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Original Research

Identification, Characterization, and Ranking of Candidate Metrics for Selection to Anesthesiology Residency: An Iterative Survey of Program Directors

Michael P. Hofkamp, MD, FASA
Daniel Saddawi-Konefka, MD
Emily G. Teeter, MD, FASA
George Guldan III, MD, FASA
Clinton Kakazu, MD
Brittany Maggard, MD, FASA
Ned Nasr, MD, FASA
Michelle Parra, MD
Arvind Rajagopal, MBBS
Kelly Ural, MD, FASA
Courtney Shaver, MS
Jed Wolpaw, MD, FASA

Introduction

Medical students contemplating a career in anesthesiology may be unaware of their competitiveness, which can affect their match success. In the 2022 match, there were 2691 applicants for anesthesiology and 1508 matches that corresponded to a match rate of 56.0%.[1] The subsequent year, 2959 people applied for anesthesiology and 1606 matched for a match rate of 54.3%.[2] Current understanding is limited regarding the specific metrics anesthesiology residency directors prioritize and how these metrics differentiate among varying levels of applicant competitiveness. Moreover, there is increasing awareness that diversity and equity are more likely to be achieved with holistic reviews of residency applications.[3] The Medical Student Education Committee of the Society for Education in Anesthesia received feedback from committee members that they had difficulty advising medical students on their competitiveness for a career in anesthesiology and it would be helpful to know what constituted well-qualified and not qualified candidates. Our study sought to identify and rank the metrics that determine anesthesiology applicant selection and to categorize candidates as "exceptional," "strong," "average," "marginal," or "uncompetitive" based on these metrics, using an iterative survey process.

Methods

The Baylor Scott & White Research Institute institutional review board approved this study (022-107). This was a prospective, observational, iterative 3-round survey and we obtained informed consent from all participants. The study investigators used a convenience sample of 16 program or assistant program directors (PDs). Of the 16 participants, 2 PDs from both large and small programs across the East, South, Midwest, and West comprised our participant pool. By consensus, the investigators determined that programs with class sizes of 14 or fewer to be categorized as small, and those with 15 or more were categorized as large. Among the initial study investigators, 2 were from large programs in the East and 1 was from a large program in the South; these 3 participated in the study. The principal investigator responsible for administration of the study did not participate in the surveys. The 13 additional programs were selected randomly according to the size and geographical region strata by a biostatistician who used SAS 9.4 (SAS Institute, Cary, North Carolina). Potential participants were contacted via email with an invitation to participate in the study. If the PDs did not respond or declined the invitation, then PDs from additional programs were contacted in the order of which they were randomized. Sixteen PDs were selected to be participants; a flow diagram describing subject recruitment is presented in Figure 1. After selecting 16 PDs, we distributed the first-round survey via email, designed using REDCap hosted at Baylor Scott & White Research Institute.[4] This survey collected demographic details and asked PDs, through open-ended questions, to identify the metrics they use for selecting potential residents. Because U.S. Medical Licensing Exam (USMLE) Step 1 was transitioning to a pass/fail scoring system, PDs were instructed not to consider scores from Step 1 as a metric. The principal investigator, who was not a survey participant, examined the topics generated from the first round and condensed or distributed similar topics to avoid redundancy in future survey rounds. The condensation of topics from round 1 to round 2 is presented in Figure 2. During the second round of the survey, PDs who completed the first round of the survey were contacted with the list of metrics generated by the first round of the survey and asked to stratify each metric into what they would consider "exceptional," "strong," "average," "marginal," and "uncompetitive." Participants were given the option to assign multiple stratifications to a single metric. For example, on the metric of whether a candidate passed the USMLE Step 1 exam on the first attempt, participants could indicate that an "exceptional," "strong," "average," and "marginal" candidate would be expected to meet this metric. PDs

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were also requested to assign a level of importance to each metric on a 5-point Likert scale from *5 - "very important" to 1 - "not at all important."* During the third round of the survey, PDs who completed the second round of the survey were given the results of the second round of the survey and asked to provide 1 final stratification of each metric and re-assign importance.

Data were extracted from REDCap onto an Excel spreadsheet (Microsoft) and statistical analyses were performed with SAS. Descriptive statistics were used to describe characteristics of the program director cohort. Frequencies and percentages were used to describe categorical variables, and means and SDs (or medians and ranges when appropriate) to describe continuous variables. A chi-square test was used for categorical variables, but when expected cell counts were too small for valid chi-square results, Fisher's exact test was used. For continuous variables, a 2-sample *t*-test was used, and the Mann-Whitney *U* test was chosen when data did not follow a normal distribution, to assess associations in bivariate comparisons. Written comments were extracted verbatim onto tables included as appendices.

Results

Of the survey rounds, 15 participants completed the first, 15 the second, and 10 the third. Self-reported demographics of the PDs are presented in Table 1. A list of all candidate metrics reported by PDs in the first round of the survey is presented in Table 2. Table 3 highlights the metrics chosen by 8 or more of the 10 participating PDs. All 10 final round participants indicated that they will be using passing USMLE Step 1 and "red flags" such as a failed rotation as candidate selection metrics and both had an average importance score of 4.9 on a 5-point Likert scale. Other metrics identified by all PDs included clerkship evaluation comments, USMLE Step 2 scores, class rank, letters of recommendation, personal statement, and program and geographical signals. In total, 18 distinct candidate metrics were classified as important by at least 8 of the 10 PDs. Remaining candidate metrics that were classified as important by 7 or fewer of the PDs are presented in Appendix G.

Discussion

Using a 3-round iterative survey, we identified 18 candidate metrics for anesthesiology residency that 80% or more of PDs indicated they would use. To our knowledge, no published data currently stratifies candidate metrics for anesthesiology residency according to "exceptional," "strong," "average," "marginal," and "uncompetitive" characterizations. This information is crucial for medical students applying for anesthesiology programs, especially in the current context in which applicants need to strategically send program- and geographic-specific signals to programs that could affect their interview invitations.[5] In the absence of such data, applicants risk navigating the application process without a clear understanding of their competitiveness.

Passing the USMLE Step 1 and the absence of "red flags" such as a failed rotation were the 2 most important candidate metrics. USMLE Step 1 scores have been a traditional metric for residency candidate selection[6] but shifted to pass/fail scoring in 2022.[7] Prior studies have found a relationship between performance on the USMLE exams and performance on the American Board of Anesthesiology knowledge exams.[8,9] In our study, all 10 participants indicated that they will be using USMLE Step 2 scores as a metric in ranking candidates for residency, with scores greater than 240 for "strong" or "exceptional" candidates and scores of less than 228 for "marginal" or "uncompetitive" candidates. The Association of American Medical Colleges does not provide numerical data for USMLE Step 2 Clinical Knowledge (CK) scores for the entering classes of 2021 and 2022 but did report an average USMLE Step 2 CK score of 243.3 for the entering class of 2020.[10] In a prospective survey-based study of anesthesiology PDs, Vinagre et al.[11] reported that failing USMLE exams, failure of a preclinical course or clinical rotation, gaps in training that did not have an explanation, and a felony or criminal history as the 4 most common "red flags" indicated by PDs.

Letters of recommendation and personal statements were both of importance to PDs in our study. The value of letters is concordant with prior research. In a survey-based study, Jn Pierre et al.[12] reported that 77.4% of residency PDs look for certain keywords in a letter of recommendation and phrases such as "top % of students" and "we are recruiting this candidate" denote a superior applicant. The value of personal statements in prior studies is more variable. For example, in a survey-based study by Flanigan et al.,[13] dermatology residency PDs put little value in personal statements with the authors opining that standardization may improve the usefulness of personal statements in the residency selection process. In a review article, Go et al.[14] reported that it is possible that authors of letters of recommendation may introduce inadvertent bias. In contrast, Brown et al.[15] examined approximately 3000 letters of recommendation for applicants applying to obstetrics and gynecology residency and, using linguistic analysis, determined the letters of recommendation were similar compared with applicant race and gender. Culp[16] opined that with the advent of artificial intelligence programs that can write realistic essays, the usefulness of personal statements will decrease.

Diversity was an important factor for most PDs, which is concordant with other published work. In an editorial, Crites et al.[17] stated that recruitment of residents from underrepresented races and ethnicities has the potential to improve health care for minority populations. Notably, Nguemeni Tiako et al.[18] reported that residency applicants have a higher likelihood of applying to specialties in which their race is well represented. In Students For Fair Admissions, Inc. *v.* President and Fellows of Harvard College, the U.S. Supreme Court decided that race could not be used as a factor in college admissions.[19] However, resident physicians are not considered students and are not affected by this ruling.

