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Current Trends in Pre-Residency Research Productivity Among Applicants Who Successfully Matched Into Top Anesthesiology Residency Programs

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Introduction

Anesthesiology remains one of the most competitive medical specialties, driven by high average board scores and a significantly greater number of applicants than available positions. According to the 2025 National Resident Matching Program (NRMP) Main Residency Match Results, 3172 applicants vied for just 1992 residency spots with an overall match rate of 72.6%; in comparison, dermatology had a match rate of 79.9%, plastic surgery had a match rate of 85.5%, and orthopedic surgery had a match rate of 76.9%.[1] Anesthesiology has become increasingly competitive over recent years. Notably, the match rate for fourth year US allopathic medical students applying to anesthesiology declined from 90% in 2022 to 83% in 2023, followed by a further decrease of approximately 13% in the 2024 Match cycle.[1,2] Prior studies have shown the significance of objective components in the anesthesiology residency application, including US Medical Licensing Examination (USMLE) Step 1 scores, membership in the Alpha Omega Alpha Medical Honor Society, clinical performance evaluations, and completion of anesthesiology rotations at external institutions (away/visiting rotations).[3–7]

Although the applicant evaluation process is holistic—taking academic performance, clinical experience, and letters of recommendation into account—research productivity remains an important factor.

Therefore, establishing baseline data on research output in anesthesiology is essential for students, mentors, and program directors. This need is especially timely given the potential negative impact of the COVID-19 pandemic on research activity and productivity. Whereas the NRMP publishes annual Match data that outlines the average number of abstracts, presentations, and publications for matched and unmatched anesthesiology applicants each cycle, as well as total research experiences, it does not provide specific granular details such as first author status, subspecialty relevance, or level of involvement in each research project.[1] The available public data does not adequately analyze the broader patterns linking match rates with research publications across residency programs, nor does it offer guidance on how prospective applicants might strategically apply this information in future application cycles.

This study aims to analyze the temporal, gender, and geographical trends in publication type and volume by medical students who successfully matched into a top 20 anesthesiology residency program. Based on the trends seen in anesthesiology and other competitive specialties, we hypothesize that research output among students matching into top anesthesiology programs has substantially increased over time.

Materials and Methods

Study Population

To determine the top 20 anesthesiology programs, we utilized the **Doximity Residency Navigator**, which publishes an annual reputation ranking based on peer nominations from board-certified physicians/anesthesiologists across the United States. The methodology includes composite reputation scores derived from survey responses of more than 90 000 physicians, program size, alumni research output, and other metrics.[8] Table 1 provides a list of the top 20 anesthesiology programs, as determined by Doximity rankings from 2023 to 2024, that were utilized when examining both classes. Residents from the graduating classes of 2027 and 2024 at these top 20 programs were attempted to be identified from publicly available information on residency program websites. One program did not provide public data on residents and, therefore, was excluded from data analysis. Residents for whom relevant publication data was not publicly available or could not be independently verified were excluded from the final data set. Additionally, residents with PhDs were excluded from the analysis to avoid potential inflation of research productivity to better reflect trends among the broader applicant pool (20 from the class of 2027 and 19 from the class of 2024). A total of 388 residents from

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the class of 2027 and 361 from the class of 2024 were analyzed after exclusions. Fewer than 10% of total identified residents were excluded from each class during analysis (39 from the class of 2027 and 37 from the class of 2024) due to the inability to identify or verify their publication data using this methodology.

Data Collection

A structured literature search was conducted to assess the total research output of anesthesiology applicants who matched into the graduating classes of 2027 and 2024 at the nation's top 20 programs. To ensure only research completed prior to residency application submission was captured, all scholarly works published on or before September 15 of the applicants' fourth year of medical school were included.

