion by incorporating continuous education (3,15).

As radiologists from underrepresented backgrounds ourselves and mentors to radiology trainees, we propose that a focus on inclusion is necessary to increase equity in our field. Herein, we discuss the available data from organizational psychology and human resources on inclusion; and demonstrate, using scenarios from real-life, how these concepts can be incorporated in many radiology workplaces. We propose areas of growth in inclusion.

## Defining Inclusion

Inclusion is made up of two components: a sense of belonging to the organization and a sense of authenticity in which one's individual contributions are valued (12). Inclusion is the degree to which an individual perceives that the organization provides them with belonging and authenticity. Providers from minority groups are more likely to provide care to minority patients and underserved populations, with these populations describing better communication and satisfaction; factors which may impact health equity (16). In addition,

inclusion of individuals from minority groups on teams improves cultural intelligence of the group, leads to better problem solving, more innovation, job satisfaction, physician wellness and ethics (14,16–22). With inclusion, there is higher job satisfaction reported by individuals from minority groups and increased retention which, in turn, can improve recruitment efforts downstream.

Individuals may experience high or low authenticity or belonging (Fig 1).

### Belonging

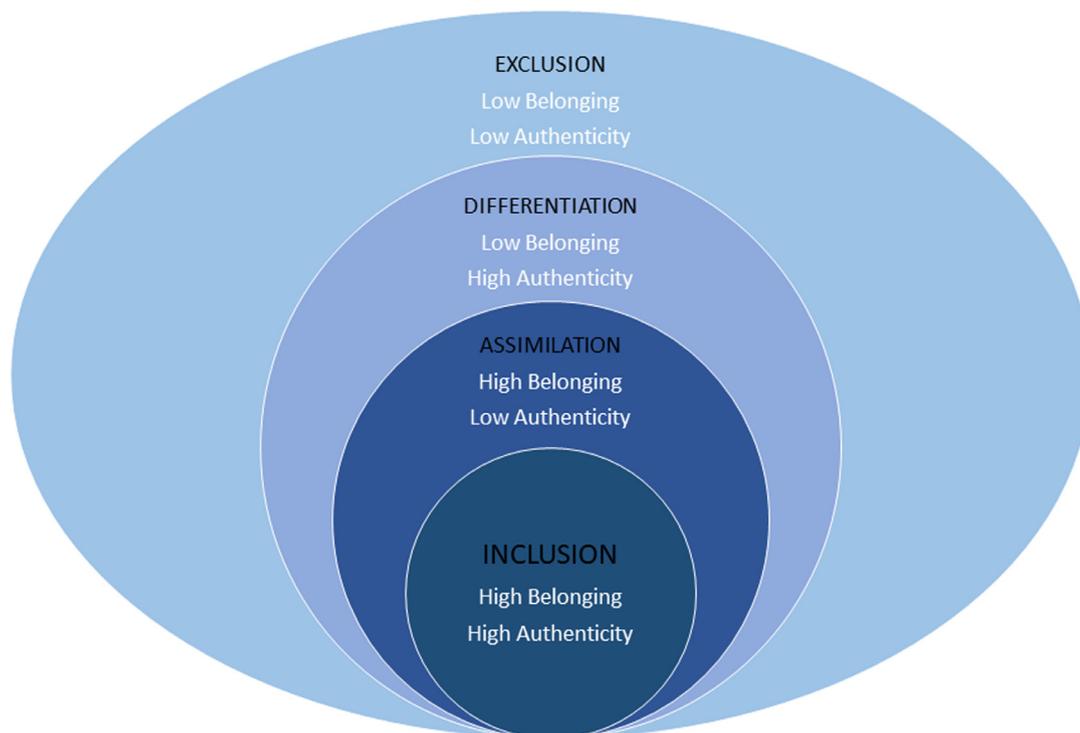
Belonging to an organization, belief in its mission, and perceiving that one is reflected in the organization and that their work adds value, are central to inclusion. Feelings of high belonging are tied to longevity and stability in workplaces (12), and may be an overlooked key to success in DEI and employee retention. When a high-achieving radiologist from a minority group is successfully recruited and employed, the leadership should, in concert with the incoming faculty, identify a plan for establishing belonging. While the bulk of the responsibility lies with the leadership to leverage their knowledge of the existing workplace climate in their plans to foster inclusion of the new hire, consulting with the individual may help identify specific strategies for areas of concern. A recent article by Perchik et al. describes the efforts of a radiology residency program to assess and improve LGBTQ inclusivity in the workplace through an LGBTQ-specific inclusion audit assessing department policies,