Leadership and volunteer activities were also of reasonable importance in our study, which aligns with prior publications. Villwock et al.[20] reported the creation and implementation of the Selection Tool of Applicants for Residency (STAR) for surgical residencies, which placed 3 times as much weight on leadership experience compared with academic performance. In a retrospective study of successfully matched neurosurgical residency applicants, there

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was an increase in volunteer activities from 2009 to 2022.[21]

Su et al.[22] reported that Alpha Omega Alpha status was correlated with residency performance among orthopedic surgery residents. In our study, 9 of the 10 participants indicated they will be using Alpha Omega Alpha in selection of their residents and assigned it a mean importance of 3.6 on a 5-point Likert scale. Only 8 of 10 participants in our study indicated that they will be using membership in the Gold Humanism Society as a metric and assigned it a mean importance of 3.0 on a 5-point Likert scale. A drawback to using Alpha Omega Alpha or Gold Humanism Society membership as a candidate metric is the potential bias of membership in these societies against marginalized applicants.[23]

The metric regarding signals indicated that survey participants viewed candidates who sent a program-specific signal as more desirable and thus more competitive compared with candidates who did not send program-specific signals. In contrast to the majority, 2 respondents scored program signals as "marginal" or "uncompetitive." Although we do not have an explanation from these respondents as to why they rated signals this way, we speculate it may signify the importance of signaling by the respondents as opposed to a negative view of a signal. It may be the result of unequal signaling between programs. Programs that receive a large number of program-specific signals from qualified candidates may be able to extend interview invitations exclusively to that cohort. Conversely, programs that do not receive many program-specific signals from qualified candidates likely need to extend interview invitations to candidates who did not send a program-specific signal. We suspect the respondents who rated program signal "marginal" or "uncompetitive" may represent their use of signaling as opposed to a negative view of signaling.

A significant potential limitation of the broad applicability of our findings was the sample size of program leadership surveyed. We had 10 participants but there are 166 American College of Graduate Medical Education–accredited anesthesiology residency programs in the United States.[24] Our results seem logical but may not represent the nuances in decision making for all programs. Another potential limitation to the generalizability of our results was our use of the cutoff of 14 or less being considered a "small" program. Some programs may be significantly smaller with class sizes of less than half of our threshold for "small" versus "large." They may also have a different view of evaluating candidates. Perhaps smaller programs view character more importantly than academic success because of the nature of working in a small group. Another weakness is that 3 of the participants were not randomly selected. This may have led to self-selection of PDs who held strong beliefs on some elements of the residency selection process that may not have been similar when compared with other PDs. We had a 33% decrease in participants from the second to final round of the survey and we attribute that to participant fatigue resulting from the effort required to re-enter answers on the final survey that may have been similar to the second survey. "Red flags," one of the most important metrics reported in our study, has a definition that varies from individual to individual and this was a limitation as well. Many medical schools no longer assign a class rank to their students and as a result the Medical Student Performance Evaluation has limited data to stratify residency candidates. A final limitation of this study is that the number of program signals that applicants can provide has changed year to year, so the relative importance of these may change with time.

In conclusion, our study offers potentially useful insights for medical students gauging their competitiveness for anesthesiology residencies. Survey participants appeared to place emphasis on metrics that may predict avoidance of bad resident outcomes including "red flags." We believe that our findings are broadly applicable, but an important caveat to this study is that it comprised a small number of PDs and assistant PDs. It would be beneficial for future research to explore whether these data can further aid candidates in optimizing their residency application and selection process along with the outcomes of residency program graduates who are selected by programs that perform holistic application reviews.

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Michael P. Hofkamp *is Director of Undergraduate Medical Education in the Department of Anesthesiology, Baylor Scott & White Medical Center-Temple, Temple, TX.* ***Daniel Saddawi-Konefka*** *is a Core Residency Program Director in the Department of Anesthesia, Critical Care and Pain Medicine, Massachusetts General Hospital, Boston, MA.* ***Emily G. Teeter*** *is a Core Residency Associate Program Director in the Department of Anesthesiology, University of North Carolina, Chapel Hill, NC.* ***George Guldan III*** *is a Core Residency Program Director in the Department of Anesthesia and Perioperative Medicine, Medical University of South Carolina, Charleston, SC.* ***Clinton Kakazu*** *is a Core Residency Program Director in the Department of Anesthesiology, Harbor-UCLA Medical Center, Torrance, CA.* ***Brittany Maggard*** *is a Core Residency Program Director in the Department of Anesthesiology and Perioperative Medicine, University of Louisville School of Medicine, Louisville, KY.* ***Ned Nasr*** *is a Core Residency Program Director in the Department of Anesthesiology, Advocate Illinois Masonic Medical Center, Chicago, IL.* ***Michelle Parra*** *is a Core Residency Program Director in the Department of Anesthesia, University of Iowa Carver College of Medicine, Iowa City, IA.* ***Arvind Rajagopal*** *is a Core Residency Program Director in the Department of Anesthesiology, Rush University Medical Center, Chicago, IL.* ***Kelly Ural*** *is a Core Residency Program Director in the Department of Anesthesiology, Ochsner Medical Center, New Orleans, LA.* ***Courtney Shaver*** *is a Biostatistician in the Biostatistics Core, Baylor Scott & White Research Institute, Temple, TX.* ***Jed Wolpaw*** *is a Core Residency Program Director in the Department of Anesthesiology and Critical Care Medicine, Johns Hopkins University School of Medicine, Baltimore, MD.*

Corresponding author: *Michael P. Hofkamp, MD, FASA, Department of Anesthesiology, Baylor Scott & White Medical Center-Temple, 2401 South 31st Street, Temple, TX 76508. Telephone (254) 724-3370, Fax: (254) 724-5369*

Email address: *Michael P. Hofkamp: Michael.Hofkamp@bswhealth.org*

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Abstract

Background: The primary aim of this study was to identify and stratify candidate metrics used by anesthesiology residency program directors (PDs) to develop their residency rank lists through the National Resident Matching Program.

Methods: Sixteen PDs comprised the participants, selected for diversity in geography and program size. We used a 3-round iterative survey to identify and stratify candidate metrics. In the first round, participants listed metrics they planned to use to evaluate candidates. In the second round, metrics from the first round were ranked by importance, and criteria were solicited to define an exceptional, strong, average, marginal, and uncompetitive candidate for each metric. In the third round, aggregated results were presented and participants refined their rankings.

Results: Of the 16 PDs selected, 15 participated in the first and second survey rounds, and 10 in the third. Eighteen candidate metrics were indicated by 8 or more PDs for residency selection. All 10 PDs from the final round identified passing Step 1 of the United States Medical Licensing Exam (USMLE) and the absence of "red flags" like a failed rotation as key selection metrics, both averaging an importance score of 4.9 out of 5. Other metrics identified by all PDs included clerkship evaluation comments, USMLE Step 2 scores, class rank, letters of recommendation, personal statement, and program and geographical signals.

Conclusions: The study reveals key metrics anesthesiology residency PDs use for candidate ranking, which may offer candidates insights into their competitiveness for anesthesiology residency.

