PRS GLOBAL OPEN

Matching Into Integrated Plastic Surgery: The Impact of USMLE Step 1 Transition to Pass/Fail: Did the 2019 Predictions Come True in 2024?

Lyndsay R. Boyd, MD*
Lawrence O. Lin, MD†
Jeffrey E. Janis, MD, FACS†

Background: The first class of integrated plastic surgery residency applicants with pass/fail (P/F) step 1 assessments occurred during the 2023–2024 Match cycle. This study analyzes the results of a 2024 postmatch survey to program directors (PDs) regarding the impact of the conversion to P/F step 1 scoring and compares the results to the 2019 survey that attempted to predict how this conversion would influence decision-making when it was initially announced.
Methods: A 26-item survey evaluating PDs' perspectives on applicant characteristics and the application process following P/F step 1 scoring was distributed March 2024. Data were analyzed using summary tables, marginal homogeneity tests, and Mann-Whitney U tests.
Results: Thirty-seven plastic surgery PDs completed the survey (response rate = 46.3%). The top 3 most important metrics for determining applicant interview invitations after step 1 P/F conversion were participation in an away rotation, letters of recommendation, and involvement in research, while ultimately match rank list order emphasized quality of the applicant's interview. A total of 68.1% of PDs agree that it was more difficult to differentiate applicants without a numerical step 1 score. A total of 51.5% of PDs reported using step 2 clinical knowledge scores to screen applicants. PDs' opinions on factors influencing the 2023–2024 Match cycle did not significantly change from predictions studied in 2019.
Conclusions: Program directors felt that in the 2023–2024 cycle, it was more difficult to differentiate between applicants, leading to increased emphasis on other characteristics such as away rotations, letters of recommendation, step 2 clinical knowledge scores, and research. There was no difference from what was predicted. *(Plast Reconstr Surg Glob Open 2025; 13:e6417; doi: 10.1097/GOX.0000000000006417; Published online 16 January 2025.)*

INTRODUCTION

The US Medical Licensing Examination (USMLE) step 1 score has long been considered a crucial element in the residency application process, significantly influencing an applicant's likelihood of receiving interviews and securing a spot in integrated plastic surgery programs.[1,2] However, starting January 26, 2022, the Federation of State Medical

*From the *Department of General Surgery, OhioHealth Riverside Methodist Hospital, Columbus, OH; and †Department of Plastic and Reconstructive Surgery, The Ohio State University Wexner Medical Center, Columbus, OH.*

Boards and the National Board of Medical Examiners (NBME) transitioned USMLE step 1 score reporting to a pass/fail (P/F) system.[3] As a result, the 2023–2024 Match cycle marked the first-time residency applicants were evaluated with P/F step 1 scoring rather than a numerical score. Survey studies completed before the transition predicted that most program directors (PDs) planned to place greater emphasis on step 2 clinical knowledge (CK) scores.[1,4,5] A 2019 study specifically targeting integrated plastic surgery reported the projections of both PDs and applicants to integrated plastic surgery residencies on how this conversion might affect the applicant review, interview invitation, and rank list selection process.[1] Surveys suggested that PDs would increasingly consider factors such

Disclosure statements are at the end of this article, following the correspondence information.

Related Digital Media are available in the full-text version of the article on www.PRSGlobalOpen.com.

as personal knowledge of the applicant, letters of recommendation, the reputation of the medical school, and the applicant's research involvement.[1,2,6–14] This study aimed to determine whether the prior predictions came true, as well as how the change influenced their decision-making in the inaugural application cycle under this new system.

METHODS

A 26-item survey was designed to evaluate integrated plastic surgery PDs' perspectives on applicant characteristics and opinions on the inaugural application cycle following the transition to pass/fail step 1 scoring. (**See survey, Supplemental Digital Content 1,** which displays questions distributed to integrated plastic surgery PDs. http://links.lww.com/PRSGO/D757.) E-mail addresses for PDs of integrated plastic surgery residency programs were obtained from publicly available Accreditation Council for Graduate Medical Education documents and institutional websites. Unavailable and nondeliverable e-mail addresses were excluded from the 90 total integrated programs in the United States, resulting in a study population of n = 80. Recruitment e-mails were sent by the senior author (J.E.J.) 3 times during a 4-week period spanning March and April 2024, starting after the 2023–2024 Match cycle was complete. The survey underwent pilot testing to assess internal validity and was distributed via email using Qualtrics.

