

Cost Analysis of Dermatology Residency Applications From 2021 to 2024 Using the Texas Seeking Transparency in Application to Residency Database

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PRACTICE POINTS

- Dermatology application costs increased from 2021 to 2024, largely due to expenses related to away rotations and, in some cases, a return to in-person interviews.
- Away rotations play a critical role in the dermatology match; however, they also contribute substantially to financial burden.
- The cost-saving impact of virtual interviews during the COVID-19 pandemic highlights a meaningful opportunity for future cost reduction.
- Further interventions are needed to meaningfully reduce financial burden and promote equity.

To the Editor:
Residency applicants, especially in competitive specialties such as dermatology, face major financial barriers due to the high costs of applications, interviews, and away rotations.¹ While several studies have examined application costs of other specialties, few have analyzed expenses associated with dermatology applications.^{1,2} There are no data examining costs following the start of the COVID-19 pandemic in 2020; thus, our study evaluated dermatology application cost trends from 2021 to 2024 and compared them to other specialties to identify strategies to reduce the financial burden on applicants.

Self-reported total application costs, application fees, interview expenses, and away rotation costs from 2021 to 2024 were collected from the Texas Seeking Transparency in Application to Residency (STAR) database powered by the UT Southwestern Medical Center (Dallas, Texas).³ The mean total application expenses per year were compared

among specialties, and an analysis of variance was used to determine if the differences were statistically significant.

The number of applicants who recorded information in the Texas STAR database was 110 in 2021, 163 in 2022, 136 in 2023, and 129 in 2024.³ The total dermatology application expenses increased from \$2805 in 2021 to \$6231 in 2024; interview costs increased from \$404 in 2021 to \$911 in 2024; and away rotation costs increased from \$850 in 2021 to \$3812 in 2024 (all $P < .05$) (Table). There was no significant change in application fees during the study period (\$2176 in 2021 to \$2125 in 2024 [$P = .58$]). Dermatology had the fourth highest average total cost over the study period compared to all other specialties, increasing from \$2250 in 2021 to \$5250 in 2024, following orthopedic surgery (\$2250 in 2021 to \$6750 in 2024), plastic surgery (\$2250 in 2021 to \$9750 in 2024), and neurosurgery (\$1750 in 2021 to \$11,250 in 2024).

Our study found that dermatology residency application costs have increased significantly from 2021 to 2024, primarily driven by rising interview and away rotation expenses (both $P < .05$). This trend places dermatology

TABLE. Average Expenses For Dermatology Residency Applications, 2021-2024^a

Expense	2021	2022	2023	2024
Total expense	2805	4552	6630	6231
Away rotation cost	850	2023	3758	3812
Application fee	2176	2401	2519	2125
Interview cost	404	403	651	911

^aCosts presented as mean in US dollars; $P = .048$.

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among the most expensive fields to apply to for residency. A cross-sectional survey of dermatology residency program directors identified away rotations as one of the top 5 selection criteria, underscoring their importance in the matching process.⁴ In addition, a cross-sectional analysis of 345 dermatology residents found that 26.2% matched at institutions where they had mentors, including those they connected with through away rotations.^{5,6} Overall, the high cost of away rotations partially may reflect the competitive nature of the specialty, as building connections at programs may enhance the chances of matching. These costs also can vary based on geography, as rotating in high-cost urban centers can be more expensive than in rural areas; however, rural rotations may be less common due to limited program availability and applicant preferences. For example, nearly 50% of 2024 Electronic Residency Application Service applicants indicated a preference for urban settings, while fewer than 5% selected rural settings.⁷ Additionally, the high costs associated with applying to residency programs and completing away rotations can disproportionately impact students from rural backgrounds and underrepresented minorities, who may have fewer financial resources.

In our study, the lower application-related expenses in 2021 (during the pandemic) compared to those of 2024 (postpandemic) likely stem from the Association of American Medical Colleges' recommendation to conduct virtual interviews during the pandemic.⁸ In 2024, some dermatology programs returned to in-person interviews, with some applicants consequently incurring higher costs related to travel, lodging, and other associated expenses.⁸ A cost-analysis study of 4153 dermatology applicants from 2016 to 2021 found that the average application costs were \$1759 per applicant during the pandemic, when virtual interviews replaced in-person ones, whereas costs were \$8476 per applicant during periods with in-person interviews and no COVID-19 restrictions.² However, we did not observe a significant change in application fees over our study period, likely because the pandemic did not affect application numbers. A cross-sectional analysis of dermatology applicants during the pandemic similarly reported reductions in application-related expenses during the period when interviews were conducted virtually,⁹ supporting the trend observed in our study. Overall, our findings taken together with other studies highlight the pandemic's role in reducing expenses and underscore the potential for exploring additional cost-saving measures.

Implementing strategies to reduce these financial burdens—including virtual interviews, increasing student funding for away rotations, and limiting the number of applications individual students can submit—could help alleviate socioeconomic disparities. The new signaling system for residency programs aims to reduce the number of applications submitted, as applicants typically receive interviews only from the limited number of programs they signal, reducing overall application costs. However, our data from the Texas STAR database suggest that application numbers remained

relatively stable from 2021 to 2024, indicating that, despite signaling, many applicants still may apply broadly in hopes of improving their chances in an increasingly competitive field. Although a definitive solution to reducing the financial burden on dermatology applicants remains elusive, these strategies can raise awareness and encourage important dialogues.

Limitations of our study include the voluntary nature of the Texas STAR survey, leading to potential voluntary response bias, as well as the small sample size. Students who choose to submit cost data may differ systematically from those who do not; for example, students who match may be more likely to report their outcomes, while those who do not match may be less likely to participate, potentially introducing selection bias. In addition, general awareness of the Texas STAR survey may vary across institutions and among students, further limiting the number of students who participate. Additionally, 2021 was the only presignaling year included, making it difficult to assess longer-term trends. Despite these limitations, the Texas STAR database remains a valuable resource for analyzing general residency application expenses and trends, as it offers comprehensive data from more than 100 medical schools and includes many variables.³

In conclusion, our study found that total dermatology residency application costs have increased significantly from 2021 to 2024 (all $P < .05$), making dermatology among the most expensive specialties for applying. This study sets the foundation for future survey-based research for applicants and program directors on strategies to alleviate financial burdens.

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