Keywords: Undergraduate medical education, residency selection

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Figures

Figure 1. *Recruitment of PDs and survey completion. Abbreviation: PD, program director.*

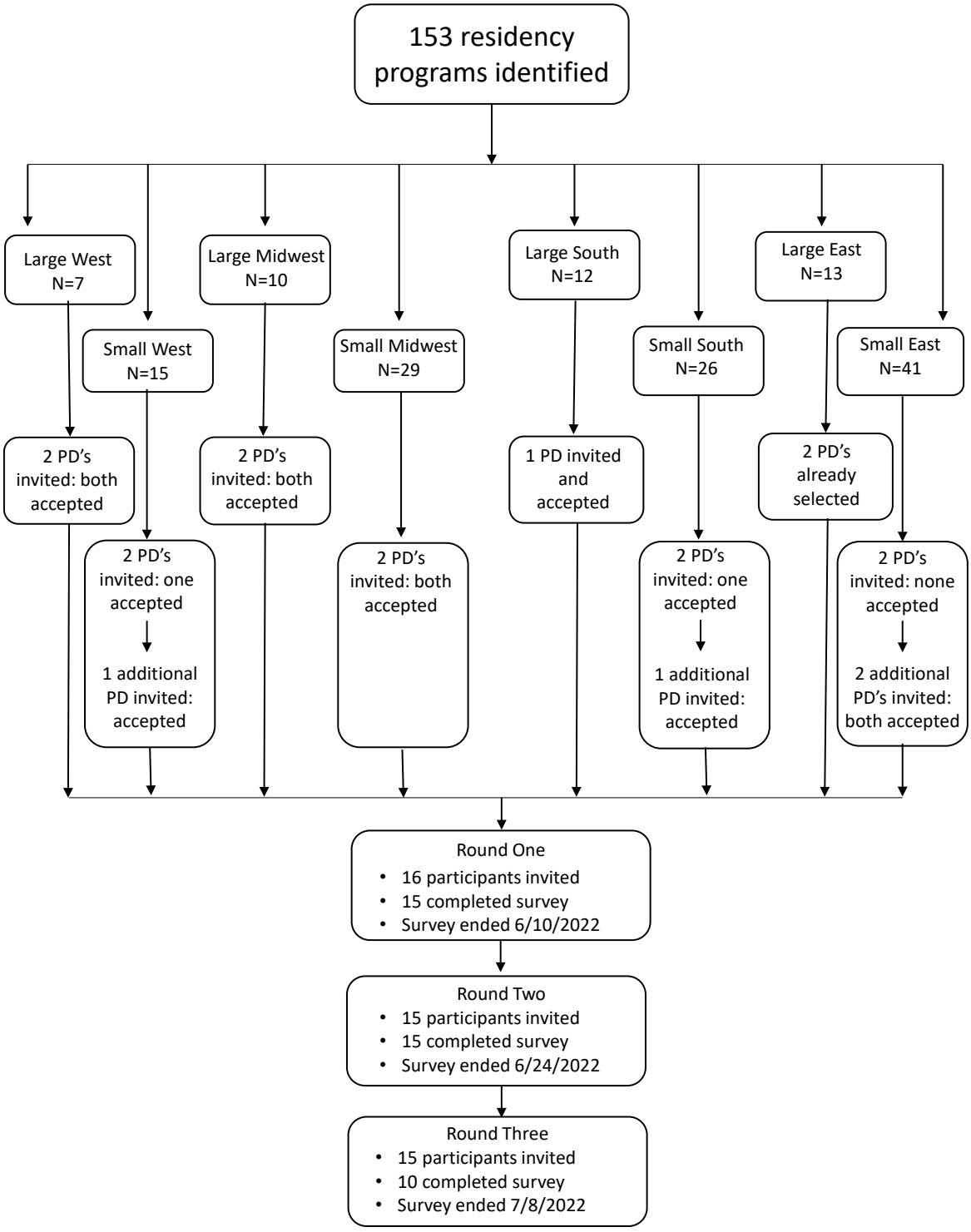

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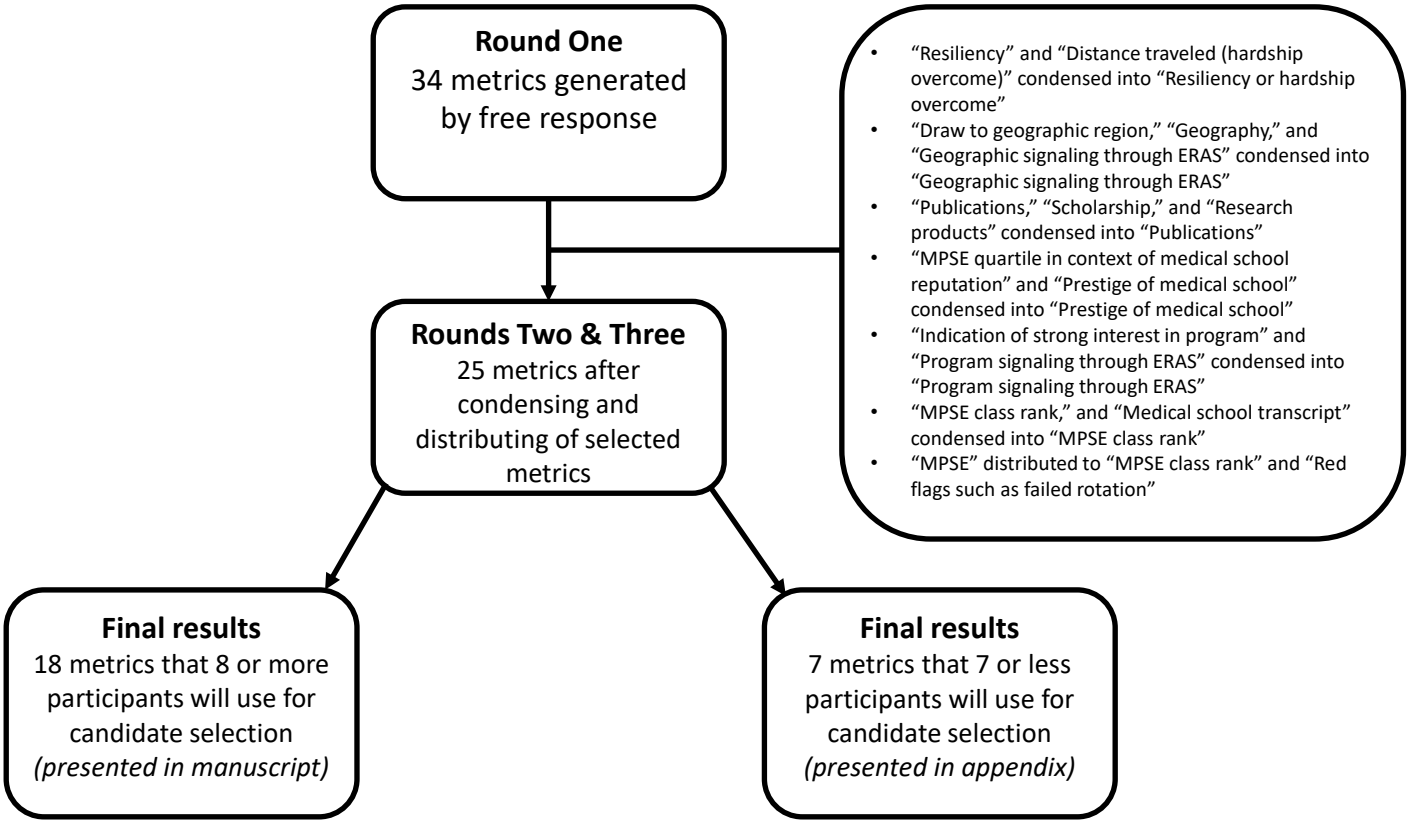
Figure 2. *Candidate metrics. Abbreviations: ERAS, Electronic Residency Application Service; MPSE, Medical Student Performance Evaluation.*



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Tables

Table 1. *Demographic Data for Participants Who Completed the First Round (N = 15)*

Variable	Value
Role in Program	
Program Director	14 (93%)
Assistant Program Director	1 (7%)
Gender	
Male	8 (53%)
Female	7 (47%)
Age	
31-40	3 (20%)
41-50	9 (60%)
51-60	3 (20%)
Years Since Completion of Training	
6-10	5 (33%)
11-15	3 (20%)
16-20	4 (27%)
More than 20	3 (20%)
Years in Current Role	
5 or less	9 (60%)
6-10	5 (33%)
11-15	1 (7%)
Self-Identified Competitiveness of Residency Program	
Top quintile (most selective)	3 (20%)
Second quintile	5 (33%)
Third quintile	5 (33%)
Fourth quintile	1 (7%)
Fifth quintile (least selective)	1 (7%)

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Table 2. *List of Metrics Generated From the First Round*

USMLE Step 2 CK
COMLEX
AOA
Publications
Letters of recommendation
Word of mouth recommendations from people you know
Evaluations from visiting rotations
Leadership experience
Distance traveled (hardship overcome)
Training delays
Draw to geographic region
Resiliency
Diversity
Scholarship
Volunteerism
Work history
MSPE class rank
Personal statement
Research products
MSPE quartile in context of med school reputation
Gold Humanism award
Indication of strong interest in program
MSPE
Clerkship performance with comments on professionalism and drive for improvement
Evidence of completing what they start (e.g. published papers instead of generic participation in research)
Whether USMLE Step 1 passed on first attempt
Program signaling through ERAS
Geographic signaling through ERAS
Medical school transcript
Red flags such as failed rotation
Geography
Hobbies to determine a well-rounded applicant
Prestige of medical school
Other advanced degrees (MS, PhD)

Abbreviations: AOA, Alpha Omega Alpha; CK, Clinical Knowledge; COMLEX, Comprehensive Osteopathic Medical Licensing Exam; ERAS, Electronic Residency Application Service; MSPE, Medical Student Performance Evaluation; USMLE, U.S. Medical Licensing Exam.