The survey included a mix of Likert scales, rank orders, multiple-choice, and free-text questions. When evaluating applicants for interview invitation, PDs ranked their top 3 most important metrics (MIMs) in order of first most important to third most important. Metrics offered for PDs to rank included applicant medical school, society memberships, leadership experience, Dean's letter, away rotations, signaling, research, step 1 (P/F), step 2 CK numerical score, clerkship grades, and open text field response for "other." Additionally, PDs were asked to select their top 3 MIMs, in order, when considering their match rank list construction. Metrics offered for PDs to rank included the previously discussed list as well as quality of the interview.

Consent for participation was inferred from the review of the consent form and successful completion of the survey. This study received an institutional review board exemption from the Ohio State University Office of Responsible Research Practices (institutional review board 2024E0137).

Statistical Analysis

Continuous variables were analyzed for mean, median, mode, SD, and quartiles, whereas ordinal and categorical variables were summarized in tables. Marginal homogeneity tests were used to detect changes in metrics for interview and rank list selection. Data from the authors' previously published study on PD perspectives regarding step 1 P/F scoring were compared with this study's results using a nonparametric Mann-Whitney U test. For the purposes of comparison, Likert-scale data were consolidated into 3 categories for comparison: "very likely" and "likely" were combined into "agree," "very unlikely" and "unlikely" into "disagree," and "neither agree nor disagree" into

Takeaways

Question: What metrics did integrated plastic surgery program directors (PDs) find important after the transition of step 1 to pass/fail, and was this different from the expected changes published in 2019?

Findings: A survey evaluating PD perspectives showed the top 3 most important metrics for determining applicant interview invitations were participation in away rotations, letters of recommendation, and involvement in research. Step 2 CK scores were used as a screening tool by 51.5% of PDs.

Meaning: Without step 1 numerical score, PDs turned to subjective measures and step 2 scores to differentiate applicants. These findings did not differ from the predicted outcomes in 2019.

"neutral." A *P* value of less than 0.05 was considered statistically significant.

RESULTS

PD Response Rate

Thirty-seven integrated plastic surgery PD responses were obtained (response rate = 46.3%) of the original 90 programs contacted, subtracting 10 e-mail addresses that were undeliverable/bounced back. PD mean age was 53 years (Table 1). Twenty percent of PDs identified as women and 80% as men. Seventy-eight percent of PDs identified as White and 7% as Asian. The mean tenure

Table 1. PD Demographics (N = 31)

| Category	Mean		
Years as a PD	9.1		
		n	%
Age, y	53		
Gender identity			
Female		6	20.0
Male		20	66.7
Gender variant/nonconforming		1	3.3
Prefer not to answer		3	10.0
Race			
White		22	78.6
Black/African American		0	—
Asian		2	7.1
Ethnicity			
Hispanic or Latino		2	8.3
Not Hispanic or Latino		22	91.7
Residency program type			
Integrated		20	64.5
Integrated and independent		11	35.5
Geographic area			
Northeast (ME, NH, VT, NY, MA, CT, RI, PA, NJ)		8	25.8
South (DE, MD, DC, VA, WV, KY, TN, NC, SC, GA, FL, AL, MS, LA, AR, OK, TX)		11	35.5
Midwest (OH, IN, MI, IL, WI, MN, IA, MO, KS, NE, SD, ND)		8	25.8
West (NM, CO, WY, MT, ID, UT, AZ, NV, CA, OR, WA, HI, AK)		4	12.9
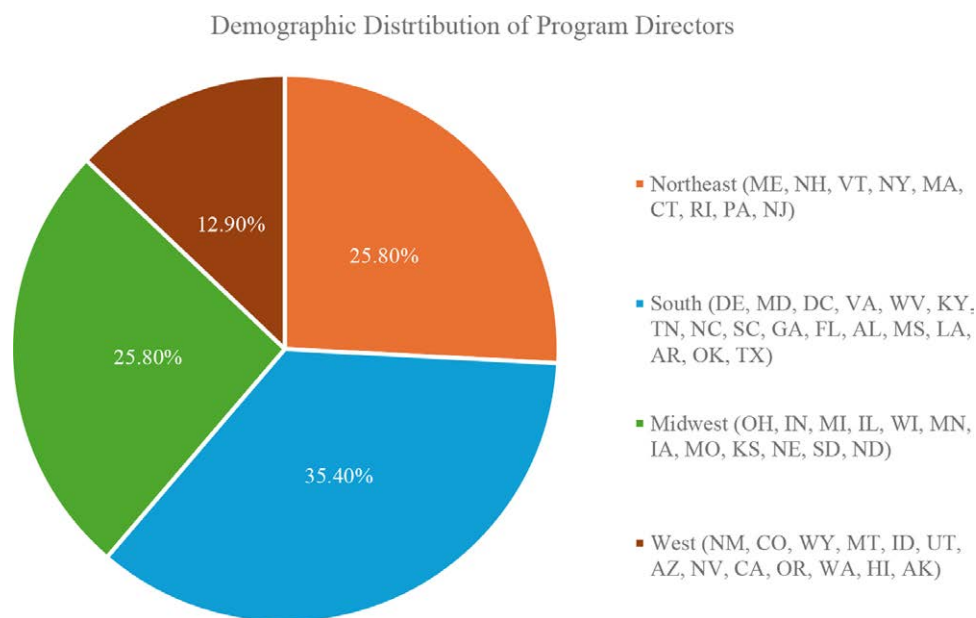
Fig. 1. Demographic data of PDs based on geographic location.

