Trends in Socioeconomic Diversity Among Radiology Trainees: Barriers to Equity and Access

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Background

Patients experience better treatment adherence and outcomes with demographically similar providers. Additionally, underrepresented physicians are more likely to serve underserved populations. Nevertheless, significant demographic disparities persist. Radiology, in particular, faces a shortage of physicians practicing in underserved, low-socioeconomic (SES) areas. This study explores SES representation among radiology applicants compared to the general applicant pool to address diversity concerns in the field.

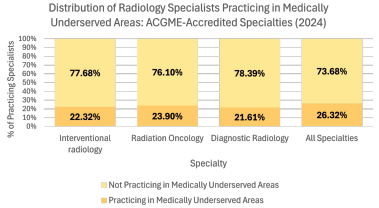


Figure 1: Percentage of radiology specialists practicing in medically underserved areas (MUAs) in 2024.

Methods

SES data from the NRMP's 2024 "Charting Outcomes" report included applicants to Interventional Radiology (IR), Radiation Oncology (Rad Onc), Diagnostic Radiology (DR), and all specialties (2022–2024), with a minimum requirement of 25 respondents per data point. The analysis focused on United States (US) MD/DO seniors, US MD/DO graduates, and US/non-US international medical graduates.

		"Yes"	"No"	"Don't Know/ Prefer Not to Answer"	Total
"Before you were 18, did you have to work to contribute to your family's income?"	IR	58	391	0	449
	Rad Onc	32	247	0	279
	DR	426	2748	99	3273
	All Specialities	11486	68355	2670	82511
"Was there ever a time when your family received money from government assistance programs?"	IR	64	368	30	462
	Rad Onc	34	230	0	264
	DR	528	2667	271	3466
	All Specialities	15087	66334	6748	88169
"Are you the first member of your family to graduate from college?"	IR	67	426	0	493
	Rad Onc	27	301	0	328
	DR	593	3063	47	3703
	All Specialities	16048	80270	1639	97957

Table 1: "Charting Outcomes" responses to questions assessing socioeconomic status.

Results

- Less than 1 in 6 applicants across all specialties came from low-SES backgrounds (2022–2024).
- Low-SES representation improved in the general pool (+9.2% childhood public assistance recipients) but stagnated or declined in radiology.
- Applicants with a history of using public assistance were significantly underrepresented in:
  - Diagnostic Radiology ($\chi2=8.50$, $p<0.0035$)
  - Radiation Oncology ($\chi2=5.38$, $p=0.0181$)
  - Interventional Radiology ($\chi2=5.72$, $p=0.0167$)
- First-generation college graduates were especially underrepresented in Radiation Oncology ($\chi2=18.15$, $p<0.0001$).

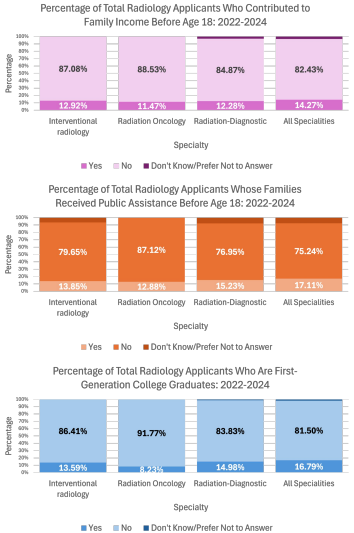


Figure 2: Socioeconomic characteristics of total radiology applicants during the 2022–2024 application cycles compared to all specialties.

Results (continued)

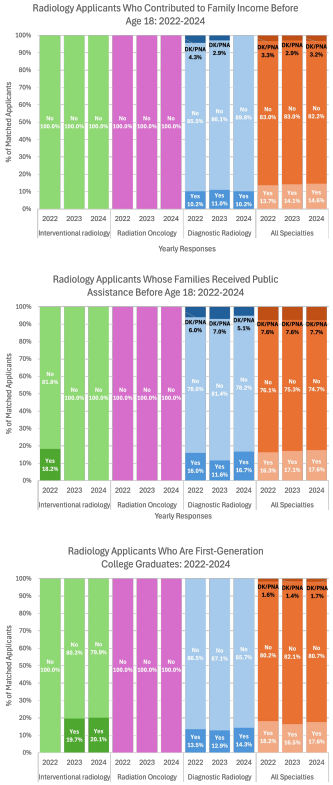


Figure 3: Socioeconomic characteristics of radiology applicants during each application cycle between 2022-2024 compared to all specialties.

Conclusion

Socioeconomic analysis of radiology applicants highlighted three major gaps that warrant attention to advance diversity and equity in the radiology workforce:

- ➔ Few applicants reported contributing to family income before age 18.
- ➔ Few radiology applicants reported childhood exposure to public assistance programs.
- ➔ First-generation college graduates were notably underrepresented, especially in Radiation Oncology.

Proven strategies from workforce diversity literature emphasize the importance of pipeline programs, mentorship, and targeted recruitment to address these disparities. Strengthening outreach to low-SES students, raising awareness of radiology as a career path, and expanding support systems throughout medical education are critical next steps.

Proposed Intervention:

Establish a mentorship and outreach pipeline for low-SES pre-med and medical students that provides tailored support to raise awareness of radiology, offer guidance, and strengthen career preparedness.

References

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