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Table 3. *Candidate Metrics Stratified by Importance and Candidate Characterization*

Metric	Number of PDs Using	Importance	Exceptional	Strong	Average	Marginal	Uncompetitive
Passed USMLE Step 1 first attempt	10	4.9	Pass: 10	Pass: 10	Pass: 10	Pass: 7, Fail: 3	Pass: 1, Fail: 9
"Red flags" such as failed rotation	10	4.9	Present: 0	Present: 0	Present: 0	Present: 6	Present: 9
Clerkship evaluation comments that included comments on professionalism or drive for improvement	10	4.7	Present: 10	Present: 10	Present: 9	Present: 1	Present: 1
USMLE Step 2	10	4.7	252 and above	240-251	228-240	218-227	Below 218
MPSE class rank	10	4.5	1st quart: 10 2nd quart: 1	1st quart: 8 2nd quart: 9 3rd quart: 2	1st quart: 1 2nd quart: 8 3rd quart: 9 4th quart: 1	1st quart: 1 2nd quart: 1 3rd quart: 7 4th quart: 7	1st quart: 2 2nd quart: 2 3rd quart: 2 4th quart: 10
Letters of recommendation	10	4.3	See Appendix A				
Program signal	10	4.2	Yes: 7	Yes: 9	Yes: 7	Yes: 1	Yes: 2
Personal statement	10	4.0	See Appendix B				
Geographical signal	10	3.9	Yes: 9	Yes: 9	Yes: 7	Yes: 1	Yes: 1
Diversity	9	4.4	See Appendix C				
Delays in training	9	4.1	Yes: 0	Yes: 0	Yes: 0	Yes: 7	Yes: 2
Leadership experience	9	4.0	See Appendix D				
History of volunteerism	9	3.9	See Appendix E				
AOA membership	9	3.6	Yes: 9	Yes: 4	Yes: 0	Yes: 0	Yes: 0
Evaluations from visiting rotations at PDs program	8	4.9	Yes:8	Yes: 6	Yes: 1	Yes: 0	Yes: 0
Resiliency or hardship overcome	8	3.8	See Appendix F				
"Word of mouth" recommendation from a colleague	8	3.5	Yes: 5	Yes: 3	Yes: 0	Yes: 0	Yes: 0
Gold Humanism Society membership	8	3.0	Yes: 7	Yes: 4	Yes: 1	Yes: 1	Yes: 0

Abbreviations: AOA, Alpha Omega Alpha; MSPE, Medical Student Performance Evaluation; PD, program director; USMLE, U.S. Medical Licensing Exam.

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Appendices

Appendix A. Letters of Recommendation

Exceptional	Strong	Average	Marginal	Uncompetitive
Says things like "top 5%" or "One of the best medical students ever." Performance during anesthesia rotations or level of interest in anesthesia if an elective wasn't an option. "This candidate came in early to observe anesthesia portion of the case during their surgery rotation/internship." Comments on work ethic, clinical skills observed, teamwork, character. Drive, leadership qualities, personality, clinical aptitude. "Top 1 percent" or "top 3 percent" or "best medical student I've worked with in 15 years." Specific comments about exceptional and unique: intelligence, professionalism, work ethic, teamwork, kindness, comments about the rarity of this type of candidate. Professionalism (showed up on time, every time); desire to learn more and take advantage of learning opportunities; teamwork and communication skills; engagement; developing	Says things like "top 10-15%" or "We want them to stay here." Consistent evidence of active participation and engagement with the team, professionalism examples. Comments on perceived fit for specialty, path to specialty, personal characteristics. Work ethic, leadership qualities, personality. "Top 10 percent." Comments about: professionalism, work ethic, teamwork, kindness, descriptors about how solid or strong the candidate is. Professionalism (showed up on time, every time); desire to learn more and take advantage of learning opportunities; teamwork and communication skills; engagement; developing rapport with patients and their families. Descriptions of resident being in the top 25% of students instructed. Demonstrated, drive, enthusiasm, outstanding communication skills, professionalism, compassion, drive, and knowledge at the level of	Says very strong, no red flags noted or implied. Candidate interested in anesthesia without objective evidence of engagement in the specialty. Comments on applicant's CV, timeliness for rotation, generic descriptors. Personality, work ethic. Great, shows up early, strongly recommend without reservation. Comments about: work ethic. Basic background information on the applicant, accompanied by how they performed on the rotation and what strengths the applicant has that make them a fit for our specialty. Demonstrated, drive, enthusiasm, solid communication skills, professionalism, and knowledge at the appropriate level for the trainee. Should reference attributes around knowledge, clinical skills, interpersonal/team play, plus or minus some "x" factor - adjectives should be great. Letters	Bland, short, some red flags stated or implied. No discussion of interest in anesthesia, letters from non-physicians only. Comments on communication or knowledge gaps. Personality, work ethic. Bland comments. Evaluator will: describe limited experience of the candidate using vague descriptions. Basic background info accompanied by how they performed on the rotation. Minimal descriptors conferring the ability of the student in areas of communication, professionalism, and knowledge and drive. Should reference attributes around knowledge, clinical skills, interpersonal/team play, plus or minus some "x" factor - adjectives should be good. Letters might be short. Did elective. Short letters with very generic comments including possibility of	Clear red flags like unprofessional, poor performance, not a team player. Lack of discussion of failing scores or prolonged absences from training (no discussion of personal or family issues or discussion of evidence of insight into improvement). Concerns articulated. Non-personalized letter of recommendation, any mentions of struggles or issues (unless there is a description of how applicant overcame them and now has no issues). Deficiency noted. Evaluator will: describe limited experience of the candidate, provide vague descriptions, "recommend." Basic demographic information only - a list of where they went to undergrad, where the applicant is from, comments about USMLE scores with little information on how they performed on rotations and worked with the team. Very terse brief letters without any descriptors of key traits above.

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Appendices *continued*

Exceptional	Strong	Average	Marginal	Uncompetitive
rapport with patients and their families; participated in research/ case reports when give the opportunity to do so; top % of students we've had/worked with; "would love to have them stay here for residency"; specific areas of patient care he/she was involved in or specific clinical scenarios. Descriptions of resident being in the top 10% of students instructed. Demonstrated, drive, enthusiasm, outstanding communication skills , professionalism, compassion, drive, and knowledge at the level of junior residents. Should reference attributes around knowledge, clinical skills, interpersonal/ team play, and some "x" factor - adjectives should be superlative. Letters should be of adequate length. Drive, motivation, hardworking, skilled. Mention quartile and personal knowledge of candidate. Top 10% of students. Exceptional descriptors. Heavily recruiting at home program.	top quartile of medical students. Should reference attributes around knowledge, clinical skills, interpersonal/team play, plus or minus some "x" factor - adjectives should be excellent. Letters should be of adequate length. Hard working, skilled. Mention quartile and personal knowledge of candidate. Strong descriptors. Recruiting at home program. Reputable letters from known letter writer are more important than content itself. However, a strong applicant content would include strong work ethic characteristics and professional behavior. Also quantification comments relative to other students are important such as "top 10-25%" or "We want them to stay here." Top 10%, best student of the year. Good letters describing the candidate with personal knowledge of candidate's work ethic and professionalism.	should be of adequate length. Did an elective, was attentive. Generic letters with no red flags. Description of common and expected behaviors only. One that may have read between the line language. Does not mention ranking. Average performance. Reputable letters from known letter writer are more important than content itself. However, an average applicant content would include work ethic characteristics and professional behavior. Also qualitative judgment of the letter as being generic, without any red flags. very strongly recommend without reservations. Generic letters. Just descriptions of the CV. Will mention work ethic, professionalism, and/or personality traits. Normal length, words like "excellent."	them improving over time. Has potential. Lazy, does not show interest , entitled, poor communications and professionalism. Reputable letters from known letter writer are more important than content itself. However, a marginal candidate would include content that seemed like a generic letter written and less personal observation. Letter writer has an obligation to provide letter. Writer may comment on gaps or prior struggle/ weakness that is obvious in application. Some concerns or very bland letter, no superlatives. Generic letters with underlying message describing how the candidate will improve over time. Concerns raised in the letter. Will mention personality traits. Normal length, words like "great."	Will be missing attributes around knowledge, clinical skills, interpersonal/team play - adjectives might be soft or some flags may be present. Professionalism issues. Poor letters with specific comments regarding their aptitude for specialty and other red flags during medical school. Negative comments. Reputable letters from known letter writer are more important than content itself. However, an uncompetitive candidate would include content that seemed like a generic letter written and less personal observation. Letter writer has an obligation to provide letter. Red flags observed in letter—not necessarily open red flags, but issue that is obfuscated. Serious concerns about professionalism, work ethic, honesty. Poorly written letters. No content that is relevant to the specialty.