Searches were performed using PubMed and Google Scholar by entering each applicant's first and last name as an author. Authorship was assigned when a publication could be clearly and reliably attributed to the applicant, such as through the institutional affiliation. All indexed abstracts, conference presentations, and peer-reviewed publications were included if published before the respective classes' Electronic Residency Application Service (ERAS) submission opening date

Potential article matches were further evaluated using the following criteria: (1) the presence of a coauthor who appeared on another verified publication by the applicant or (2) the presence of a corresponding or senior author affiliated with an institution known to be associated with the applicant.

For each applicant, the following were recorded: total number of publications (regardless of authorship position), number of anesthesiology-specific publications, and number of first and second author publications. Demographic information for all matched applicants, including gender, medical school, residency program and associated ranking, and PhD status, was collected. Gender was categorized as male or female based on 2 reviewers independently assessing the resident's name and photograph as listed on the program website. If no consensus was able to be made, a third reviewer was utilized. Medical school location was utilized to identify the geographic region out of which the applicant was based. Residency geographic region was also identified using the regions used for signaling by ERAS. These regions align with the US Census Bureau Divisions and include Mid-Atlantic, New England, East North Central, West North Central, South Atlantic, West South Central, East South Central, Pacific, and Mountain.

Statistical Analysis

Following data collection, applicant characteristics potentially associated with research productivity—including dual-degree status (MD/PhD) and geographic region of the medical school and residency—were compared against applicants without these attributes.

Comparisons between the total number of females and males represented in the 2027 and 2024 residency graduating classes were performed using a chi-square test of independence to assess categorical differences with statistical significance defined as $P < .05$.

Applicants with PhDs were omitted from the statistical analyses. Alpha was set at 0.05, and a Bonferroni correction was applied to adjust P values for multiple independent comparisons regarding publications for the classes of 2024 and 2027.

For continuous variables, a Mann-Whitney U test was used to evaluate differences between the 2027 and 2024 cohorts with significance after Bonferroni correction defined as $P < .0125$. Geographic comparisons based on medical school and residency program location were assessed using Kruskal-Wallis with a post hoc Dunn test, with $P < .002$ considered statistically significant after Bonferroni correction. Differences in the proportion of residents with at least one publication were compared between cohorts using a 2-proportion z test.

Results

Trends in Research Productivity

Temporal

A total of 388 anesthesia residents in the residency class of 2027 and 361 in the residency class of 2024 were identified for data analysis with demographics of the cohorts given in Table 2. Class of 2027 publications were compared with class of 2024 publications (Table 3). There were statistically significant increases in total publications, first author, and second author publications for the residency class of 2027 compared with the class of 2024 ($P < .01$) with observed increases in publications of 50.6%, 49.9%, and 51.2%, respectively (Table 3). There was no statistically significant increase in publications in anesthesiology-specific journals ($P = .27$) although the observed increase was 10.8%. Additionally, the proportion of residents with at least 1 publication was significantly higher among the 2027 cohort compared with the 2024 cohort (71.2% vs 51.2%) with absolute difference in proportions of 19.9% (95% confidence interval: 13.0%, 26.8%, $z = 5.55$, $p < .001$). The range of total publications per resident varied widely, spanning from 0 to 15 for the class of 2027 and from 0 to 37 for the class of 2024, reflecting significant variability in applicant research productivity within each cohort.

Gender

Among the top 20 anesthesiology residency programs in the United States, 184 (47.4%) residents analyzed from the class of 2027 are female, whereas 204 (52.6%) are male (Table 1). Despite a slight male predominance, chi-squared analysis demonstrated that this difference is not statistically significant when compared against a 50% female, 50% male class composition ($X^2 = 1.03$, $P = .31$). Mann-Whitney U testing was then performed to look for a disparity in preapplication research output between accepted female and male residents. No difference was observed in total publications as accepted females had an average of 2.91 ± 4.03 total research publications, whereas accepted males had an average of 2.08 ± 2.53 ($P = .06$). Of these publications, females averaged 0.17 ± 1.07 publications in anesthesiology journals, whereas males averaged 0.07 ± 0.41 ($P = .76$). Females had significantly higher first authorship with accepted females averaging 0.72 ± 1.09 first author publications, whereas

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males averaged 0.44 ± 0.82 first author publications ($P < .01$). Accepted females averaged 0.69 ± 1.15 second author publications, whereas males averaged 0.50 ± 0.99 ($P = .07$).