department facilities, department and institutional culture, and community engagement (23). Despite an initially low score on the audit, within 3 years, the department achieved success in meeting the identified strategic milestones, doubling their initial score. A department-led minority group inclusion initiative has the potential to foster belonging of members of that group; which benefits patients and employees. Employees as people, have a need to form and maintain strong relationships (12); if this is lacking on a peer level, the employment may be short lived. Belonging is often mediated by peer groups and not completely within the purview of organizational leaders. Certainly, providing opportunity for positive peer group interaction and establishing culture of interpersonal value and respect may provide a strong foundation.

### Authenticity

For many organizations, there are concerns related to fully embracing employee authenticity in all facets. Academic medical centers have an established culture, often developed from the dominant majority and made up of many components, some unspoken and invisible. With the introduction of individuals from different cultures with their own personal and professional norms, there is a high likelihood that differences arise around previously accepted customs.

Within an organization, the manner of dressing, speech, body language and mannerisms all represent components of individual authenticity that should ideally lie within a range



Adapted from Shore et al, 2011

**Fig 1.** Workplace Inclusion by Belonging and Authenticity (Adapted from Shore et al, 2011). add "(Color version of figure is available online.)"

from uniform to unique. When the range is narrow, being mostly defined by a monolithic group that unintentionally shares a similar mindset, any individual expression (even slightly) outside the range is an outlier. Welcoming high expression of authenticity may clash with the uniform, expected, and reproducible delivery of service. However, lack of standardization of customs/norms can be unexpected but may not equate to unprofessional behavior by the individual. When the authenticity is allowed but not welcomed, the individual does not belong and is “differentiated” (Fig 1).

The aim for every organization should be for individuals to demonstrate authenticity and belonging such that they see themselves as important parts of the institution, and leverage their authentic backgrounds, cultures, and values toward the success of the organization and the communities it serves.

The case studies below illustrate challenges and opportunities involving belonging and authenticity. They have been deidentified to protect the identity of the individuals involved.

### CASE STUDY 1: DIFFERENTIATION (LINGUISTIC PROFILING)

Upper-level Resident X was informed by their program director (PD) that they did not perform up to par on the in-service examination and would be placed on probation. The resident's scores were consistent with the typically recognized metric for passing the subsequent board certification exam. There were never any concerns about Resident X's technical skills, knowledge or professionalism. Upon further investigation, attending physicians noted that Resident X was clinically competent but indicated that the resident's language did not match the accepted norms for an upper-level resident. The PD placed an additional upper-level resident on the rotation with Resident X, which undermined Resident X's authority and questioned their competence. Six months later, Resident X was informed that they would need to extend their residency training to address this issue. During the additional year, there were no interventions made to address Resident X's communication style. The resident was eventually able to finish residency and went on to a successful career after securing a highly competitive fellowship at another institution. News of their experience did negatively impact willingness of other applicants from minority groups to join the program.

### STRATEGY 1: OVERCOMING DIFFERENTIATION

#### Challenges to Authenticity

In this case, the individual demonstrated high authenticity with low belonging on the team. Speech patterns are inextricably linked to social identity and asking an individual to drop their linguistic forms may be akin to asking them to deny fundamental aspects of their personhood (24). Linguistic forms may compromise workplace culture and psychological

safety if speech patterns are offensive or ineffective however, research suggests the problem is not usually language incompetence, but perceptions attached to speech (25). Non-native speakers or individuals with limited exposure to “standard” English who have achieved multiple educational milestones have demonstrated ability to communicate and be understood. The inclusion of this aspect of the individual must be considered when we work on diversifying the workforce. Employee concerns about their accented speech or communication patterns can lead to isolation, stress, and decreased morale and productivity (17,25). Encouraging (or allowing) authenticity (such as in linguistic differences) impacts inclusion of the individual such that they align with the institution's goals and can leverage their unique backgrounds for holistic contributions.