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Appendices *continued*

Exceptional	Strong	Average	Marginal	Uncompetitive
Smart, professional, comes early and leaves late, eager to learn, gets along with everyone, does a good short talk. Says they want to rank them. Reputable letters from known letter writer are more important that content itself. However, an exceptional applicant content would include work ethic characteristics and professional behavior. Also quantification comments relative to other students are important such as "Top 1 percent" or "top 3 percent" or "best medical student I've worked with in 15 years." Letters with a personal touch about the applicant that describe actual experience working with the candidate. Comments about the applicant and their skills and/or interest in anesthesia. Will mention leadership abilities, work ethic, professionalism, and personality traits. Longer letter, all superlatives, talks about all domains.	Comments about the person's ability to work in an OR environment. Will mention leadership abilities, work ethic, professionalism, and personality traits. Longer letters, all superlatives, talks about all domains.			Bland, not personalized. No valuable content. Short letters, any flags, words like "fine" or "good."

Abbreviation: CV, curriculum vitae.

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Appendices

Appendix B. Personal Statement

Exceptional	Strong	Average	Marginal	Uncompetitive
Tells a compelling story, well written, powerful. Insight, professionalism, resiliency, unique experiences, thoughtful integration of past experiences into discussion of path toward anesthesiology. Clear story and direction. I can follow their path to anesthesia; however, winding, straight, or otherwise they got here. Well written with no grammatical errors. Tells me information I don't see elsewhere in the application. Very personable. Gives examples of what makes the applicant unique and exceptional. Well written and compelling. Clear passion for our field. Demonstrated commitment to specialty. Specific examples of work, time, dedication to/for the field. Evidence/comments about ongoing mentorship from an anesthesiologist. It should be personal and give insight into why they are choosing anesthesia. Clearly states what skills	Tells a good story, well written. Insight, professionalism, resiliency, unique experiences, integration of past experiences into discussion of path toward anesthesiology. Someone with clear desire to do anesthesia for reasons beyond doing procedures. Well written with no grammatical errors. Tells me information I don't see elsewhere in the application. Very personable and interesting. Well organized and cohesive. Clear passion for our field. Demonstrated commitment to specialty. Clearly describes why they are choosing anesthesia. Discusses what skills and traits make the applicant a good fit for our specialty; discusses the role of teamwork and their ability to communicate and work well with a team. Touches on their desire for patient interaction/ patient care. Conveys empathy and kindness and a willingness to work hard; addresses	Average story. Some insight, past experiences with some resiliency or discussion of average experiences with resiliency, volunteerism or research involvement. Generic analogies of anesthesia. Less than compelling path or desire to do the specialty. Repeats information I'm already able to find in the applications. No typos. Interest in the specialty, examples of how their personality/skills are well suited to our specialty. Clearly describes why they are choosing anesthesia. Discusses what skills and traits make the applicant a good fit for our specialty. Touches on their desire for patient interaction/ patient care. Conveys empathy and kindness and a willingness to work hard; addresses any glaring issues with the application. Describes the typical reasons of interest of a specialty, in a cognizant way.	No clear story, possibly has some spelling errors. Lack of integration of personal aspects of interest in anesthesia or medicine. Someone who provides a description of all of their procedures to date, experiences in the OR and who has little to no understanding of the day-to-day life of an anesthesiologist. Poor structure or errors. Nothing unique. Spelling or grammar errors, too long or poorly organized. Limited demonstration of interest and commitment to anesthesiology. Only briefly touches on why they're choosing anesthesia without much else. Describes the typical reasons of interest of a specialty, but not in a unified message. Fluffy statement that could be applied to any candidate. Poorly written and vague. Poorly organized with	No clear story, spelling and grammatical errors. Poorly written discussion, including excess discussion of irrelevant information. Someone who has language with red flags— selfish language, a distorted view of their own importance or value. Hard to follow, has errors in the writing. No new information. Many errors. Not specialty specific. A personal statement that gives very little indication that the applicant really understands the specialty or has taken steps to ensure they are a good fit. Is uncompetitive. Multiple typos , misspellings, no cognizant topic. Poorly written, incomplete. Poorly written and vague. Difficult to follow thought process, poorly organized with multiple grammatical mistakes.

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Appendices *continued*

Exceptional	Strong	Average	Marginal	Uncompetitive
and traits make the applicant a good fit for our specialty; discusses the role of teamwork and their ability to communicate and work well with a team. Touches on their desire for patient interaction/ patient care. Conveys empathy and kindness and a willingness to work hard; addresses any glaring issues with the application; finishes with an explanation of plans for the future. Tells an exceptional story in relation to their desire to practice medicine. Indicator of them being an excellent communicator. Gives a clear picture of who they are, outlines goals and processes to achieve them, outlines a good fit for our program. Well written, short and to the point. Personalization of application helps. Describes strong qualities grit, determination, resilience, and love for anesthesiology. Honest, not playing to the heart strings, heartfelt. Not that important, only hurts exceptional	any glaring issues with the application. Tells a good story in relation to their desire to practice medicine. Indicator of them being a good communicator. Gives a clear picture of who they are, outlines goals and processes to achieve them, outlines a good fit for our program. Well written, short and to the point. Personalization of application helps. Describes qualities of grit, determination, resilience, and love for anesthesiology. Not that important, only hurts strong applicant if statement is sloppy, unclear, unprecise, too verbose, with typos. Well written, engaging, organized. Well written with clear and succinct message. Cohesive and genuine, interest in aspects of our program that are strengths. Well written, well organized, unique, gives me new information that wasn't already in the application.	Some idea of who they are and where they are going. Well written, short and to the point. Personalization of application helps. Interest in anesthesiology and hard working. Tells me about his sick grandma in the ICU and how that experience changed his/her life . Not important. Not that important, only hurts average applicant if statement is sloppy, unclear, unprecise, too verbose, with typos. No typos, organized, concise. Can be wordy without a clear message. Personal statement that states their interest. Well written, well organized, standard, predictable. Gives me an idea of who they are.	some grammatical mistakes. Struggling to make it interesting. Typos. Personal statement only evaluated to clarify a "blemish" on a marginal application. If no mention of blemish and offering a satisfactory explanation then it severely hurts applicant. Typos, disorganized, no unified theme or story, >1 page. Can be wordy without a clear message. Personal statement with red flags such as self-centered language, failure to describe any concerns in the MSPE. Predictable. Repeats lots of information already found in the personal statement. Potentially some errors. Poor organization. Generic.	Unreadable, typos, boring, full of BS. Personal statement only evaluated to clarify a "blemish" on uncompetitive application. If no mention of blemish and offering a satisfactory explanation then it severely hurts applicant. Long, typos, poorly written, sloppy syntax. Poorly written, long with no clear message. Poor language, grammar and appears disinterested. Poorly organized. Poorly written. Grammatical errors. Short, impersonal, flawed grammatically.

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Appendices *continued*

Exceptional	Strong	Average	Marginal	Uncompetitive
applicant if statement is sloppy, unclear, unprecise, too verbose, with typos. Well written, captivating and unique story, organized and cohesive. Well written with clear and succinct message. Good, cohesive statement, evidence of thought about where they fit into the specialty. Well written, well organized, unique. Gives me new information that wasn't already in the application. Gives me an idea of who they are and why they'd fit well at our program.	Gives me an idea of who they are and why they'd fit well at our program.			

Abbreviations: ICU, intensive care unit; MSPE, Medical Student Performance Evaluation; OR, operating room.

