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Brief Opinion

Increasing Diversity in Radiation Oncology: A Call to Action

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Oncologic care in the United States is characterized by 2 well-documented observations. The provider workforce does not reflect the diversity of the population served, and patient outcomes are generally worse among the underrepresented population.[1] To the extent that the former contributes to the latter, both overtly and indirectly, efforts to promote a broader representation within the oncology workforce may, in turn, influence outcomes in vulnerable and underserved communities.

Radiation oncology is a relatively small specialty, which in some ways magnifies the lack of diversity in our racial/ethnic, socioeconomic, and sex composition. Black and Hispanic individuals comprised approximately 15% of the radiation oncology applicant pool in 2010, with an even starker gap among radiation oncology residents and practicing radiation oncologists, at 7% within each group.[2] These proportions significantly diverge from the US population, where 31% identify as Black or Hispanic.[3] The pool of US medical students from which the majority of our radiation oncologists derive similarly fails to reflect the demographics of the US population, which suggests that part of the challenge is a pipeline issue.

Furthermore, the lack of socioeconomic diversity among medical students underscores how significant inequality in parental income (and consequently educational debt levels) among students from minority backgrounds can perpetuate the cycle of underrepresentation in medicine.[4] Even once in medical training, financial stressors can pose a barrier for some students given the long and arduous journey toward a career in oncology, which contributes to socioeconomic imbalances in our workforce. Finally, only 1 quarter of practicing radiation oncologists are women,[2] which, rather than reflect the sexual parity of medical school graduates seen for nearly 2 decades, better reflects medical school demographics in the 1970s.[4]

In the coming decades, cancer incidence is expected to increase, and improving treatments will lead to an expanded survivor population. Therefore, as we strive to meet the needs of our growing patient population, we can work toward a more diverse workforce. This task is immense and involves every level of the education and training process. Significant resources are, and likely will continue to be, devoted to increasing diversity at the medical school level. The success of these initiatives, particularly in closing the gender gap,[4] suggests that these investments can result in a meaningful change, and radiation oncologists can be poised to act on this growing opportunity to enhance diversity within our field.

Residency represents the entry way into our specialty, and therefore an ideal target to effect change. The purpose of this article is to propose potential strategies to improve diversity in radiation oncology, focusing on the resident selection process.

Preinterview

1. Predefine residency applicant evaluation criteria, and in particular "fit"

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Consider defining evaluation criteria, and the respective weights given to those criteria, before beginning the applicant selection process. In particular, "fit," if left ill-defined, may lead to a bias toward individuals who have similar backgrounds compared with those already in the department, even when those similarities are irrelevant to the job.[5]

2. Directly reach out to promising candidates from underrepresented backgrounds

Underrepresented students are less likely to apply for high-status jobs or education opportunities compared with their similarly qualified counterparts.[6] Yet, evidence suggests that directly reaching out to high-achieving students to encourage them to apply can meaningfully increase application rates.[7]

Consider directly reaching out to all promising candidates, particularly those from underrepresented backgrounds, to encourage them to apply. In addition, establishing a Diversity Search Advisor (https://www.med.upenn.edu/inclusion-and-diversity/advisory-program.html) may help support outreach to diverse applicants.

Applicant Evaluation

1. De-emphasize the value of away rotations and resulting faculty letters of recommendation

A heavy reliance on letters of recommendation from individuals who are known and respected in our field may advantage those with the resources to complete multiple away rotations. As a small and highly competitive field, a thoughtful and honest letter from almost any radiation oncologist likely has the potential to provide a high-value assessment of an applicant. As away rotations do provide important educational value, consider establishing programs to offset the costs and logistical challenges (www.allianceofminorityphysicians.org/penn-urm-visiting-clerkship-program.html).

2. Blind the review process

Knowledge of an individual's sex, minority status, or even immigration status can bias the evaluation of other aspects of an application.[8] One solution is to blind application reviewers to these parts of an application. For example, the quality of an individual's research scholarship can be evaluated blinded to the applicant's sex, race, ethnicity, and picture.

3. Separate application components and comparison of candidates within a category

Reviewers' evaluation of a candidate depends heavily on what they assess first.[9] If a reviewer first observes that an applicant obtained a degree from a prestigious institution, that fact may influence the evaluation of other unrelated components of the application, such as the candidate's essay or research scholarship. Best practice suggests that evaluating key aspects of the application separately, and comparing candidates within a category, reduces bias compared with evaluating one full application packet and then moving to the next.[9]

Interview and Final Decisions

1. Incorporate structured interviews with standardized questions

Structured interviews with prespecified questions that are used for all candidates have been shown to better predict performance and decrease biases compared with unstructured interviews.[10] The incorporation of structured interviews into a portion of the applicants' interview day may also aid in more direct comparisons between applicants.

2. Rank candidates based on the prespecified criteria.

Final decisions are subject to many biases and therefore can undermine an otherwise rigorous process. Evaluation criteria may have been thoughtfully prespecified, but decision makers may revert to the comfort of maintaining the status quo, or making a decision based on a limited number of traditional metrics (eg, test scores).

Decision makers may also search for evidence that confirms their initial gut reaction to a candidate rather than weighing all evidence as planned. A commitment to scoring candidates based on the prespecified criteria is essential. The score-produced ranking should be considered the default selection tool in final decisions rather than a suggestion.

Summary

Increasing diversity is a key challenge that faces our field and medicine in general. A tension is commonly thought to exist between recruiting the best candidates and increasing diversity. Yet, the existence and adverse impacts of implicit biases in recruitment are well established.[5,8–10] As such, many top-quality candidates may not reach interviews, nor be ranked as highly, if they are from a background that looks different than that of the typical student.

Although the diversity among practicing radiation oncologists is influenced by many factors, starting in early childhood education, the resident application process represents the gateway to our field, and is a checkpoint where we have a high degree of control. As diversity increases at the medical school level, we and our patients can be poised to benefit from the richer pool of applicants. If we are unable to make progress, our patients may

provide the ultimate feedback in the form of compromised (or suboptimal) therapeutic relationships with radiation oncologists who decreasingly reflect their personal backgrounds, values, and experiences.

Our intention is for this article to provide evidence-based implementable strategies to increase diversity in radiation oncology. In addition, we hope that the article will stimulate further introspection and discussion regarding the value of diversity in our field. Although the leadership of radiation oncology departments ultimately bears the responsibility to improve disparities within our field, all of us, regardless of ethnicity, sex, or background, have a role to play in improving the diversity in our workforce.

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