of PD in their positions was 9.1 years, and 35.5% of PDs represented dual integrated and independent plastic surgery programs. Demographic distribution of PDs included 25.8% Northeast, 35.4% South, 25.8% Midwest, and 12.9% West (Fig. 1).

Integrated Plastic Surgery 2023–2024 Match Cycle

Most integrated plastic surgery programs in the 2023–2024 cycle allowed applications via the Plastic Surgery Central Application (PSCA); however, many still also allowed submission using the Electronic Residency Application System (ERAS). Fifty-four percent of PDs reported using the PSCA only, 6.1% ERAS only, and 39.4% both PSCA and ERAS. For the 2024–2025 cycle, PDs plan to use PSCA only (66.7%) or (30.3%) PSCA and ERAS. All PDs surveyed indicated they did not use a supplemental application.

Metrics Used to Select Applicants for Interviews and Rank List Order

When evaluating applicants for interview invitation, PDs were asked to rank, in order, their top 3 MIMs in determining student interviews (Table 2). The most selected number 1 criteria was if the student participated in an away rotation at their program. The most chosen second MIM was letters of recommendation, and the most chosen third ranked criteria was involvement in research. PDs also evaluated their top 3 MIMs for determining rank order list. Overwhelmingly, the top chosen, most important metric PDs selected was the quality of the applicant's interview. The second ranked MIM was letters of recommendation, and there was a tie for the third MIM with involvement in research and completing an away rotation.

PD Perspectives Regarding Step 1 P/F Scoring

When specifically asked their opinions on evaluation of applicants with the new P/F USMLE step 1 score,

46.9% of PDs agreed and 21.2% strongly agreed that it was more difficult to differentiate between applicants solely based on P/F, rather than a quantitative/numerical score (Table 3). PDs expressed concern over a lack of objective data, especially when many medical schools are using P/F scoring for coursework and clerkships. One comment expressed, "candidates without grades in their medical schools are totally dependent on Step 2." Eighty-five percent of PDs agreed that step 2 CK became more important, with 51.5% using step 2 CK scores for screening applicants for interviews.

Signaling is a feature that has recently been added to PSCA and ERAS applications, with 48.4% of PDs using it as a screening tool. Signaling is an opportunity for students to express directed interest in a few select programs. Currently, students are allowed up to 5 signals, 38.7% of PDs agreed they would support increasing the number of signals to greater than five. Most PDs (54.8%) report that it is now more important for applicants to take a dedicated research year before applying into integrated plastic surgery. Finally, 45.2% of PDs screen applicants based on MD versus DO affiliation.

When comparing our data to the 2019 data published by Lin et al on predicted consequences of conversion to of P/F scoring, the predictions did not statistically significantly differ from the actual changes experienced in the 2023–2024 application cycle. In 2019, 82.8% of PDs expected that it would be more difficult to objectively compare applicants, and in follow-up, our 2024 survey showed that 66.7% of PDs agreed it was, indeed, more difficult ($P = 0.31$) (Table 4). In 2019, step 2 CK scores were hypothesized to be of greater emphasis by 87.5% of PDs, and in 2024, 84.8% agreed that it did actually become more important in the applicant review process ($P = 0.95$). Additionally in 2019, 45.3% of PDs said it would be more important for applicants to take dedicated research time,

