

# Post-Residency Training Instead of Medical Student Research Fellowships Will Improve Dermatology Patient Care and Excellence

Shari R. Lipner MD PhD,<sup>a</sup> Julianne M. Falotico BA<sup>b</sup>

<sup>a</sup>Weill Cornell Medicine, Department of Dermatology, New York, NY

<sup>b</sup>Renaissance School of Medicine at Stony Brook University, Stony Brook, NY

## INTRODUCTION

Research fellowships among prospective dermatology residency applicants are becoming increasingly popular. These fellowships provide opportunities for mentorship, publications, and clinical experience, but unpaid positions impose a significant financial burden.<sup>1</sup> We advocate for a more holistic analysis of dermatology applicants, with less emphasis on publication quantity, and propose allocating funds for post-residency fellowships in underserved areas of dermatology.

There has been a trend of dermatology residency applicants performing a research year before residency, increasing overall training years. In a survey-based study of 236 dermatology applicants,<sup>2</sup> median publication number was higher for gap-year (8) vs non-gap-year students (4) ( $P<0.01$ ). In a review of the National Resident Matching Program's Charting Outcomes in the Match, 2007–2019,<sup>3</sup> dermatology applicants with more research projects and publications were more likely to match than those with fewer projects and publications (both  $P=.005$ ). However, there is no evidence that gap-year research fellowships improve clinical skills or promote research careers. In a survey-based study of 4636 MD/PhD graduates, 80% reported working in academia, or other research-based positions, and 48% of dermatologist MD/PhDs worked in academia full time.<sup>4</sup> Therefore, applicants with research track records, including MD/PhD students, interested in clinician/scientist career pathways may be well suited for research-focused dermatology programs. In other cases, applicant research experiences may not accurately reflect the student's interest in conducting scientific research.<sup>5</sup> Therefore, we advocate for attention to applicants' academic metrics, as well as, experiences and volunteerism, with less emphasis on publications, to decrease pressure on medical students to pursue gap-year fellowships and incur associated costs.

In a survey of 70 dermatology residents and attendings,<sup>6</sup> participants interested in working in private practice vs. academia were more likely to have  $>\$200,000$  in student loan debt (53.3% vs 24.0%;  $P<0.05$ ) and report that student debt influenced their career goals (62.2% vs 12.0%;  $P<0.001$ ). Therefore, post-residency

practice choices may be swayed by debt and earning potential. By discouraging research year fellowships, dermatologist training time and expenses would decrease, potentially making dermatology residency graduates more inclined to pursue post-residency training, which would be beneficial to our patients and specialty. The advantages of additional training for dermatologists are well established (ie, paid ACGME-approved fellowships and nonaccredited programs in complex medical dermatology). An additional year of training may also be considered by select dermatology residency graduates who are interested in using newer technologies (confocal reflectance microscopy) or treating unique patient populations, where there is limited exposure even in programs with experts on faculty. In a Medicare Provider Utilization and Payment Database analysis, 2012–2017, 243,336 total nail biopsies were performed, with only 0.28% and 1.01% performed by general dermatologists and Mohs surgeons, respectively, on average annually.<sup>7</sup> The podiatrist nail biopsy rate was 28.85-fold the dermatology rate, and Mohs surgeons were 3.6 times more likely to perform nail biopsies than general dermatologists (both  $P<0.05$ ). Therefore, there is a shortage of dermatologists performing nail biopsies, and surgical fellowship trained dermatologists perform more nail biopsies.

Funding for post-residency training programs would instill recent dermatology residency graduates with confidence and competence in caring for underserved patients. For example, 78% of dermatology residents and attendings who received grants to work one-on-one with a nail expert established new nail clinics.<sup>8</sup> Sub-specialty home and away rotations during residency are short and may not be sufficient to provide residents with the training they need. Funding from national and specialty dermatology organizations should be directed towards promoting post-graduate fellowship opportunities.

Important dialogues about unpaid research fellowships are necessary, and concerted efforts are needed to discourage gap-year research and raise funds for post-residency fellowships in underserved areas of dermatology. We encourage focus be shifted from pre-doctoral fellowships to residency training and

beyond, such that medical students who later become residents can focus their energy and efforts not on matching, but on contributing to their chosen specialty and patient populations. However, there needs to be a change in the application process to discourage the trend of unfunded research years. Until residency programs shift to a holistic applicant review process, with less emphasis on publications, funding opportunities must be directed towards students who desire to take a research year but cannot afford to, such as students underrepresented in medicine, of low socioeconomic status, and those without a home program.

### DISCLOSURES

Ms. Falotico has no conflicts of interest. Dr. Lipner has served as a consultant for Ortho Dermatologics, Verrica, HothTherapeutics, BelleTorus Corporation, and Hexima.

### REFERENCES

1. Jung J, Stoff BK, Orenstein LAV. Unpaid research fellowships among dermatology residency applicants. [published online ahead of print, 2021 Dec 20]. *J Am Acad Dermatol*. 2021;S0190-9622(21)02993-5.
2. Costello CM, Harvey JA, Besch-Stokes JG, et al. The role research gap years play in a successful dermatology match. *Int J Dermatol*. 2022;61(2):226-230.
3. Ezekor M, Pona A, Cline A, et al. An increasing trend in the number of publications and research projects among dermatology residency applicants. *J Am Acad Dermatol*. 2020;83(1):214-216.
4. Brass LF, Akabas MH. The national MD-PhD program outcomes study: Relationships between medical specialty, training duration, research effort, and career paths. *JCI Insight*. 2019;4(19):e133009. Published 2019 Oct 3.
5. Cline A, Pona A, Ezekor M, et al. The importance of publications, research, volunteer, and work experience in dermatology residency applicants. *J Am Acad Dermatol*. 2021;84(2):e99-e100.
6. Nguyen J, Song E, Liu MA, et al. Student loan burden and its impact on career decisions in dermatology. *Cutis*. 2017;100(6):436-441.
7. Wang Y, Lipner SR. Retrospective analysis of nail biopsies performed using the Medicare Provider Utilization and Payment Database 2012 to 2017. *Dermatol Ther*. 2021;34(3):e14928.
8. Gaghan LJ, Lipner SR, Jellinek NJ, Mervak JE. Opportunities for education and mentorship in management of nail disorders. *J Am Acad Dermatol*. 2021;85(5):e295-e296.

### AUTHOR CORRESPONDENCE

**Shari R. Lipner MD PhD**

E-mail:..... shi9032@med.cornell.edu