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Appendices

Appendix C. Diversity

Exceptional	Strong	Average	Marginal	Uncompetitive
Underrepresented in medicine. Diversity of experience. The presence or lack of diversity does not, in and of itself, make an applicant exceptional, strong, average, marginal, or uncompetitive. Applicants from groups that are underserved in medicine (females, African Americans, Hispanics, etc.) with corresponding exceptional applications would be considered exceptional. Underrepresented group, LGBTQ+. Evidence that the life experiences and perspective of the candidate would make a profound positive addition for our patients, the residency, department, and organization. Anyone who is an underrepresented minority in medicine; also looking to recruit from a broader geographic area. No "tier" of candidate will necessarily have this, but any candidate who did might be bumped a little.	Underrepresented in medicine. Diversity of experience. The presence or lack of diversity does not, in and of itself, make an applicant exceptional, strong, average, marginal, or uncompetitive. Applicants from groups that are underserved in medicine (females, African Americans, Hispanics, etc.) with corresponding strong applications would be considered strong. Other diverse characteristics, Hispanic or Asian heritage. Evidence that the life experiences and perspective of the candidate would make a profound positive addition for our patients, the residency, and the department. Anyone who is an underrepresented minority in medicine; also looking to recruit from a broader geographic area. No "tier" of candidate will necessarily have this, but any candidate who did might be bumped a little.	Not underrepresented in medicine. Diversity of experience. Applicants from groups that are underserved in medicine (females, African Americans, Hispanics, etc.) with corresponding average applications would be considered average. None Evidence that the life experiences and perspective of the candidate would add something from which our residents and patients could benefit. Either URM or geographically diverse. No "tier" of candidate will necessarily have this, but any candidate who did might be bumped a little. None. There is a need to build a diverse class and also meet institutional goals and metrics which could influence the selection process. If overall score equal, diversity will place candidate at top of grouping.	Not underrepresented in medicine. No diversity and no understanding of the value diversity could bring. Applicants from groups that are underserved in medicine (females, African Americans, Hispanics, etc.) with corresponding marginal applications would be considered marginal. None. No evidence that the life experiences and perspective of the candidate would add something positive from which our residents or patients could benefit. This is difficult to answer. We are trying to recruit a diverse class, but not being a minority or URM doesn't make someone uncompetitive. I believe this is something that can add to the application, but doesn't detract. No "tier" of candidate will necessarily have this, but any candidate who did might be bumped a little. None. There is a need to build	Not underrepresented in medicine. No insight as to the value diversity brings. The presence or lack of diversity does not make an applicant uncompetitive. None. No evidence that the life experiences and perspective of the candidate would add something positive from which our residents or patients could benefit. This is difficult to answer. We are trying to recruit a diverse class, but not being a minority or URM doesn't make someone uncompetitive. No "tier" of candidate will necessarily have this, but any candidate who did might be bumped a little. None There is a need to build a diverse class and also meet institutional goals and metrics which could influence the selection process. If overall score equal, diversity will place candidate at top of grouping.

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Appendices *continued*

Exceptional	Strong	Average	Marginal	Uncompetitive
Underrepresented in medicine. There is a need to build a diverse class and also meet institutional goals and metrics which could influence the selection process. If overall score equal, diversity will place candidate at top of grouping. Great scores and letters and volunteer, but is also ethnic, LGBTQ, multilingual. Exceptional applicant would be underrepresented minority in our location-African American, Native American, Hispanic, Pacific Islander, and LGBTQ are considered diversity groups from our hospital GME committee that programs are encouraged to recruit as long as the candidates meet the other exceptional criteria. From URM group, LGBTQ+, underrepresented religious affiliation. The program is committed to increasing and improving diversity in the program.	Underrepresented in medicine. There is a need to build a diverse class and also meet institutional goals and metrics which could influence the selection process. If overall score equal, diversity will place candidate at top of grouping. Strong applicant would be an underrepresented minority in our location-African American, Native American, Hispanic, Pacific Islander, and LGBTQ are considered diversity groups from our hospital GME committee that programs are encouraged to recruit as long as the candidates meet the minimum criteria. Strong applicant would be an underrepresented minority in our location-African American, Native American, Hispanic, Pacific Islander, and LGBTQ are considered diversity groups from our hospital GME committee that programs are encouraged to recruit as long as the candidates meet the other strong criteria. Other than Caucasian/ white.	Just race or religion or sexual identity Average applicant would NOT fall under our underrepresented minority in our location-African American, Native American, Hispanic, Pacific Islander, and LGBTQ are considered diversity groups from our hospital GME committee that programs are encouraged to recruit as long as the candidates meet the minimum criteria. Average applicant would be an underrepresented minority in our location-African American, Native American, Hispanic, Pacific Islander, and LGBTQ are considered diversity groups from our hospital GME committee that programs are encouraged to recruit as long as the candidates meet the other average criteria. No specific criteria. The program is committed to increasing and improving diversity in the program. Is able to bring a diverse perspective to our program. Diversity doesn't define an exceptional applicant. It is another piece of	a diverse class and also meet institutional goals and metrics which could influence the selection process. If overall score equal, diversity will place candidate at top of grouping. Just race or religion N/A The program is committed to increasing and improving diversity in the program. Not able to bring a diverse perspective to our program. Diversity doesn't define an exceptional applicant. It is another piece of information to consider but someone's lack of diversity wouldn't make them any less of an exceptional applicant. I can't define the diversity of an exceptional applicant or the diversity of a marginal applicant.	Race. N/A. The program is committed to increasing and improving diversity in the program. not able to bring a diverse perspective to our program. Diversity doesn't define an exceptional applicant. It is another piece of information to consider but someone's lack of diversity wouldn't make them any less of an exceptional applicant. I can't define the diversity of an exceptional applicant or the diversity of a marginal applicant.

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Appendices *continued*

Exceptional	Strong	Average	Marginal	Uncompetitive
Is able to bring a diverse perspective to our program. Diversity doesn't define an exceptional applicant. It is another piece of information to consider but someone's lack of diversity wouldn't make them any less of an exceptional applicant. I can't define the diversity of an exceptional applicant or the diversity of a marginal applicant. Represents elements of diversity not common at our institution.	The program is committed to increasing and improving diversity in the program. Is able to bring a diverse perspective to our program. Diversity doesn't define an exceptional applicant. It is another piece of information to consider but someone's lack of diversity wouldn't make them any less of an exceptional applicant. I can't define the diversity of an exceptional applicant or the diversity of a marginal applicant. Represents elements of diversity not common at our institution.	information to consider but someone's lack of diversity wouldn't make them any less of an exceptional applicant. I can't define the diversity of an exceptional applicant or the diversity of a marginal applicant.		

Abbreviations: GME, Graduate Medical Education; URM, underrepresented minority.

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Appendices

Appendix D. Leadership Experience

Exceptional	Strong	Average	Marginal	Uncompetitive
President or other leadership role in significant organization (SNMA, AIG, etc.). Longitudinal leadership with clear direction, fruitful. Extensive leadership roles. Leader of school organization or other outside organizations. ASA delegate, student body president. National scope of involvement in professional society/ volunteerism. Anesthesia Interest Group president, sorority/fraternity president, med school student government; medical school admissions committee; Prior employment which involved leading a team; Collegiate sports team captain; Eagle scout (or equivalent). Extensive involvement in committees or an organization, leading large teams effectively with a positive outcome. No "tier" of candidate will necessarily have this, but any candidate who did might be bumped a little.	Leadership role in some extracurricular or organization that involved less time. Leadership roles that went beyond a single event. Leader of school organization or other outside organizations. Above plus AIG president. Regional/State scope of involvement in professional society/ volunteerism. Anesthesia Interest Group executive team; leading a philanthropic effort in med school or undergrad; prior employment leadership position (i.e., manager of a store or head of a department); president of special interest groups. Significant involvement in committees or an organization. Leading large teams effectively with a positive outcome. No "tier" of candidate will necessarily have this, but any candidate who did might be bumped a little. Some leadership roles in medical school.	Some suggestion of leadership experience but not clear. Many leadership roles for various organizations with little to no longitudinal relationship. Leader or active participation in some school organizations. AIG secretary, military, team captain. Demonstration of involvement with community service, volunteerism, clubs, etc. The average applicant will have participated in either a competitive sport or club/special interest group and perhaps led a project or two; might have work experience leadership roles; undergrad leadership experience. Limited involvement in committees or an organization. No "tier" of candidate will necessarily have this, but any candidate who did might be bumped a little. Some to no leadership roles. 2-3 leadership roles in medical school .	No clear leadership. No leadership experience. Participation in school organizations. None. No demonstration of involvement with any community service, volunteerism, clubs, etc. Participated in special interest groups or fundraisers, but did not directly take a leadership role. Superficial involvement in committees or an organization. No "tier" of candidate will necessarily have this, but any candidate who did might be bumped a little. None. No leadership roles in medical school. No or little leadership involvement. No leadership experiences.	No clear leadership. No leadership experience and no desire for it or acknowledgement of its value. No leadership qualities described in application. None. No demonstration of involvement with any community service, volunteerism, clubs, etc. An uncompetitive applicant will have little or no leadership experience and no work or volunteer experience. None. No "tier" of candidate will necessarily have this, but any candidate who did might be bumped a little. None. No leadership roles in medical school.