Table 2. PD Most Important Applicant Metrics (N = 33)

Most Important Metrics With Pass/Fail Score: Interview Offer							Most Important Metrics With Pass/Fail Score: Rank List						
Metric (in Descending Frequency)	Total (n)	No. 1		No. 2		No. 3		Metric (in Descending Frequency)	Total (n)	No. 1		No. 2		No. 3	
		n	%	n	%	n	%			n	%	n	%	n	%
Letters of recommendation	29	7	21.9	17	53.1	5	15.6	Quality of interview	26	16	48.5	6	18.2	4	12.1
Away rotation	18	14	43.8	2	6.3	2	6.3	Away rotation	21	9	27.3	5	15.2	7	21.2
Step 2 CK numerical score	16	5	15.6	7	21.9	4	12.5	Letters of recommendation	27	4	12.1	17	51.5	6	18.2
Research	12	0	—	2	6.3	10	31.3	Clerkship grades	3	2	6.1	0	—	1	3.0
Signaling	5	2	6.3	0	—	3	9.4	Signaling	4	1	3.0	0	—	3	9.1
Clerkship grades	5	3	9.4	1	3.1	1	3.1	Other	2	1	3.0	1	3.0	0	—
Applicant's medical school	3	0	—	0	—	3	9.4	Applicant's medical school	0	0	—	0	—	0	—
Leadership experience	3	0	—	2	6.3	1	3.1	Step 1 score (pass/fail)	0	0	—	0	—	0	—
Other	3	0	—	1	3.1	2	6.3	Leadership experience	2	0	—	0	—	2	6.1
Dean's letter	2	1	3.1	0	—	1	3.1	Dean's letter	0	0	—	0	—	0	—
Step 1 score (pass/fail)	0	0	—	0	—	0	—	Research	7	0	—	0	—	7	21.2
Society memberships	0	0	—	0	—	0	—	Step 2 CK numerical score	7	0	—	4	12.1	3	9.1
								Society memberships	0	0	—	0	—	0	—

Table 3. PD Sentiments Regarding Step 1 Score Change (N = 32)

Statement	Strongly Disagree	Disagree	Neither Agree nor Disagree	Agree	Strongly Agree
As a result of changing USMLE step 1 to pass/fail					
This cycle was more difficult to differentiate between applicants	3.1%	9.4%	18.8%	46.9%	21.9%
Step 2 CK became more important to my program's application review process	3.1%	0.0%	9.4%	40.6%	46.9%
My program screened applicants based on step 2 CK scores	15.6%	21.9%	9.4%	34.4%	18.8%
Step 2 CK should also be changed to pass/fail	68.8%	15.6%	6.3%	0.0%	9.4%
A new standardized exam should be created for the purpose of evaluating applicants	18.8%	18.8%	37.5%	15.6%	6.3%
My program screened applicants based on signaling	9.7%	16.1%	25.8%	45.2%	3.2%
The number of programs that applicants can signal to should be increased.	12.9%	19.4%	29.0%	19.4%	19.4%
It will be more common for applicants to co-apply to another specialty (ie, general surgery)	3.2%	6.5%	67.7%	22.6%	0.0%
It is now more important for applicants to take time off from medical school	12.9%	12.9%	19.4%	45.2%	9.7%
My program screened applicants based on MD vs DO affiliation	16.1%	19.4%	19.4%	32.3%	12.9%

Table 4. PD Opinion Comparisons Regarding Step 1 P/F Scoring Predictions 2019 Versus Actual Opinions of the 2023–2024 Match Cycle (N = 32)

2019 PDs								2024 PD								
	n = 64	Agree	%	Neutral	%	Disagree	%	n = 33	Agree	%	Neutral	%	Disagree	%	P
Changing the USMLE step 1 to P/F	Will make it more difficult to objectively compare applicants	53	82.8	4	6.3	7	10.9	This cycle was more difficult to differentiate between applicants	22	66.7	6	18.2	4	12.1	0.31
	Will increase emphasis on step 2 CK scores in selecting applicants for my program	56	87.5	2	3.1	6	9.4	Step 2 CK became more important to my program's application review process	28	84.8	3	9.1	1	3.0	0.95
As a result of changing USMLE Step 1 to P/F	It will be more important for applicants to take time off from medical school to participate in research	29	45.3	22	34.4	13	20.3	It is now more important for applicants to take time off from medical school to participate in research	17	51.5	6	18.2	8	24.2	0.72

and in 2024, 51.5% of PDs agreed it is now more important for applicants ($P = 0.72$). All of these were non–statistically significant, indicating there was no significant difference between the 2019 predictions and 2024 actual implementation.

