

Perceptions and Priorities Among Anesthesia Program Directors Evaluating Residency Applications

Alexander Glehan MS¹, Farzana Afroze MD²

¹Albany Medical College, Albany, New York ²Department of Anesthesiology, Albany Medical Center, Albany, NY, USA.

ABSTRACT

Objective: Anesthesiology is an increasingly competitive specialty with a growing number of applicants. This study explored criteria, metrics and opinions regarding application components used by anesthesiology program directors (PDs) to evaluate prospective residents.

Study design: Cross-sectional survey.

Methods: A 16-item anonymous questionnaire was designed using Qualtrics to survey anesthesiology PDs throughout the United States. The survey was administered between April and June 2024.

Results: We received 49 responses from PDs. Thirty-four (34/49 = 68.4%) PDs did not agree with United States Medical Licensing Examination (USMLE) Step 1 becoming pass/fail. Twenty-two programs (22/49 = 44.9%) employ a minimum Step 2 score to evaluate applicants. The 3 most important metrics used in evaluating applicants are as follows (mean; 1-10 Likert scale): signals (8.57), Step 2 score (7.55) and clerkship grades (7.35). All respondents (49/49 = 100.0%) reported that the competitiveness of their programs has increased within the last 5 years.

Conclusion: The importance of Step 2 has increased to help triage anesthesiology applicants. Applicants should focus on achieving at least a 240 on Step 2 to minimize their chances of being screened out by programs. PDs who disagreed with Step 1 becoming pass/fail placed greater emphasis on Step 2 scores. However, survey results indicate that signals may be as critical as Step 2 scores. Programs with more applicants or those that are highly ranked may fall into this category, and applicants must make sure to consider this when assigning signals. This survey was designed to guide medical students applying to anesthesiology residency.

CONTACT

Alexander Glehan
Albany Medical College
47 New Scotland Avenue, Albany, NY, 12208
glehana@amc.edu
914-356-6627

INTRODUCTION

- Yearly anesthesiology applications have grown from 2,937 in 2019 to 3,647 in 2024. Larger numbers of applicants have led to a decrease in match rates among both M.D. and D.O. students.
- Many PDs (program directors) cite Step 2 as the most important factor in both the initial screening and consideration of applicants to interview. This was driven by the transition of USMLE Step 1 to pass/fail. Other important factors cited specifically among anesthesiology PDs were research experience, letters of recommendation, country of medical education and quality of the Dean’s Letter.
- A majority of previous surveys of anesthesiology program directors were conducted prior to the implementation of a pass/fail Step 1.
- We aim to classify the importance of different anesthesiology application components. This information will serve as a guide for medical students on becoming the most well-rounded residency candidates in an increasingly competitive specialty.

METHODS AND MATERIALS

- A 16-item anonymous questionnaire was designed using Qualtrics to survey anesthesiology PDs based on criteria they use to evaluate residency applications.
- Physicians were presented with a series of questions that covered topics such as program location, type, ranking of various application components, opinion on a pass/fail Step 1 and cutoff scores for Step 2.
- We distributed our survey to PDs 3 times via email between April and June 2024 to maximize the number of responses.

REFERENCES

- Colleges AoAM. 2024 ERAS Residency Preliminary Report.
- Asghari A, Hines E, Mocharnuk J, Leis A, Wang ED. Update on the Selection Criteria of Plastic Surgery Residents: A Survey of Program Directors and Associate Program Directors. Ann Plast Surg. Feb 14 2024;doi:10.1097/SAP.0000000000003801
- Goshtasbi K, Abouzari M, Tjoa T, Malekzadeh S, Bhandarkar ND. The Effects of Pass/Fail USMLE Step 1 Scoring on the Otolaryngology Residency Application Process. Laryngoscope. Mar 2021;131(3):E738-E743. doi:10.1002/lary.29072
- Vinagre R, Tanaka P, Park YS, Macario A. Red Flags, Geography, Exam Scores, and Other Factors Used by Program Directors in Determining Which Applicants Are Offered an Interview for Anesthesiology Residency. Cureus. Nov 18 2020;12(11):e11550. doi:10.7759/cureus.11550
- 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. doi:10.46374/VoiXXVI_issue2_Hofkamp
- Murphy B. How the switch to pass-fail scoring for USMLE Step 1 is going. American Medical Association.
- Al Doori L, Zaki PG, Joshi V. Impact of USMLE Step 1 transition to pass/fail scoring system on medical students' anxiety, sleep quality, and burnout. Ir J Med Sci. Jul 02 2024;doi:10.1007/s11845-024-03738-x
- Trivedi UK, Maidjian PD. USMLE Step 2 CK Scores and Radiology Residency Applications: Does it Affect Diversity in Selection of Trainees? Acad Radiol. Oct 2023;30(10):2396-2400. doi:10.1016/j.acra.2023.05.035
- Fan RR, Aziz F, Wittgen CM, Williams MS, Smeds MR. A Survey of Vascular Surgery Program Directors: Perspectives following USMLE Step 1 Conversion to Pass/Fail and Virtual Only Interviews. Ann Vasc Surg. Jan 2023;88:32-41. doi:10.1016/j.avsg.2022.08.020
- Program NRM. Charting Outcomes in the Match: Senior Students of U.S. MD Medical Schools. 2022.
- Examination USML. USMLE Score Interpretation Guidelines.
- Colleges AoAM. Exploring the Relationship Between Program Signaling & Interview Invitations Across Specialties. 2024.