#### Overcoming Linguistic Profiling

Moyer defined linguistic profiling as “the use of speech characteristics to identify a speaker's race or ethnicity, religion, or social class, typically resulting in the denial of a specific opportunity or service” (26). Even within the same country, speech patterns can provide auditory clues to identify an individual as a member of a subgroup. These subgroups include socioeconomic class, educational background, personality traits, and differently abled, effectively labeling members as separate from the majority group.

It bears noting that the interview processes may introduce linguistic profiling and bias, causing candidates to be considered less competent, poor communicators, or less intelligent based on the interviewers' response to their linguistic forms or accent (25). Speech and its patterns, while a product of environment and types of education, are often incorrectly extrapolated to represent intelligence or the lack thereof. A newcomer to a workplace has the choice of either remaining authentic to their speech patterns developed over a lifetime, or, attempting to wholeheartedly adopt the speech of their new environment. For most people it is impossible to alter such a longstanding and fundamental part of their being. The individuals who succeed on standardized tests and unwritten life/cultural/proficiency challenges or hidden curriculum despite language, cultural, and speech pattern differences represent intelligent individuals. They may exist with double consciousness (27), having learned the majority speech patterns as a code which they are able to decipher and use intermittently based on the listening audience.

Also, patients demonstrate a preference for physicians of similar backgrounds to their own (28), and sociolinguistic connection may be a factor. As calls to diversify the health care workforce point to improving health equity as a potential benefit, it is important to respect those markers of diversity in individual workforce members for the benefit of the patients served. Unconscious bias training for departments can help to reduce linguistic profiling.

The overall attitude toward cultural diversity centers on approaching cultural differences with a growth mindset.

Barring the use of offensive or hateful language, the incorporation of variations in speech patterns should be an expected response to a diversifying radiology workforce. Diversity intelligence training has been suggested as a potential solution for leaders and employees to accept workforce changes and harness the intellectual capital of the entire team (29,30). Glastonbury et al describe diversity-conscious hiring practices including diversifying the recruitment committee, encouraging all its members to attend unconscious bias training, and take the online Harvard implicit association test (31).

## CASE STUDY 2: EXCLUSION

After successfully completing an intern year at a different institution, Resident Z was excited to transition into his desired specialty. However, upon arriving Resident Z quickly realized he was an outsider among co-residents. The co-residents did not inform Resident Z about a shared web drive that housed pertinent tips for successfully navigating residency causing him to appear less knowledgeable than his peers. Co-residents shared that they preferred an internal candidate and objected to Resident Z's appointment. Resident Z was excluded from social gatherings and left off email lists. Despite Resident Z's stellar qualifications for the program (including being a prolific researcher with an MD/PhD, board scores in the 95th percentile, superb letters of recommendation) and good interpersonal skills, he struggled with the sense of not belonging. Resident Z eventually left the institution as did other individuals from minority groups who were unhappy with the situation.

## STRATEGY 2: OVERCOMING EXCLUSION

This case demonstrates low belonging and low authenticity; the individual was excluded from institutional knowledge and socially isolated from the group. Exclusion often leads to expulsion from the group.

### Creating an Inclusive Diversity Climate

An institution that deliberately cultivates a diversity climate creates the perception that all employees are valued (32). For radiology workplaces where diversity is nascent, a conscious effort to highlight the intersectional nature of diversity may be a budding approach to creating a diversity climate. For example, leaders might share unique aspects of their background (e.g., low socioeconomic status, first generation college educated, immigrant past) and its positive impact on their work. Diversity climate is also reflected by the institution's willingness to enact fairness and balance power across groups (32). Institutional adjustments to support diversity climate should ideally precede the hiring of individuals from minority groups; otherwise, the "blame" for institutional changes could rest on the new hire (33).

### Creating Just Operations

With advances in technology, organizations can automate the processes for storage and sharing of institutional knowledge, procedures, and group socialization (32). Clearly documenting and communicating the institution's hidden curriculum leads to more equitable distribution of knowledge such that it is no longer subject to whims of individual preference.