DISCUSSION

In January 2022, the NBME initiated the transition of the USMLE step 1 examination to a P/F scoring system, with the first group of P/F applicants participating in the 2023–2024 match cycle.[3] This change was enacted to alleviate the pressure placed on students to achieve high step 1 scores due to their disproportionate impact on residency applications, as well as address disparities often encountered in standardized testing.[1,11,15,16] However, early concerns were raised that this transition might actually heighten bias related to factors such as socioeconomic status and applicant diversity.[1,17] PDs in integrated plastic surgery hypothesized that the new P/F system would elevate the importance of other criteria, including step 2 CK scores, research experience, and away rotations.[2,6,8,10,13,14] This study examines whether 2019 predictions came true in the inaugural match cycle where the conversion was implemented (2023–2024). From a PD perspective, the most commonly ranked metrics in match list construction were quality of interviews (no. 1), away rotations (no. 2), letters of recommendation (tied for no. 3), and research (tied for no. 3). Additionally, step 2 CK is now the most important objective measure for PD evaluation, with many using this score as a screening tool for interview selection.

With less quantitative data from a P/F step 1 score, many PDs are increasingly reliant on student commitment and subjective evaluations. PD responses reflected this mindset, with the top ranked metrics for interview selection being student participation in away rotations (no. 1), letters of recommendation (no. 2), and involvement in research (no. 3). Additionally, 84.8% of PDs agreed that step 2 CK became more important in their process, with 51.5% using step 2 CK scores for screening applicants for interviews. Previous research has shown step 1 numerical scoring was historically used for screening applicants. One study showed 48.8% of PDs reported using a minimum step 1 cutoff score to prescreen applicants, whereas another reported that 94% of PDs used step 1 scores for residency interview selection.[1,15] Compared with the 2019 predictive surveys, there was no statistical difference in the MIMs that were hypothesized to be of greatest importance by PDs, and the MIMs actually used in the 2023–2024 applicant evaluation.[1] Although converting step 1 to P/F was instituted to help relieve medical student stress, it may seem that the NBME has traded 1 type of medical student stress for another as many applicants and programs began placing emphasis on step 2 CK as the new necessary objective score. In addition, the lack of objective data has highlighted needs in other areas of an applicants' resume, such as research productivity and obtaining away rotations.

Historically, examinations like step 1 have created unintentional socioeconomic, gender, and racial biases.[17,18] Hernandez et al[19] uncovered that there was no difference in diversity of medical students applying to residencies from 2010 to 2020 despite the popularity and adoption of diversity, equity, and inclusion policies. The authors reported that quantitative step 1 scores may be a barrier to increasing diversity. However, our data suggest that removing step 1 quantitative scores may, in fact, exacerbate socioeconomic, gender, and/or racial biases during the application process. There continues to be bias in factors PDs weigh heavily on when selecting integrated plastic surgery residency candidates. One PD commented, "the absence of standardization creates ambiguity in comparison and shifts the focus to research prowess and notoriety in letters of recommendation. This shift creates a growing disadvantage for students [who are] from medical schools less closely associated with the social circles of academic plastics. Where the standardized metrics of the USMLE once presented an opportunity for these students…the shift will inevitably favor those from academic legacy and institutional prestige, while creating greater disadvantage for those with less favored circumstances." Given this respondent's concerns over worsening bias following this change to P/F step 1 scoring, it is important for plastic surgery programs to study changes in diversity of applicants and incoming residents.