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Appendices *continued*

Exceptional	Strong	Average	Marginal	Uncompetitive
Multiple leadership roles in medical school. > 5 leadership roles in medical school. Anesthesia Interest Group president, sorority/fraternity president, med school student government; medical school admissions committee; Prior employment which involved leading a team; Collegiate sports team captain; Eagle scout (or equivalent). > 5 leadership roles in medical school, or prior to medical school. Leadership roles in medical school and college. Multiple longitudinal experiences that they can discuss in an interview. Multiple experiences that are longitudinal. Over time and to depth with outcomes.	3-4 leadership roles in medical school, or prior to medical school. AIG president, military, team captain. Leadership roles in medical school and college. Some mostly longitudinal experiences that they can discuss in an interview. Multiple experiences that are longitudinal. Over time and to depth with outcomes.	2-3 leadership roles in medical school, or prior to medical school. Some other experiences than above, leader of a project perhaps. Some leadership roles. Some experiences that may not be longstanding. Only a few leadership experiences. Maybe some that were a limited obligation.		

Abbreviations: AIG, Anesthesia Interest Group; ASA, American Society of Anesthesiologists; SNMA, Student National Medical Association.

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Appendices

Appendix E. History of Volunteerism

Exceptional	Strong	Average	Marginal	Uncompetitive
Significant emphasis, hours spent, leadership roles in multiple organizations. Evidence the volunteerism is personal and not checking a box to bolster application, potential leadership roles. Volunteerism despite personal roadblocks, ie, working to pay their bills and volunteering. Volunteerism with organizations they can speak about and more than just event specific time. Multiple longitudinal volunteer obligations. Led volunteer organization, longitudinal experience. National leadership involvement in organization(s). Exceptional applicants have longitudinal experiences like big brother/big sister, mentorship, church or community volunteerism, coaching children's teams, mission trips, volunteering at a free clinic throughout all of medical school; organizes or even creates new volunteer events.	Deep involvement in at least 1 organization. Ongoing significant activity in 1 or 2 groups with discussion about their passion for this project in evaluations and/or personal statements. Volunteerism that is consistent. Longitudinal volunteer obligations. Longitudinal experience, many experiences. Regional leadership involvement in organization(s). Consistent volunteerism in multiple places over years. Longitudinal volunteer experiences/programs that span the medical school years....regular commitment to the student-run clinic, or homeless shelters. Participation in mission trips or camps for disadvantaged populations. Following a volunteer project through to completion, being truly passionate about a cause. No "tier" of candidate will necessarily have this, but any candidate	Good involvement in a few organizations but not as deep as above. Documentation of volunteer work. Some volunteerism. Multiple short commitment volunteer opportunities. Several nonlongitudinal experiences. Volunteering for local organizations. Regularly participated in various volunteer opportunities organized through clubs/special interest groups or medical school. Participating in volunteer groups and projects through their training. No "tier" of candidate will necessarily have this, but any candidate who did might be bumped a little. History of volunteering in medical school and college. 1-2 volunteer roles in medical school. A few opportunities, just medical related.	Not much involvement. No volunteer time or research time and average grades, without evidence of need to work to meet financial needs. Little to no volunteerism. Short commitment volunteer opportunities. None. Limited/isolated evidence of volunteerism. One or two experiences spread throughout medical school (a single habitat for humanity project one weekend); occasionally worked at a shelter or free clinic. Minimal volunteer experience or very superficial involvement. No "tier" of candidate will necessarily have this, but any candidate who did might be bumped a little. History of volunteering in medical school and college. 1 volunteer role in medical school. Little to none. Just	No involvement. Volunteerism specifically designed to have a checkbox rather than for personal reasons. None. None. None. No evidence of involvement with community service. No volunteer experience. No significant volunteer experience. No "tier" of candidate will necessarily have this, but any candidate who did might be bumped a little. None. No volunteer roles in medical school. No passion for anything. LOCATION (state and city) for volunteerism is more important that work itself. We tend to match applicants who have a history of serving in the area of our residency program. An uncompetitive applicant will have no history of work ties in the area.

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Appendices *continued*

Exceptional	Strong	Average	Marginal	Uncompetitive
Following a volunteer project through to completion, being truly passionate about a cause , including follow-up to ensure it continues forward after them. No "tier" of candidate will necessarily have this, but any candidate who did might be bumped a little. History of volunteering in medical school and college. > 5 volunteer roles in medical school. Very active/successful volunteer roles. Volunteer in various aspects, not just medical. Care for the poor, the disfranchised. Arts. LOCATION (state and city) for volunteerism is more important that work itself. We tend to match applicants who have a history of serving in the area of our residency program. Long-term longitudinal project, started initiative. Volunteerism with some longitudinal experiences. Multiple experiences that are longitudinal. Over time and to depth with outcomes.	who did might be bumped a little. History of volunteering in medical school and college. 3-4 volunteer roles in medical school. Active role. As above. LOCATION (state and city) for volunteerism is more important that work itself. We tend to match applicants who have a history of serving in the area of our residency program. Repeated involvement in initiative, mission trips. Volunteerism with longitudinal experiences, speaks well of their involvement. Multiple experiences that are longitudinal. Over time and to depth with outcomes.	LOCATION (state and city) for volunteerism is more important that work itself. We tend to match applicants who have a history of serving in the area of our residency program. Some intermittent volunteering experience. Some volunteerism. Only a few experiences. Maybe some that were a limited obligation. Over time.	medical. No passion. LOCATION (state and city) for volunteerism is more important that work itself. We tend to match applicants who have a history of serving in the area of our residency program. A marginal applicant will have weak history of work ties in the area. A few intermittent volunteer experiences. No or little volunteerism. No volunteerism.	

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Appendices

Appendix F. Resiliency or Hardship Overcome

Exceptional	Strong	Average	Marginal	Uncompetitive
A compelling story of significant hardship that was overcome with hard work. Written discussion of challenges candidate faced and overcame, in particular with above-average test scores. Someone who can speak about their path and the value it provided them. Immigrated from another country, loss of significant family member, socioeconomically disadvantaged. Had to pay one's way through college or medical school or financially support his/her family; overcame a significant illness in oneself or close family members; overcame obstacles that interrupted training; didn't have any mentors or guidance. Experiences where the applicant has overcome severe financial, emotional, health hardships, learned from them and excelled. Demonstrated extreme resiliency and wisdom from a hardship. These are always evaluated case by case. It is not a requisite for	A compelling story of significant hardship that was overcome with hard work. Written discussion of challenges candidate faced and overcame, in particular with average test scores. Someone who has overcome hardships and uses that to propel them forward. Economic hardship, loss of loved one. Had little financial support; overcame obstacles that interrupted training; didn't have any mentors or guidance; faced disappointment on a personal or professional level and moved on and persevered. Experiences where the applicant has overcome significant financial, emotional, health hardships, learned from them and excelled. Demonstrated resilience and wisdom from a hardship. These are always evaluated case by case. It is not a requisite for any particular tier. Financial hardship.	No significant hardship. Written discussion of challenges candidate faced and overcame, in particular with below-average test scores. Someone who has had hardship and come out the other side. They survived. Nothing specific. Struggled with clinical or test performance and used feedback to improve skills or study habits; able to give examples of times he/she was disappointed with an outcome and recovered and used the experience to improve. Experiences where the applicant has overcome minor financial, emotional, health hardships, learned from them and excelled. Demonstrated some resiliency and wisdom from a hardship. These are always evaluated case by case. It is not a requisite for any particular tier. None. DEI candidate who has overcome challenges in childhood and college to rise and succeed.	No significant hardship. Lack of discussion of resiliency by candidate or letter writers. Someone who has or has not had hardship and doesn't see the value it eight or it bitter about the experience and cannot discuss it. None. Struggled with clinical or test performance and used feedback to improve skills or study habits. Experiences where the applicant has overcome minor financial, emotional, health hardships, learned from them and succeeded eventually. Demonstrated minimal resiliency and wisdom from a hardship. These are always evaluated case by case. It is not a requisite for any particular tier. None. DEI candidate who has overcome challenges in childhood and college to rise and succeed. Not important. Not necessary for	No significant hardship. Lack of resiliency or hardship and below-average test scores. No experience or no insight if they haven't had an experience as to the value or could bring. None. An uncompetitive applicant is someone who is unable to give any examples of resiliency or overcoming hardships. No evidence of resiliency from hardships or growth . These are always evaluated case by case. It is not a requisite for any particular tier. None. DEI candidate who has overcome challenges in childhood and college to rise and succeed. Not important. Not necessary for average applicant but an experience described in application could help but most likely HURT (viewed negative by reviewer) the candidate. No response AND no