RESULTS

- We received 49 responses from program directors across the United States. The most common region was the East Coast, comprising 24 (24/49 = 49.0%) responses. Most programs were university hospitals (26/49 = 53.1%).
- Thirty-four (34/49 = 69.4%) program directors did not agree with Step 1 becoming pass fail. Applicants are often filtered out with a failing result (25/49 = 51.0%).
- Twenty-two programs (22/49 = 44.9%) employ a minimum USMLE Step 2 score to evaluate applicants. This score ranged from 220 to 240 (mean 230.8, median 230.0, mode 230.0).
- The 4 most important metrics used in evaluating applicants are as follows (mean; 1-10 Likert scale): signals (8.57), USMLE Step 2 score (7.55), clerkship grades (7.35) and involvement and leadership (6.98).
- Forty respondents (40/48 = 83.3%) are satisfied with the current number of signals.
- Over half of respondents (25/49 = 51.0%) report an increase in the use of screening thresholds (Step 2 score, research involvement) to filter applicants in the last 5 years.
- PDs acknowledge more stringent thresholds for DO’s and international medical graduates (IMGs) and a greater emphasis on signals. A minority of programs (18/48 = 37.5%) give preference to MD students when evaluating applications.
- All respondents (49/49 = 100.0%) report that the competitiveness of their programs has increased within the last 5 years.

PDs who disagree with Step 1 P/F (34/49 = 69.4%)

- The 4 most important metrics used in evaluating applicants were as follows: signals (8.97), USMLE Step 2 score (8.18), clerkship grades (7.62) and rank order from Dean’s office (7.23).
- This group was also more likely to report an increased use of thresholds to screen applicants over the past 5 years (20/34 = 58.8%), with 50% (17/34 = 50.0%) noting that they currently employ a threshold (range 220-240, mean 231, median 235, mode 235).

PDs who agree with Step 1 P/F (15/49 = 30.6%)

- The 4 most important metrics used in evaluating applicants were as follows: signals (7.67), involvement and leadership (7.50), letters of recommendation (7.13) and clerkship grades (6.73).
- These program directors were less likely to currently incorporate screening thresholds for applicants (5/15 = 33.3%; range 220-240, mean 230, median 230, mode 230).

CONCLUSIONS

- Our survey adopted a medical student-focused lens to directly assess which areas have the largest impact on matching in the current environment.
- We expanded on these studies to garner information on previously unpublished metrics such as Step 2 cutoffs to guide prospective applicants.
- We recommend further research in the coming years to better understand the impact of heightened competitiveness on anesthesiology applicant metrics and its effect on match rates, Step 2 scores and other qualifications.

DISCUSSION

- All surveyed PDs (49/49 = 100.0%) reported that the competitiveness of their programs has increased in the last 5 years.
- A majority of PDs (34/49 = 69.4%) did not agree with Step 1 becoming pass/fail. Over half of surveyed anesthesiology PDs (25/49 = 51.0%) reported that they screen out applicants with a failing result on Step 1.
- The implementation of a pass/fail Step 1 was intended to improve student well-being, yet these changes may have had the opposite effect. Nearly 75% of medical students reported heightened anxiety and decreased sleep quality in the period leading up to Step 1.
- Using Step 2 scores to rank applicants may also negatively affect diversity among residents. A review of radiology applicants found a significant difference in mean Step 2 scores among underrepresented minority (URM) and non-URM applicants. Only 29% of URM candidates achieved the target score of 250 compared to 54% of non-URM applicants. Similar trends were observed among urology applicants.
- In the time since Step 1 transitioned to pass/fail, there has been an increase in the use of screening thresholds (Step 2 score, research involvement) to rank applicants (25/49 = 51.0%). Rather than alleviating the impact of standardized testing, USMLE shifted the burden from Step 1 to Step 2.
- A survey of plastic and reconstructive surgery PDs found that a majority of respondents expect Step 2 scores to replace Step 1 in the evaluation of applicants. Surveys of vascular surgery and otolaryngology PDs revealed similar findings.
- To our knowledge, we are the first to present distinct cutoff Step 2 cutoff scores used by anesthesiology PDs. We found that the average cutoff was approximately 230, although scores ranged from 220 to 240. In 2022, the average Step 2 score for matched applicants in anesthesiology was 248 while the average for unmatched applicants was 231. Given that the average Step 2 score has increased from 247 to 249 during this period, scores for matched applicants have also likely increased.
- PDs consistently ranked signals as the single most important factor for applications. The signal to interview conversion rate for gold and silver signals was roughly 53% and 28%, respectively. On the other hand, programs that did not receive signals had a 3% interview rate.
- 16 PDs surveyed by Hofkamp et al. (2024) considered research as a moderately important factor (3.4 out of 5) in evaluating applicants. Matched applicants had an average of 6.6 abstracts, presentations and publications in 2022.

- PDs’ opinions change drastically among those that support the transition to a pass/fail Step 1. As noted above, these programs were less likely to use screening thresholds for applicants (5/15 = 33.3%) and they were lower when implemented (Step 2 mean 230, median 230, range 220-240 vs. Step 2 mean 231, median 235 and range 220-240).