In addition to the lack of objective data that traditionally differentiated applicants, medical students may be expected to participate in away rotations to communicate their interest to their most highly considered programs. This is evident by PDs expressing away rotation participation as their number 1 most important metric when evaluating applicants for interview selection. A 2020 study found that 67% of interns completed an away rotation at their matched program.[2] Students without a home plastic surgery program are at a disadvantage and are more likely to feel the need to pursue away rotations. Only 84 (54.5%) allopathic medical schools have a home program.[20] In addition to "orphan" students, international medical graduates face restrictions and barriers in securing away rotation opportunities. Historically, international medical graduates have been less likely to match into competitive specialty programs due to concerns regarding visa sponsorship and academic competency, despite multiple studies supporting no difference in the Accreditation Council for Graduate Medical Education competency or patient outcomes.[21] This additional lack of "face time" at a program can further limit their opportunities to demonstrate their interest and commitment to specific programs when applying to plastic surgery. Although away rotations are mutually advantageous for students and PDs in providing insight and exposure to a program, visiting students incur a financial burden. Applicants average 9.2 weeks of away rotations, with each rotation averaging 4 weeks.[22] Estimated total away rotation costs averaged $3591 per applicant in 2016 and is now an estimated $4693 with 2024 inflation.[6,23,24] This cost includes travel, housing, and food, leading many students to seek additional federal financial assistance.[22] The added financial burden of away rotations may hurt students with limited socioeconomic resources and put them at a disadvantage when applying to plastic surgery.

Research continues to play a substantial role in selecting applicants for plastic surgery residency. The author's

previous 2019 study reported 45.3% of PDs estimated that it would be more important for applicants to take dedicated research time, and in 2024, 51.5% of PDs agreed it is now more important ($P = 0.72$). PDs also rank research among their top 3 MIMs. Keane et al[9] reported that successfully matched plastic surgery applicants without a home program had 9.8 ± 9.5 abstracts, presentations, and publications listed on their residency applications. Mehta et al[10] found that 25% of applicants (n = 621) participated in a research fellowship and were more likely to match into plastic surgery compared with those who did not. The 2022 NRMP charting outcomes data for successfully matched plastic surgery applicants were 6.1 research experiences.[25] Additionally, a recently published study found that the law of diminishing returns for applicants to the integrated plastic surgery match is after 15 publications, 15 contiguous ranks, 5 research experiences, and 10 volunteer experiences have been reached.[26] Although research is an opportunity to showcase work ethic, academic knowledge, and critical thinking, it is important to consider that lower quality, quick to publish articles may be inflating this number.[27] Additionally, these experiences may be harder to ascertain for applicants who attend medical schools with less research funding, perpetuating a bias toward students at higher notoriety medical programs.[28] One PD commented, "Eliminating numerical USMLE scores places more emphasis on where you went to medical school. This increases disparity and makes it harder for someone disadvantaged to prove themselves equal to someone at a 'big' medical school." In future application cycles, the transition to P/F step 1 scoring may overemphasize the importance of research experiences.

Although race, gender, and socioeconomic status are well documented sources of unintentional bias in residency selection, allopathic versus osteopathic degree designation are less studied. In fact, our survey reports 45.2% of PDs screen applicants based on their medical degree (MD or DO). The Main Residency Match reported that DO students are less likely to match into competitive specialties/programs such as plastic surgery.[29] This bias prompted the American Medical Association's release of a statement on discrimination and aims for legislation prohibiting such behavior. It emphasized the point that MD and DO students receive similar education, with DOs receiving an extra emphasis on osteopathic manipulative medicine techniques.[29] The 2024 Match data from the NRMP match showed that 16 DO seniors applied to integrated plastic surgery, with 3 matching, resulting in only 1.4% of plastic surgery residency positions being filled by DO students.[30] Plastic surgery programs should aim to continue a holistic review of applicants to mitigate potential biases related to an applicant's medical degree designation.

A positive change to mitigate the financial burden of application fees has been the transition to using the PSCA. With the increased competitive nature of integrated plastic surgery, many students are applying to all available programs.[11,22] ERAS, previously the most commonly used application system, cost applicants as much as $30 per program, an estimated $2700 for 90 programs. The now preferred application service, PSCA, currently costs students a $100 flat fee to apply to all 90 plastic surgery programs. The financial savings with the PSCA adoption are well received by applicants, with Elmer et al[31] showing that 79% of applicants reported the cost savings associated with the PSCA were "very" or "extremely important." Sarac et al[32] showed that most PDs (72%) and applicants (59%) preferred PSCA. Multiple PDs in our survey also noted that PSCA was "more streamlined," "cleaner," and "better than ERAS." A recent statement by the American Council of Educators in Plastic Surgery announced that they will endorse PSCA as the preferred single application for the 2024–2025 cycle.