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Appendices *continued*

Exceptional	Strong	Average	Marginal	Uncompetitive
any particular tier. Overwhelming life circumstances. Illness. DEI candidate who has overcome challenges in childhood and college to rise and succeed. Not necessary but if worked to pay for hardships and maintained grades. Not necessary for exceptional applicant but an experience described in application could help the candidate. Immigration and independence, emancipation from difficult family situation or country with strife. Has overcome some hardship and can talk about it. Overcoming a hardship, again, adds another piece to evaluate but it the presence or absence of this doesn't make an applicant exceptional or marginal. Overcome barriers and with continued velocity.	DEI candidate who has overcome challenges in childhood and college to rise and succeed. Not necessary but if worked to pay for hardships and maintained grades. Not necessary for strong applicant but an experience described in application could help the candidate. Life challenges (death of significant family member), chronic illness. Has overcome some hardship and can talk about it in an interview. Overcoming a hardship, again, adds another piece to evaluate but the presence or absence of this doesn't make an applicant exceptional or marginal. Overcame barriers and with continued velocity.	Not important. Not necessary for average applicant but an experience described in application could help or HURT (viewed negative by reviewer) the candidate. Illness or loss of loved one. May or may not have a discreet hardship but can describe a scenario where they have overcome something. Overcoming a hardship, again, adds another piece to evaluate but it the presence or absence of this doesn't make an applicant exceptional or marginal.	average applicant but an experience described in application could help or HURT (viewed negative by reviewer) the candidate. Minimal experience. No response when asked this in an interview, or difficulty in thinking of a scenario. Overcoming a hardship, again, adds another piece to evaluate but the presence or absence of this doesn't make an applicant exceptional or marginal.	insight into why this might enhance their experience in medicine.

Abbreviation: DEI, diversity, equity, and inclusion.

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Appendices

Appendix G. Additional Candidate Metrics

Metric	Number of PDs Using	Importance	Exceptional	Strong	Average	Marginal	Uncompetitive
Hobbies	7	4.0	Yes: 7	Yes: 7	Yes: 7	Yes: 3	Yes: 0
Prestige or reputation of medical school	7	4.0	1st quintile: 7 2nd quintile: 5 3rd quintile: 2 4th quintile: 0 5th quintile: 0	1st quintile: 6 2nd quintile: 7 3rd quintile: 4 4th quintile: 1 5th quintile: 1	1st quintile: 1 2nd quintile: 6 3rd quintile: 6 4th quintile: 3 5th quintile: 1	1st quintile: 0 2nd quintile: 1 3rd quintile: 6 4th quintile: 6 5th quintile: 3	1st quintile: 1 2nd quintile: 1 3rd quintile: 1 4th quintile: 5 5th quintile: 7
Publications	7	3.4	>10: 4 6-10: 5 3-5: 3 1-2: 0 0: 0	>10: 2 6-10: 4 3-5: 5 1-2: 2 0: 0	>10: 0 6-10: 0 3-5: 3 1-2: 7 0: 1	>10: 0 6-10: 0 3-5: 0 1-2: 6 0: 6	>10: 0 6-10: 0 3-5: 0 1-2: 0 0: 7
Work history	7	2.9	See Appendix H				
Evidence of completing what they start (e.g., published papers instead of generic participation in research)	6	4.2	Yes: 6	Yes: 6	Yes: 3	Yes: 0	Yes: 0
Other advanced degrees (MS, MPH, PhD)	5	3.4	Yes: 4	Yes: 2	Yes: 0	Yes: 0	Yes: 0
COMLEX Level 2	4	4.8	570 and above	605-645	565-600	495-562	Below 488

Abbreviation: COMLEX, Comprehensive Osteopathic Medical Licensing Exam.

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Appendices

Appendix H. Work History

Exceptional	Strong	Average	Marginal	Uncompetitive
Already has excellent performance as a resident in another specialty or has had significant and impressive real-world job that was challenging candidate with high standardized or school scores and significant work history. Consistent and varied work experience. Few gaps when not doing other endeavors. Not a real priority when we evaluate applicants. Everyone's path is so different to school (some may have had years to work several jobs, some may have longstanding jobs, some may not have any experiences due to timing of school/ classes). Nothing specific. Significant life/ leadership experience starting and successfully running a business. Some work experience in the undergraduate years - the type of job is less important. Looking for responsibility and time-management skills. Perhaps was employed prior to beginning medical school.	Excellent performance in prior work. Candidate with very good scores and significant work history. Varied work experience. n/a Nothing specific. Life experience outside of medicine that would add value. Some work experience in the undergraduate years - the type of job is less important. Looking for responsibility and time-management skills. No "tier" of candidate will necessarily have this, but any candidate who did might be bumped a little. History of a possible second career could influence the application. =/- Previous career. Worked to pay for hardships and maintained grades. LOCATION (state and city) for work history is more important than work itself. We tend to match applicants who have a history of serving in the area of our residency program. A strong applicant will	No prior work. Candidate with average scores and work history. Some intermittent work experience. May or may not have been during schooling. n/a Nothing specific. Some demonstration of work in a service industry. Some work experience in the undergraduate years - the type of job is less important. Looking for responsibility and time-management skills. No "tier" of candidate will necessarily have this, but any candidate who did might be bumped a little. History of a possible second career could influence the application. Not important. LOCATION (state and city) for work history is more important than work itself. We tend to match applicants who have a history of serving in the area of our residency program. An average applicant will have some ties to the area.	No prior work or poor performance. Candidate with low scores and work history. No work experience. Just did schooling. n/a None. No evidence of work. Summer jobs in high school; occasional jobs in college. No "tier" of candidate will necessarily have this, but any candidate who did might be bumped a little. History of a possible second career could influence the application. Not important. LOCATION (state and city) for work history is more important than work itself. We tend to match applicants who have a history of serving in the area of our residency program. A marginal applicant will have weak ties to the area. A history of work experience has the ability to show case	No prior work or poor performance. Candidate with failing scores. No work experience. n/a None. No evidence of work. No employment history. No "tier" of candidate will necessarily have this, but any candidate who did might be bumped a little. History of a possible second career could influence the application. Not important. LOCATION (state and city) for work history is more important than work itself. We tend to match applicants who have a history of serving in the area of our residency program. An uncompetitive applicant will have no ties to the area. A history of work experience has the ability to showcase some strengths in organization, leadership, or work ethic. However, knowing the path

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Appendices *continued*

Exceptional	Strong	Average	Marginal	Uncompetitive
No "tier" of candidate will necessarily have this, but any candidate who did might be bumped a little. History of a possible second career could influence the application. Previous successful career. Worked to pay for hardships and maintained grades. LOCATION (state and city) for work history is more important than work itself. We tend to match applicants who have a history of serving in the area of our residency program. An exceptional applicant will have strong ties to the area. No specific criteria, perhaps had long-term job. A history of work experience has the ability to showcase some strengths in organization, leadership, or work ethic. However, knowing the path through medical school doesn't always allow for work experiences, it isn't a high priority when we evaluate applicants. Over time and to depth with outcomes.	have strong ties to the area. A history of work experience has the ability to showcase some strengths in organization, leadership, or work ethic. However, knowing the path through medical school doesn't always allow for work experiences, it isn't a high priority when we evaluate applicants. Over time and to depth with outcomes.	A history of work experience has the ability to showcase some strengths in organization, leadership, or work ethic. However, knowing the path through medical school doesn't always allow for work experiences, it isn't a high priority when we evaluate applicants. Over time.	some strengths in organization, leadership, or work ethic. However, knowing the path through medical school doesn't always allow for work experiences, it isn't a high priority when we evaluate applicants.	through medical school doesn't always allow for work experiences, it isn't a high priority when we evaluate applicants.