Geographic Region

The number of publications for the class of 2027 residents in medical school programs in the East North Central, West North Central, Pacific, New England, West South Central, East South Central, Middle Atlantic, Mountain, and South Atlantic were compared (Figure 1A). There was no significant difference in the total number of publications by class of 2027 residents based on the region of their medical school (Table 4, $P = .25$). There was also no significant difference in the number of publications in anesthesiology journals by class of 2027 residents based on the region of their medical school (Table 4, $P = .13$). There was no significant difference in the number of first author (Table 4, $P = .46$) or second author (Table 4, $P = .26$) publications by class of 2027 residents based on the region of their medical school.

Similarly, the number of publications for the class of 2027 residents in residency programs in the East North Central, West North Central, Pacific, New England, East South Central, Middle Atlantic, and South Atlantic were compared (Figure 1B). The West South Central and Mountain regions did not have a residency ranked in the top 20 programs. There was a significant difference in the total number of publications by class of 2027 based on the region of their matched residency program (Table 5, $P < .001$). Further analysis revealed significantly higher total publications in New England compared with the West North Central region and the South Atlantic Region (Table 5, $P < .001$). There was also a significant difference in the number of first author publications by the class of 2027 based on the region of their matched residency program (Table 5, $P < .001$) with significantly higher publications in residencies located in New England than West North Central. There was no significant difference in the number of publications in anesthesiology journals (Table 5, $P = .43$) or second author (Table 5, $P = .27$) publications by the class of 2027 residents based on the region of their matched resident program.

Discussion

This study aims to provide an accurate assessment of the research productivity of applicants who successfully matched into anesthesiology residency programs and to evaluate temporal trends in scholarly output. This topic is particularly relevant given the increasing competitiveness of anesthesiology residency positions as reflected by declining match rates among US allopathic seniors in recent years.

With the transition of the USMLE Step 1 to a pass/fail scoring system and more medical schools moving to have pass/fail grading systems, objective metrics traditionally used to differentiate applicants have become limited. As a result, other objective components of the application, such as research experience and research output in terms of number and type of publications, may gain significant prominence in the applicant evaluation process. Unfortunately, anesthesiology lacks comprehensive, specialty-specific data on granular details of applicant research productivity.

This study contributes a realistic baseline of publication volume among matched applicants and may offer valuable insight for both prospective applicants and residency program directors. The timing of this analysis also provides a unique opportunity to assess the potential impact of the COVID-19 pandemic on research output as the intern classes studied include cohorts from both prepandemic and postpandemic application cycles. Establishing a prepandemic benchmark will allow for meaningful future comparisons of how shifts in education delivery, clinical exposure, and research opportunities may have influenced scholarly productivity among applicants.

Most importantly, the mean total publication number was significantly greater for the residency class of 2027 compared with the residency class of 2024 (2.47 ± 3.35 vs 1.22 ± 1.95, $P < .01$). A prior study has shown that research productivity, as measured by the presence of peer-reviewed publications, did not significantly differ between matched and unmatched US medical graduates across age groups or educational backgrounds. Among applicants from both US and international medical schools, the correlation between number of publications and matching at top National Institutes of Health–funded programs was weak and not statistically significant with only a minimal overall inverse association ($P = -.08$, $p = .03$). These findings suggest that publication count alone may have limited predictive value in determining match success. We believe this study offers a more accurate representation of the anesthesiology residency application landscape by identifying temporal trends in research output. The class of 2027 demonstrated significantly higher total publication counts as well as greater mean numbers of first and second author publications compared with the class of 2024. These findings not only support a rising trend in research productivity over time but also underscore the increasing competitiveness of anesthesiology residency programs and the growing emphasis placed on research as a differentiating factor in the match process.