### Inclusive Leadership

It is important to have a preexisting supportive culture prior to introducing a hypervisible "other." Candidates from underrepresented minority groups may be invited for interviews at high rates (34), but it is unclear if they are more likely to match in their desired specialty and if, after matching, they will be supported (35). While some of these individuals find a healthy culture upon joining an organization, Doll discusses that, as diversity efforts expand, some new hires who are the first/only of a particular subgroup at an institution may encounter previously unseen structural barriers and racism, and reporting these instances could be perceived as disruptive and potentially sabotage their own careers (31). Without inclusive leadership their choices are to abandon authenticity to take on group identity (assimilate); abandon belonging (differentiate) risking isolation and stagnation; or accept both low belonging and low authenticity (exclusion).

Institutional leadership has an opportunity to examine processes for encouraging fair interpersonal treatment and distribution of opportunities and influence. Leadership can play a mediator role in the interpersonal integration of diverse employees and confirm that the admission of the individual occurred through fair practices (32,36,37). Transparency around systems developed for fair distribution of opportunities also serves to reassure the members of the majority group that they are similarly valued and will not be subject to "reverse discrimination." While exclusion affects minority group members, any potential disputes that arise in response to initiatives meant to address exclusion of certain groups can affect all members of the workforce and stall headway on DEI initiatives (38). Deliberate solicitation of diverse voices, including those of majority group members, can help ensure success in DEI efforts.

### Allies as Champions of Belonging and Challengers of Groupthink

When institutions begin the work of recruiting an employee from a background underrepresented in medicine, it is beneficial to shore up employee support prior to onboarding. Deliberate thought should be given to connect the new employee with invested professional and personal mentors in the department. Providing residents with multidisciplinary support, mentorship, and evaluation can help influence successful retention. Interactions with same-race faculty has been identified as significantly contributing to the satisfaction of

students from minority backgrounds at large institutions (this mentorship could be cross departmental) (39). Issues identified by individuals from minority groups or their allies can be handled by central committees outside the department in question. All allies can participate in providing knowledge on implicit and explicit aspects of institutional culture, sharing necessary skills and advice, and providing emotional connection (3,13,40–42).

### CASE STUDY 3: CHALLENGE OF ASSIMILATION

Resident A was foreign born and immigrated to the United States as a child. Upon arrival at her residency program, they were told by the PD and attending physician that her name was too difficult to pronounce and told, “Why don’t we just call you Jane.” During rotations, the resident was repeatedly introduced to patients as “Jane” while every other physician was introduced as “Dr. [last name]”. She was frequently mistaken for another resident from the same minority group, and she received an end-of-rotation evaluation with the other resident’s name. After coworkers in the breakroom told Resident A that her lunch smelled “funny” and asked if she could stand to smell that in her own home, Resident A switched to bringing sandwiches or spending money in the cafeteria to purchase a more acceptable lunch. The team in the reading room had a game of mocking foreign names, some of which were names common to Resident A’s culture, but she remained quiet or smiled. When the department planned to launch an outreach initiative to reach immigrants in the community, Resident A did not offer input, despite her experience as an immigrant from the same culture. The initiative petered out without achieving its strategic goals.

### STRATEGY 3: OVERCOMING ASSIMILATION

In this case, the individual experienced low belonging and low authenticity. When individuals perceive their authentic self and modes of expression as different from the group and react by burying their typical behavior and adopting group norms, the individual demonstrates “assimilation.” The individual trades authenticity for belonging. While this provides uniformity in the group and the safety of belonging, this is not true inclusion because parts of the individual have been suppressed.

Cultural assimilation is gravitation toward and blending in with a mainstream culture. While this occurs to differing degrees with continued exposure to a particular culture, a workplace that deliberately withholds belonging when individual or subgroup authenticity is displayed hampers diversity efforts and reduces the potential benefits of having diverse voices (43).