Finally, the transition to P/F step 1 evaluation may further augment the importance of subjective and potentially biased forms of evaluation such as in-person interviews compared with virtual interviews. Multiple PDs noted that virtual interviews were a challenge during the 2023–2024 cycle. "[We] will no longer do virtual interviews. In-person is more valuable given decreased emphasis on objective parameters (Step 1)," said one PD. Although in-person interviews have benefits for applicants and PDs, the pressure to prioritize in-person evaluation versus virtual evaluations again brings an aspect of financial burden. During the COVID-19 pandemic when interviews were completely virtual, students saw an average cost savings estimated to be more than $9000.[24] These costs for students will only increase as programs transition back to in-person interviews. As the residency selection process eliminates one known form of socioeconomic and diversity bias—quantitative step 1 scores—all stakeholders in the selection of future leaders in plastic surgery should consider how other biases become more prominent or new ones emerge.

Limitations

Several limitations exist and may impact the validity of our results. First, our survey does not represent the opinions of all plastic surgery PDs, as our response rate was 46.5% and 10 PD were not able to be reached. With a small sample size, n = 37, our study is at risk of a higher margin of error. When comparing our survey to the respondents of the author's 2019 study, we see a greater response rate of 64 PDs (response rate = 62.1%).[1] The demographic distribution of integrated plastic surgery PDs is 19.1% Northeast, 32.65 South, 16.8% West, and 31.5% Midwest. Thus, our sample geographic distribution does not differ significantly from the actual geographic distribution of programs. Therefore, these factors may results in a less accurate representative of the total PD population. Finally, survey-based research allows for opportunity for nonresponse bias and survey fatigue, as we had a 26-item survey; however, the estimated duration for completion remained 5–7 minutes.

CONCLUSIONS

Historically, USMLE step 1 scores played a significant role in evaluating and screening plastic surgery applicants, but the 2023–2024 match cycle was the first to see conversion to P/F step 1 scores. Previously published research

hypothesized that step 2 CK scores would play a larger role in the plastic surgery residency application review, which is now confirmed in this study. Additionally, metrics such as performance on away rotations, letters of recommendation, and research productivity have gained importance.

Jeffrey E. Janis, MD, FACS
Department of Plastic and Reconstructive Surgery
The Ohio State University
915 Olentangy River Road, Suite 2100
Columbus, OH 43212
E-mail: Jeffrey.Janis@osumc.edu
Twitter/X: @jjanismd
Instagram: @JeffreyJanisMD

DISCLOSURES

Dr. Janis receives royalties from Thieme and Springer Publishing and is a co-founder of the PSCA. The other authors have no financial interest to declare in relation to the content of this article.