For applicants, this data highlights that research productivity is becoming an increasingly influential factor in distinguishing candidates, particularly as other numerical metrics are removed from applications, specifically USMLE 1. Applicants should aim to demonstrate both sustained scholarly engagement and meaningful authorship (eg, first or second author contributions) rather than focusing solely on publication quantity. For program directors, these results suggest that the average baseline research output of incoming residents has increased, and this may guide calibration of applicant expectations and assessment rubrics in future cycles.

Two large-scale studies have evaluated gender differences in anesthesiology residency match outcomes. A retrospective analysis of more than 47 000 applicants from 2011 to 2022 found that women were less likely to apply to anesthesiology programs than men but had similar odds of matching once they did apply.

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Similarly, an earlier study of 2010–2011 applicants reported slightly higher match rates for female applicants, suggesting that gender does not negatively impact match success in anesthesiology and may, in some cases, be associated with a slight advantage.[9–11] This study showed that there is a significantly higher amount of first author publications produced by females than their male counterparts in the class of 2027, reflecting strong scholarly productivity among females in this cohort. Nonetheless, our analysis inherently relies on publicly available data and name-based gender assignment, which introduces potential bias and limitations in accurately identifying gender and does not account for nonbinary or gender-diverse individuals. Future studies should seek to collaborate directly with programs or use anonymized applicant data to more accurately represent gender and diversity across applicant pools.

Analysis of regional publication trends among matched anesthesiology residents may provide valuable insight into geographic differences in competitiveness to further strategize residency applications. Our findings suggest that applicants matching into programs in traditionally competitive regions—such as the Northeast, which includes several top-ranked academic centers—tend to have a higher number of total publications and first author contributions. This aligns with previous studies showing that research productivity plays a larger role in highly competitive specialties and geographic locations, particularly in urban academic settings.[3,4] In contrast, the West South Central and Mountain regions are relatively underrepresented in Doximity's top 20 anesthesiology programs.[8] These trends imply that medical students who are targeting more competitive regions need to prioritize scholarly activity and seek early mentorship within research to stand competitive in the application selection process. Understanding such geographic trends is crucial as applicants often use program signaling to prioritize regions and can tailor their research productivity according to the competitiveness of their desired region.

Future research may also benefit from stratifying applicants by additional training background, such as MD versus DO degree status, dual-degree status (MD/PhD, MD/MPH, MD/MS), or participation in formal research tracks or scholarly concentrations. These distinctions could clarify whether structured research curriculum or institutional resources offer measurable advantages in applicant productivity. Including such variables would allow for a more comprehensive analysis and potentially reveal systemic disparities in research access and mentorship across medical schools.

This study has several limitations. First, our analysis was limited to the top 20 anesthesiology residency programs as defined by Doximity 2023–2024 rankings, representing approximately the top 11% of programs nationwide, rather than encompassing all accredited anesthesiology programs. This approach is consistent with methodologies used in previous studies examining applicant characteristics in other competitive specialties, such as ophthalmology, urology, and otolaryngology.[12–14] Our intent was to provide meaningful data on research productivity at highly sought-after programs for the benefit of applicants, mentors, and program directors. Second, due to the retrospective nature of our methodology, data collection relied on publicly available sources, including institutional websites listing matched applicants. If such information was not published or otherwise verifiable, those programs or applicants were excluded. Similarly, our reliance on public databases only allowed us to account for published research, meaning we could not adequately account for conference abstracts and presentations. Third, this database does not account for applicants who may have applied more than once in the Match cycle, allowing for additional publications during research years, gap years, or during pursuits of additional degrees such as an MPH. Only known PhD students were omitted from the statistical analyses. Fourth, the methodology used to identify gender of applicants can potentially lead to bias and misgendering of applicants. The categorization utilized in this study also does not account for nonbinary individuals. Fifth, conference presentations that could not be verified by Google Scholar or PubMed were not included in this data set. Many applicants may have had presentations that did not lead to publications prior to submission of applications. This may lead to an overall lower projection of the total research output of an applicant in comparison to NRMP reporting averages.