#### Addressing Diversity-for-Assimilation

When institutions set a single, rigid standard for professionalism and advancement (usually based on the mainstream

culture), they inadvertently promote a culture that values uniformity rather than true inclusion. The members of subgroups are valued by the extent to which they adopt the implicit and explicit cultural norms common to their majority colleagues. Women are told to “think like a man,” and candidates are told to “fake it until you make it.” There are aspects of professionalism that should indeed remain sacrosanct, such as punctuality and patient safety; however, a critical view should be taken to professional expectations which could include topics like dress codes and facial hair which may inadvertently cause conflicts for individuals with financial or religious considerations. When a group of diverse individuals is hired only to be strictly reined into uniformity in appearance, speech, and cognition, a pattern of diversity-for-assimilation has occurred. In this scenario, uniformity of thought and hesitation to counter groupthink in problem-solving implies that assimilation that has extended to uniformity. When an idea is disparate but not disrespectful or disruptive, it bears careful consideration outside a pressured meeting environment. In the process of encouraging diverse voices, consider giving people a chance to have a “meeting outside the meeting” where they may safely share unique opinions with the leaders. Demonstrating respect for opinions different from the mainstream generates a gradual cultural move toward including diverse voices in decision making.

#### Differential Use of Formality

Physicians from diverse backgrounds may have last names that seem unusual to members of the majority group, and thus the default becomes to address them by their first name or (as in this case), a made-up new first name. Studies have shown that there is selective use or underuse of formal titles for certain groups compared to their similarly titled colleagues, which commonly affects female physicians (44). Oluabunwa writes that failure to learn the distinct names of our colleagues could increase the likelihood of underuse of formality, increase isolation of these professionals and potentially hamper their perceived competence and readiness for career advancement (45).

#### Addressing Name-Based Microaggressions

The name of an individual, whether by birth, by marriage, or after transition, is central to their identity; accepting and using it is a fundamental part of allowing authenticity and creating belonging. With increasing diversification in our radiology workplace will come names that may be unfamiliar to the hearers in a particular workgroup. There is a common convention to shorten all “difficult” last names to the first letter; however, renaming people strips them of their fundamental identity. While a radiologist may introduce themselves this way for patient comfort, this convention could cause confusion between multiple “Dr Os” and underestimates the ability of teams to broaden their knowledge of other cultures and pronunciation (45). Increasing globalization means that the

radiology teams could conceivably be exposed to patients from those varied cultures, who deserve the respect of being identified appropriately. Part of creating an inclusive environment is enacting individual and institutional policies to address name-based microaggressions.

Individuals with names that are unfamiliar to their colleagues are encouraged to take ownership of the situation by respectfully indicating how they would like to be addressed. They should take the lead in introducing themselves with the pronunciation of their last name to help the team and patients. For the team, the Ask, Learn, Practice technique can be implemented upon first introduction to the staff member, giving the team an opportunity to practice the name in a safe, unpressured environment (45).

#### CASE STUDY 4: INCLUSION

Resident S was a member of a religious minority group which is identifiable by dress style. The PD expressed interest in learning more about their worldview and, based on their quick friendship, took them under their wing as a mentee. They had regularly scheduled walking coffee breaks until Resident S admitted they had difficulty walking long distances due to a physical impairment. They switched to lunch meetings. The PD connected Resident S with research mentors who held similar research interests. Learning that they did not have family nearby, the PD invited Resident S to her family's holiday celebration and welcomed their suggestion to bring a traditional dish. The PD poured them a glass of wine, only realizing in retrospect that they did not drink alcohol and promptly apologizing. The PD had a chance to witness the interactions of Resident S with the multigenerational and multicultural group at the gathering and became aware of the resident's significant emotional intelligence and cultural humility. Following this, the PD invited Resident S to join the patient experience committee to provide insight on patient-centered institutional programs. Resident S eventually became faculty at the institution and was instrumental in recruiting underrepresented minorities for residency and faculty positions.

#### STRATEGY 4: EMPHASIZING INCLUSION

True inclusion incorporates high belonging and high authenticity.

##### Celebrating Intersectionality

Everyone is made up of unique components and may be susceptible to discrimination or marginalization on one or more traits (e.g., sexual orientation, age, physical ability, race, class). Individuals are multidimensional, and persons from groups underrepresented in medicine often have other traits in common with members of the majority groups. Similarly, for persons from the majority group, some of the areas in which they belong to minoritized subgroups may be invisible, but

building an inclusive environment creates more safety in revealing dimensions of their person.