REFERENCES

1. Lin LO, Makhoul AT, Hackenberger PN, et al. Implications of pass/fail step 1 scoring: plastic surgery program director and applicant perspective. *Plast Reconstr Surg Glob Open*. 2020;8:e3266.
2. Molina Burbano F, Pasick C, Torina PJ, et al. Away rotations in plastic and reconstructive surgery: a survey of program directors. *Plast Reconstr Surg*. 2020;145:235e–236e.
3. USMLE. Change to pass/fail score reporting for step 1. 2020. Available at https://www.usmle.org/incus/#decision. Accessed June 20, 2024.
4. Raborn LN, Janis JE. Current views on the new United States Medical Licensing Examination step 1 pass/fail format: a review of the literature. *J Surg Res*. 2022;274:31–45.
5. Pontell ME, Makhoul AT, Ganesh Kumar N, et al. The change of USMLE step 1 to pass/fail: perspectives of the surgery program director. *J Surg Educ*. 2021;78:91–98.
6. Drolet BC, Brower JP, Lifchez SD, et al. Away rotations and matching in integrated plastic surgery residency: applicant and program director perspectives. *Plast Reconstr Surg*. 2016;137:1337–1343.
7. Patel AA, Wong MS, Nguyen VT, et al. Analysis of reapplications to integrated and independent plastic surgery residency. *Plast Reconstr Surg Glob Open*. 2021;9:e3508.
8. Schultz KP, Shih L, Davis MJ, et al. Integrated plastic surgery applicant review: important factors and selection criteria. *Plast Reconstr Surg Glob Open*. 2020;8:e2892–e2895.
9. Keane CA, Akhter MF, Sarac BA, et al. Characteristics of successful integrated plastic surgery applicants from US allopathic medical schools without a home integrated program. *J Surg Educ*. 2022;79:551–557.
10. Mehta K, Sinno S, Thanik V, et al. Matching into integrated plastic surgery: the value of research fellowships. *Plast Reconstr Surg*. 2019;143:640–645.
11. Asserson DB, Sarac BA, Janis JE. A 5-year analysis of the integrated plastic surgery residency match: the most competitive specialty? *J Surg Res*. 2022;277:303–309.
12. Fijany AJ, Zago I, Olsson SE, et al. Recent trends and future directions for the integrated plastic surgery match. *Plast Reconstr Surg Glob Open*. 2023;11:e5053.
13. Asaad M, Drolet BC, Janis JE, et al. Applicant familiarity becomes most important evaluation factor in USMLE step I conversion to pass/fail: a survey of plastic surgery program directors. *J Surg Educ*. 2021;78:1406–1412.
14. Ngaage LM, Elegbede A, McGlone KL, et al. Integrated plastic surgery match: trends in research productivity of successful candidates. *Plast Reconstr Surg*. 2020;146:193–201.
15. Janis JE, Hatef DA. Resident selection protocols in plastic surgery: a national survey of plastic surgery program directors. *Plast Reconstr Surg*. 2008;122:1929–1939.
16. Sarac BA, Janis JE. Matching into plastic surgery: insights into the data. *Plast Reconstr Surg Glob Open*. 2022;10:e4323.
17. Williams M, Kim EJ, Pappas K, et al. The impact of United States Medical Licensing Exam (USMLE) step 1 cutoff scores on recruitment of underrepresented minorities in medicine: a retrospective cross-sectional study. *Health Sci Rep*. 2020;3:e2161.
18. Cuddy MM, Swanson DB, Clauser BE. A multilevel analysis of examinee gender and USMLE step 1 performance. *Acad Med*. 2008;83:S58–S62.
19. Hernandez JA, Kloer CI, Porras Fimbres D, et al. Plastic surgery diversity through the decade: where we stand and how we can improve. *Plast Reconstr Surg Glob Open*. 2022;10:e4134.
20. Rostam Kadivar Shahriari S, Whisonant C, Ederle A, et al. Orphan applicants in plastic surgery: where do medical students without an affiliated residency program match? *Eplasty*. 2022;22:e21.
21. Kokosis G, Leto Barone AA, Grzelak MJ, et al. International medical graduates in the US plastic surgery residency: characteristics of successful applicants. *Eplasty*. 2018;18:e33.
22. Sarac BA, Rangwani SM, Schoenbrunner AR, et al. The cost of applying to integrated plastic surgery residency. *Plast Reconstr Surg Glob Open*. 2021;9:e3317.
23. SmartAsset Advisors L. Inflation calculator. 2024. Available at https://smartasset.com/investing/inflation-calculator#1YhDZ5Bjlw. Accessed June 28, 2024.
24. Gordon AM, Sarac BA, Drolet BC, et al. Total costs of applying to integrated plastic surgery: geographic considerations, projections, and future implications. *Plast Reconstr Surg Glob Open*. 2021;9:e4058.
25. National Residency Matching Program. Charting Outcomes in the Match. 2014. Available at http://www.nrmp.org/data/chartingoutcomes2011.pdf. Accessed June 28, 2024.
26. Elemosho A, Sarac BA, Janis JE. The law of diminishing returns in the integrated plastic surgery residency match: a deeper look at the numbers. *Plast Reconstr Surg Glob Open*. 2024;12:e5937.
27. Elliott B, Carmody JB. Publish or perish: the research arms race in residency selection. *J Grad Med Educ*. 2023;15:524–527.
28. Lin LO, Huttinger AL, Butler P, et al. Socioeconomic disparities in research participation: bias in plastic surgery residency match. *Plast Reconstr Surg Glob Open*. 2024;12:e5565.
29. American Medical Association. Discrimination against DO students in medical residency. 2022. Available at https://www.ama-assn.org/system/files/cme-issue-brief-discrimination-against-DO-students-in-medical-residency.pdf. Accessed July 2, 2024.
30. The National Resident Matching Program. Advanced data tables: 2024 main residency match. 2024. Available at https://www.nrmp.org/wp-content/uploads/2024/03/Advance-Data-Tables-2024.pdf. Accessed June 23, 2024.
31. Elmer NA, Veeramani A, Bustos VP, et al. Perspectives on the plastic surgery common application (PSCA): a survey of 2021-2022 integrated plastic surgery applicants. *Plast Reconstr Surg Glob Open*. 2023;11:e4766.
32. Sarac BA, Jackson K, Schwartz R, et al. The plastic surgery central application versus ERAS: which is preferred? *Plast Reconstr Surg Glob Open*. 2024;12:e5703.