It is also worth noting that the NRMP does not release detailed research output data distinguishing matched from unmatched anesthesiology applicants. That is, whereas total research output for matched and unmatched applicants is contrasted, this number combines abstracts, presentations, and publications into 1 number with equal weight assigned to each. It also fails to distinguish authorship position (eg, first author) or assess the relevance of the research to the specialty, such as whether an anesthesiology applicant's work was published in an anesthesiology journal versus a journal from another medical specialty. Therefore, this study does not assess whether research productivity is predictive of a successful match but rather offers a descriptive analysis of trends among matched applicants at top programs.

In addition, this study relied on raw publication counts as a proxy for research productivity without accounting for factors such as publication impact, journal prestige, and number of citations. Whereas prior studies have examined these metrics, we chose to focus on total publication volume to facilitate clear temporal comparisons. Future studies may explore the qualitative impact of research contributions, including distinctions between abstracts, conference presentations, and peer-reviewed publications. Last, there is no universally accepted or objective method for ranking residency programs. Future studies may explore alternate ranking systems or even consider analyzing publications at all Accreditation Council for Graduate Medical Education accredited anesthesiology programs.

Conclusion

As the anesthesiology residency match

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becomes increasingly competitive, objective metrics such as research productivity are likely to play a larger role in the evaluation of applicants, particularly in the context of the USMLE Step 1 transition to pass/fail scoring. Our analysis demonstrates a temporal increase in research output among matched applicants at top anesthesiology programs, particularly among those from non–top 20 medical schools and applicants without dual-degree (MD/PhD) status. These findings suggest a growing emphasis on scholarly activity, highlighting research productivity as an additional strength that applicants may leverage to distinguish themselves.

Whereas research output alone does not determine Match success, this study provides a realistic benchmark for research productivity and may inform both applicants and program directors. As the landscape of medical education continues to evolve—particularly in the wake of the COVID-19 pandemic—ongoing evaluation of the factors influencing residency match outcomes will remain essential.

References

1. National Resident Matching Program. 2025 main residency match results and data. Accessed March 21, 2025.
2. National Resident Matching Program. NRMP's 70th anniversary—2023 main residency match and SOAP results webinar. Accessed May 12, 2024.
3. de Oliveira GS Jr, Akikwala T, Kendall MC, et al. Factors affecting admission to anesthesiology residency in the United States: choosing the future of our specialty. *Anesthesiology.* 2012;117(2):243-51.
4. Hofkamp MP, Saddawi-Konefka D, Teeter EG, et al. Identification, characterization, and ranking of candidate metrics for selection to anesthesiology residency: an iterative survey of program directors. *J Educ Perioper Med.* 2024;26(2):E724.
5. Pendergrast T, Wolpaw J, Hofkamp MP. Identification of candidate characteristics that predicted a successful anesthesiology residency program match in 2024: an anonymous, prospective survey. *J Educ Perioper Med.* 2024;26(4):E732.
6. Shah S, Con J, Mercado L, et al. Predictors of matching into anesthesiology and surgery: analysis of one program's results. *J Surg Educ.* 2023;80(9):1231-41.
7. Love ER, Dexter F, Reminick JI, Karan SB. Reducing over-interviewing in the anesthesiology residency match. *Cureus.* 2021;13(8):e17538.
8. Doximity. Doximity Residency Navigator – anesthesiology programs 2024. Accessed May 12, 2025.
9. Kowalski A. The impacts of gender disparity in residency matching. *JAMA Netw Open.* 2020;3(11):e2028161.
10. Arthur ME, Aggarwal N, Lewis S, Odo N. Rank and match outcomes of in-person and virtual anesthesiology residency interviews. *J Educ Perioper Med.* 2021;23(3):E664.
11. Sumarli AN, Pineda LS, Vacaru A, et al. Diversity, equity, and inclusion in US anesthesiology residency matching. *Anesth Analg.* 2024;139(5):913-20.
12. Dhanda AK, Ward B, Warren CJ, et al. Reporting of research by matched otolaryngology residency applicants. *Ann Otol Rhinol Laryngol.* 2021;130(2):133-5.
13. Warren CJ, Wisener J, Chang C, et al. PubMed-indexed research productivity of students matching at top urology programs: 2017–2020. *Urology.* 2020;144:52-8.
14. Zhou B, Srinivasan N, Nadkarni S, et al. Current trends of research productivity among students matching at top ophthalmology programs. *J Acad Ophthalmol.* 2022;14(1):e133-40.

