Effect of the USMLE Step 1 Score Report Change on the Perspectives of Orthopedic Surgery Residency Applicants

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INTRODUCTION: In January of 2022, the USMLE Step 1 Examination transitioned from a numerical three-digit score to a pass/fail score reporting system. Historically, orthopedic surgery residency programs have relied heavily on this numerical score for evaluating and selecting applicants for their programs. In September of 2023, orthopedic surgery residency applicants submitted their applications without a numerical score for the Step 1 exam for the first time, marking the beginning of a new era in world of clinical education for all specialties. Our study sought to characterize the attitudes of applicants' towards this change and how it will affect the perceived importance of other key metrics in the selection process. We further aimed to characterize the metrics that applicants value most in ranking their residency programs of interest.

METHODS: A 40-item anonymous survey was electronically delivered to residency applicants. Distribution was achieved through an intermediary (student affairs offices or student orthopedic interest groups at the respective medical school), with some schools listing no contact information. Additionally, a letter of information outlining the background of the study and its intent was sent to all participants. The inclusion criteria were fourth-year, English-speaking medical students applying to orthopedic surgery who attended a United States allopathic or osteopathic medical school. Those who did not meet the inclusion criteria, or who could not provide consent, were excluded from the study. By completing the survey, individuals consented to take part in the study. Continuous variables were calculated and reported as the mean ± standard error of the mean. Categorical variables were expressed as frequencies and percentages. Scores were calculated according to the Likert scale with a score of 1 corresponding to "Not at all important" and a score of 5 meaning "Very important". This study was approved by IRB.

RESULTS SECTION: Out of the 43 participants who completed the study, 41 met the inclusion criteria for the study. Of the respondents, 38 (92.7%) of attended an allopathic medical school vs. 3 (7.3%) who attended an osteopathic school. The average age of participants in the study was 26.4 ± 2.02 where 27 (65.9%) of individuals are male vs. 14 (34.2%) are female. Demographic data is summarized in Table 1. Twenty-one respondents (51.2%) agree with the decision to move Step 1 to a pass/fail scoring system. Twelve participants (29.3%) believe this score change increased their chances of matching while 11 participants (26.8%) thought it decreased their odds of matching and 18 students (43.9%) responded neutrally. In the absence of a numerical USMLE Step 1 score, applicants now believe the three most important metrics will be Step 2 CK scores (4.8 ± 0.40), followed by performance during audition rotation (4.73 ± 0.45), and letters of recommendation from faculty members known by the program director (4.71 ± 0.51). A comparison of other applicant evaluation metrics is summarized in Table 2. Applicants rated operative experience as the most important quality they value in a residency program with a score of 4.76 ± 0.54 followed by quality of mentorship (4.61 ± 0.54), then cultural fit (4.56 ± 0.50). Residency program quality rankings with comparisons are shown in Table 3. In Tables 2 and 3, the three most important perceived metrics by applicants in this cycle are highlighted in red.

DISCUSSION: As the application process for orthopedic surgery residency programs becomes ever more competitive, it is crucial to understand how applicants perceive they will be evaluated in the Step 1 pass/fail era. Fourth-year students who completed the survey believed that Step 2 scores, performance during audition rotations, and letters of recommendation from faculty members known by the program director will be the most important factors in matching into an orthopedic surgery residency program. Studies analyzing this affect from the perspective of program directors support our results showing how both cohorts believe Step 2 scores, audition rotation performance, and some connection to the applicant will be most influential in application evaluation. As Step 2 scores are increasingly the sole objective measure provided in the application, it is thought that this measure will play a large role in applicant selection moving forward. Where program directors have overwhelmingly disagreed with the Step 1 pass/fail grading system change, applicants have more mixed views where only about half (51.2%) of respondents agree with the change. Furthermore, students have mixed attitudes concerning the effect that this change will have on their overall chances of matching to orthopedics for residency. In this new era of applications, it was found that applicants value operative experience, quality of mentorship, and cultural fit the most in a residency program. Program directors can use this information to help align their program values with those of the current applicant pool at large. Overall, these results shed light on the uncertainty of how programs will adapt to this paradigm shift in applicant selection. Limitations of this study include the small sample size and heterogenous distribution method. We received feedback that many students experience survey burnout which certainly could have contributed to the low response count achieved (n=41). Because distribution was achieved through an intermediary, it is unknown how many applicants the survey reached. However, the strengths of this study include the novel study population reached and the timing at which this study took place. To our knowledge, no other study has examined the effects of this grading change on applicants. All of the research pertaining to this topic in orthopedic surgery has addressed the perspectives of only program directors. Lastly, this study took place at the beginning of the first application cycle where applicants did not have a numerical Step 1 score, thus providing a snapshot to help benchmark the trend of applicants' perspectives over time in this new era of residency applications. More studies are needed to examine the key metrics of applicants who successfully match to orthopedic surgery to determine what measures programs value most without a numerical Step 1 score.

SIGNIFICANCE/CLINICAL RELEVANCE: This novel study explores the perspectives of orthopedic surgery residency applicants in light of the USMLE Step 1 score reporting change revealing that applicants have mixed attitudes in whether or not they agree with the change and how that change will affect their chances of matching. This study further reveals that operative experience is the trait that applicants believe is most important in selecting a residency program for their training.

IMAGES AND TABLES:

| Table 1: Demographics		
Count, n	41	95.35%
Medical School Type, n, %		
MD	38	92.68%
DO	3	7.32%
Gender Identity, n, %		
Man	27	65.85%
Woman	14	34.15%
Another Gender Identity	0	0.00%
Decline to Answer	0	0.00%
Average Age, s.d.	26.39	2.02
Race, n, %		
American Indian or Alaska Native	0	0.00%
Asian	4	9.76%
Black or African American	2	4.88%
Native Hawaiian or Other Pacific Islander	3	7.32%
White	30	73.17%
Other	2	4.88%
URM, n, %		
Identify as URM	9	21.95%
Does not identify as URM	32	78.05%
Home Program, n, %		
Students who have a home program	34	82.93%
Students who do not have a home program	7	17.07%
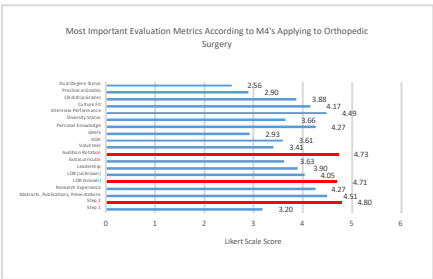
Table 2: Perceived Importance of Evaluation Metrics
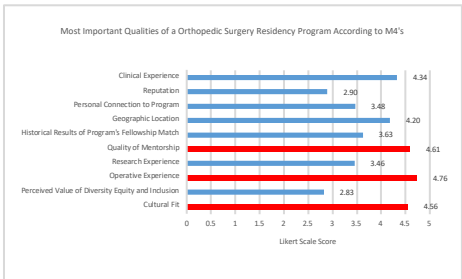
Table 3: Importance of Residency Program Attributes

Table 1: Demographics