This intersectionality, when included safely, also allows them to participate in innovative problem-solving that may benefit the institution (21).

##### Cultural Humility

This case embodies cultural humility defined as “a lifelong process of self-reflection and self-critique whereby the individual not only learns about another's culture, but starts with examination of [one's] own beliefs and cultural identities” (46). While cultural competence implies expertise, cultural humility identifies the need for ongoing self-awareness and education to improve personal and professional relationships.

This case embodies principles of authentic inclusion where in-group members provide acquaintance, assistance, and association with new, different, or vulnerable workforce members (16,29,32,42).

*Acquaintance:* With an emphasis on growth and curiosity, take time to learn about the culture of the individual. With the hierarchical nature of academia, it could be difficult for a junior colleague to repeatedly act as a teacher to a senior colleague. This learning should ideally occur from different sources and not be dependent on the new hire to divulge.

*Assistance:* Provide constructive advice in navigating department and organizational culture. This assistance can take many forms, including shared traits (like first-generation graduates' discussing handling of student loans) but could grow into more tricky advice on the hidden curriculum, e.g., “Dr. G likes to read out earlier than everyone else, so make sure your reports are ready an hour earlier.”

*Association:* Stand with colleagues in times of injustice by seeing their experiences as growth opportunities for the department. Allies can make introductions to others, endorsing them. With continued association, it becomes easier to incorporate their life with yours and to consider their preferences in communication, socialization, and personality. In this way, members from different minority groups as well as majority groups can remain connected to the organization.

#### CONCLUSION

Belonging is associated with occupational and academic success, better social relationships, better physical and mental health (47). Organizationally, it is known that multicultural teams perform more effectively in problem solving (18,48). While everyone has a need to belong, studies indicate that this need is particularly evident in individuals from minority subgroups and may be increasing for all workers since the covid-19 pandemic (20,47,14,49). Inclusion practices can improve organizational DEI efforts (greater employee engagement, retention, and innovation) (15) and mitigate radiologist burnout (14).

While typical diversity training can be off-putting to members of a majority group who may feel left out of the

conversation, inclusion involves every team member and acknowledges aspects of their background that may be previously unrecognized in the workplace. Diversity and inclusion are complex issues which by definition involve everyone; therefore, a multicultural and multifactorial approach is necessary for sustained efforts. Also, since inclusion is a self-managed approach to building workplace understanding, it may be better received than institution mandated trainings (40,50).

With Generation Z (born 1997 and later), the most diverse age group in history, now entering or already in residency, it is important to consider the workplace practices that attract and retain talented individuals (51). Deliberate organizational inclusive practices have the potential to benefit all members of the organization.

We acknowledge that this manuscript and these cases cannot encompass all cases of lack of inclusion; however, we hope to generate attention to the issue and spur conversation.

## KEY TAKE-AWAY POINTS

1. Creating inclusion in academic spaces can help diversify radiology by improving retention and subsequent recruitment of individuals from diverse backgrounds.
2. Dedicated attention to inclusion by increasing belonging and authenticity will increase retention of a diverse workforce and extract its benefits.
3. By improving inclusion, there can be increased contributions from all team members toward organizational goals.
4. Awareness, knowledge, and skills for inclusion are needed in the radiology workplace.

## AUTHOR CONTRIBUTIONS

All authors substantially contributed to the conception or design of the work, writing and/or revision of the manuscript, approved the final version of the manuscript, and agree to be accountable for the manuscript's contents and substantially contributed to writing and/or revision of the manuscript.

## ACKNOWLEDGMENTS

Funded in part by the Vanderbilt Radiology Department of Radiology Diversity, Equity, and Inclusion Endowment. The authors thank our trainees, mentees and colleagues who have shared personal stories; and the “firsts” and “onlys” who have created space for us to be radiologists. The authors would like to thank the MD Anderson RML for assistance with editing.

## FUNDING

Vanderbilt Radiology Department of Radiology Diversity, Equity, and Inclusion Endowment

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