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Abstract

Background: Anesthesiology has become increasingly competitive with 3172 applicants for 1992 positions in the 2025 Match. While selection is holistic, research remains a key factor. Current Match data lacks detail on research output. This study analyzes temporal, gender, and geographic trends in publication volume among medical students who matched into the top 20 US anesthesiology programs.

Methods: Using Doximity's rankings, we identified the top 20 anesthesiology programs. A total of 447 residents from the 2027 graduating class and 414 from the 2024 graduating class were able to be identified through program websites. Total, first author, second author, and anesthesiology-specific publications were collected using PubMed and Google Scholar. Gender, medical school region, and residency program region were also identified for analyses.

Results: Class of 2027 residents had significantly more total (2.47 vs 1.22), first author (0.57 vs 0.29), and second author (0.59 vs 0.29) publications than those from the class of 2024 ($P < .01$). No difference was found in anesthesiology-specific publications ($P = .27$). Among 2027 residents analyzed, there were significantly higher first author publications among females than males (0.72 vs 0.44, $P < .01$), and there were no significant differences based on medical school region. There was a significant difference in the total number and first author publications based on the region of their matched residency program ($P < .001$) with significantly higher total publications in New England compared with the West North Central region ($P < .001$).

Conclusion: Research productivity increased between the graduating cohorts of 2024 and 2027, reflecting a growing emphasis on research among applicants to top anesthesiology programs. These may inform future applicants preparing for the Match.

Keywords: Research output, research productivity, anesthesiology residency, publications

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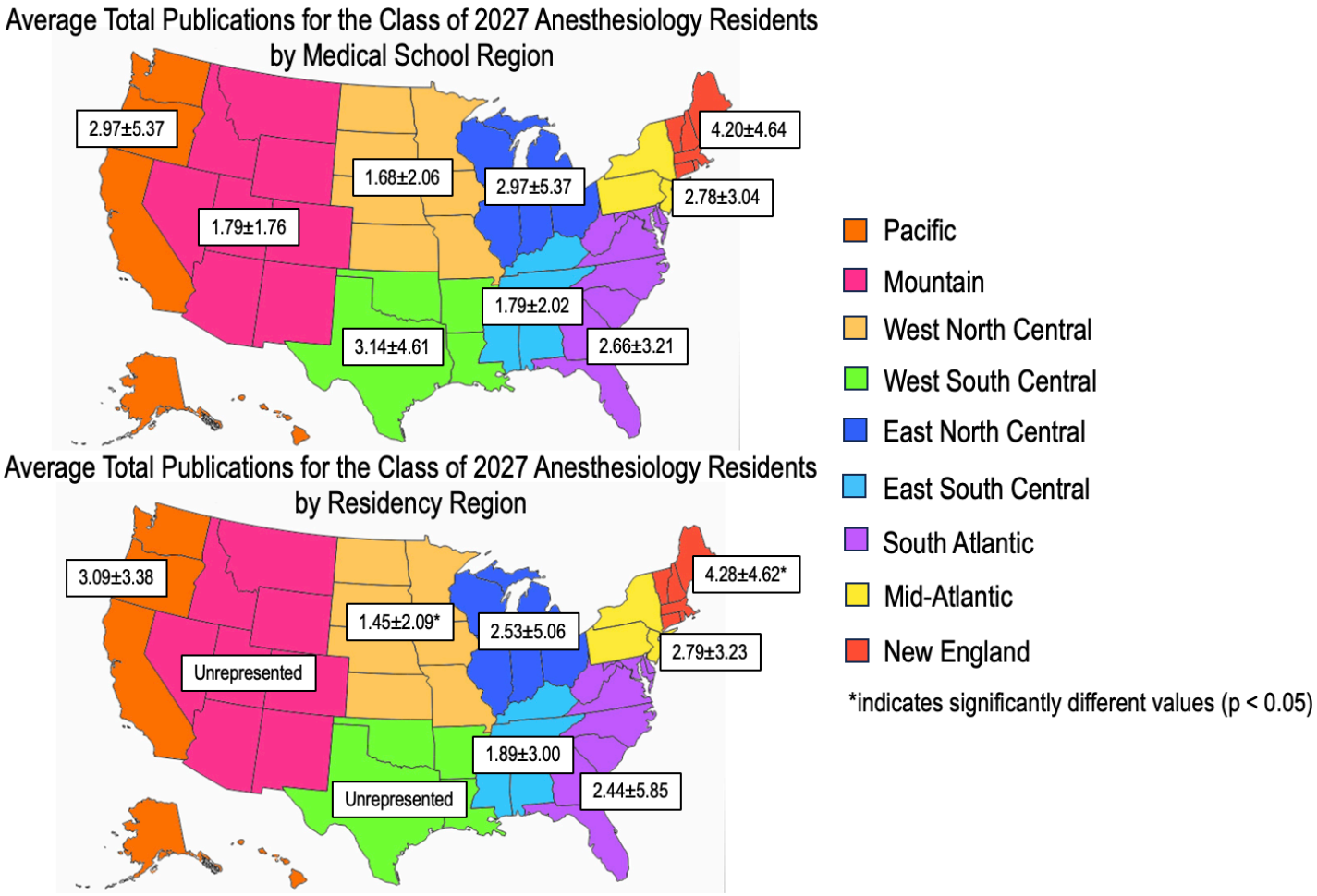
Figure

Figure 1. Average total publications for the class of 2027 by geographic region.



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Tables

Table 1. *Top 20 Anesthesiology Programs as per Doximity 2023–2024 Rankings*

Ranking	Anesthesiology Program	Class of 2027 Size	Class of 2024 Size
1	Massachusetts General Hospital	26	25
2	University of California, San Francisco	25	26
3	Brigham and Women's Hospital	25	24
4	Stanford University	28	25
5	Duke University	13	11
6	Johns Hopkins University	29	28
7	Penn Medicine (University of Pennsylvania)	24	20
8	University of Michigan Medical School	26	28
9	Mayo Clinic College of Medicine and Science-Rochester	18	8
10	University of California, Los Angeles	27	22
11	McGaw Medical Center of Northwestern University	23	19
12	Vanderbilt University Medical Center	20	18
13	New York Presbyterian-Columbia	26	27
14	NYU Grossman School of Medicine	Not available	Not available
15	Washington University of St. Louis Medicine	22	21
16	Cleveland Clinic	22	22
17	University of Pittsburgh Medical Center	20	17
18	University of Washington Medicine	26	27
19	Icahn School of Medicine at Mount Sinai	26	26
20	New York Presbyterian–Cornell	20	20

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Tables *continued*

Table 2. *Overall Demographics of Analyzed Residents From the Class of 2027 and the Class of 2024*

	***n* (%)**		**Statistical analysis**	
Demographics	Class of 2027	Class of 2024	χ^2	*P* value
Overall	388	361		
Sex				
Male	204 (52.6)	194 (53.7)	0.10	.75
Female	184 (47.4)	167 (46.3)		
Geographic Region of Attended Medical School				
Mid-Atlantic	84 (21.8)	84 (27.5)		
New England	33 (8.6)	22 (6.6)		
East North Central	81 (21.0)	77 (23.1)		
West North Central	29 (7.5)	14(4.2)		
South Atlantic	61 (15.8)	47 (14.1)	23.82	< .001
West South Central	21 (5.5)	22 (6.6)		
East South Central	19 (4.9)	9 (2.7)		
Pacific	44 (11.4)	36 (10.8)		
Mountain	13 (3.4)	9 (2.7)		
IMG	0 (0)	13 (3.9)		
Geographic Region of Matched Residency Program				
Mid-Atlantic	107 (27.6)	106 (29.3)		
New England	40 (10.3)	43 (11.9)		
East North Central	63 (16.2)	60 (16.6)		
West North Central	37 (9.5)	16 (4.4)		
South Atlantic	9 (2.3)	27 (7.5)	51.16	< .001
West South Central	0 (0)	14 (3.9)		
East South Central	19 (4.9)	0 (0)		
Pacific	113 (25.4)	95 (26.3)		
Mountain	0 (0)	0 (0)		

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Tables *continued*

Table 3. *Temporal Analysis of Publications for the Class of 2027 and the Class of 2024*

Publication Metric	Mean ± SD		Statistical Analysis
	Class of 2027	Class of 2024	*P* value
Total publications	2.83 ± 3.81	1.22 ± 1.95	< .001
Anesthesiology journal publications	0.12 ± 0.79	0.11 ± 0.45	.2685
First author publications	0.57 ± 0.97	0.29 ± 0.75	< .001
Second author publications	0.59 ± 1.08	0.29 ± 0.68	< .001

Table 4. *Geographical Analysis of Publications by Medical School Region for the Class of 2027*

	Mean ± SD								Statistical Analysis
Publication Metric	East North Central	East South Central	Middle Atlantic	New England	Pacific	South Atlantic	West North Central	Mountain	West South Central	*P* value
Total publications	2.63 ± 4.65	1.58 ± 1.87	2.57 ± 2.88	3.55 ± 4.20	2.70 ± 3.02	2.46 ± 2.84	1.45 ± 1.55	2.00 ± 1.91	2.19 ± 3.11	.25
Anesthesiology journal publications	0.28 ± 1.58	0.05 ± 0.23	0.07 ± 0.30	0.33 ± 0.92	0.05 ± 0.21	0.02 ± 0.13	0.03 ± 0.19	0.15 ± 0.38	0.00 ± 0.00	.13
First author publications	0.54 ± 1.06	0.42 ± 0.69	0.48 ± 0.81	0.61 ± 1.12	0.68 ± 0.96	0.77 ± 1.12	0.59 ± 0.87	0.31 ± 0.48	0.62 ± 1.07	.46
Second author publications	0.62 ± 1.09	0.42 ± 0.69	0.67 ± 1.08	0.85 ± 1.44	0.70 ± 1.29	0.66 ± 1.12	0.21 ± 0.49	0.31 ± 0.48	0.38 ± 0.92	.26

Table 5. *Geographical Analysis of Publications by Residency Region for the Class of 2027*

	Mean ± SD							Statistical Analysis
Publication Metric	East North Central	East South Central	Middle Atlantic	New England	Pacific	South Atlantic	West North Central	*P* value
Total publications	2.49 ± 5.09	1.89 ± 3.00	2.51 ± 2.76	3.63 ± 3.74	2.67 ± 2.92	0.44 ± 0.53	1.24 ± 1.69	< .001
Anesthesiology journal publications	0.30 ± 1.68	0.00 ± 0.00	0.03 ± 0.17	0.23 ± 0.86	0.12 ± 0.54	0.00 ± 0.00	0.05 ± 0.23	.43
First author publications	0.44 ± 1.07	0.32 ± 0.48	0.49 ± 0.78	0.93 ± 1.07	0.77 ± 1.22	0.22 ± 0.44	0.30 ± 0.70	< .001
Second author publications	0.54 ± 0.98	0.68 ± 1.25	0.57 ± 2.76	0.80 ± 1.14	0.69 ± 1.22	0.11 ± 0.33	0.32 ± 0.67	.27