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LETTER TO THE EDITOR

NIH research funding success in dermatology training programs, a cross-sectional analysis

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Abstract

Training programs with strong research funding are crucial to academic dermatology and are essential to the development of future dermatology researchers. While previous studies have examined the influence of individual investigator characteristics on funding success, no studies to our knowledge have examined the influence of dermatology training program characteristics on successful receipt of NIH funding. Here, we used publicly available data regarding NIH funding and dermatology training programs to understand the factor influencing successful NIH funding. The results of our study showed strong associations of funding success with the strength of the associated college of medicine, as well as an association with programs having departmental status vs. divisional status. The factors that influence successful funding are multiple, and while many factors cannot be changed or mitigated, our study may provide support to programs who have yet to achieve departmental status.

Keywords Residency · Funding · Research · NIH · Academic dermatology

To the Editor,

Training programs with strong research productivity and funding are crucial to the development, retention, and success of academic dermatologists, and for addressing the global burden of skin disease [1]. While previous studies have examined trends in dermatology research funding related to gender, degree type, and geographic location of recipients [2,3], the influence of individual program characteristics such as division or departmental status, region, and city size on funding success remains unexplored. We performed a cross-sectional analysis of residency programs to examine program characteristics contributing to funding success.

Data from 2014 regarding active programs, faculty rosters, NIH funding data, publication numbers, and lectures were obtained through methods established by Namavar et al. [4]. Department or division status was obtained through each program's website. Quintile rankings were assigned based on the US News and World Report research ranking for each program's affiliated medical school in 2014. City population and region for each program was obtained via US Census Data.

113 dermatology residency training programs were identified and were grouped as programs that received funding, and those that did not. Univariate and multivariate logistic regression was performed in a forward stepwise manner with a designated p value threshold of < 0.1 for inclusion into a final model (Table 1). Compared to dermatology divisions, departmental status conferred 3.86 times the odds to successfully receive research funding in 2014 prior to adjustment. Successful NIH funding was also associated with a higher research quintile ranking, and Western US region for each training program's affiliated medical school.

Our study highlights the strong association of dermatology program funding and the strength of the associated college of medicine, yet also highlights an association of having departmental status. Other factors associated with funding success at the univariate level included increasing publications, increasing faculty, and increased faculty representation

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Table 1 Univariate and multivariate logistic regression comparing variables with programs that successfully received funding

Term	Univariate			Multivariate		
	Odds ratio funding = *Y*	95% CI	*p* value	Odds ratio funding = *Y*	95% CI	*p* value
Department/division status						
Division	[REF]			[REF]		
Department	3.8571	1.2102–12.2936	0.0225*	6.5731	0.8844–48.8557	0.0658
USNWR ranking quintile—2014			< 0.0001			0.0022
1	[REF]			[REF]		
2	0.4370	0.1051–1.8169	0.2548	0.7296	0.1041–5.1142	0.7510
3	0.3697	0.0873–1.5664	0.1768	0.6656	0.0836–5.2987	0.7006
4	0.0157	0.0016–0.1563	0.0004*	0.0380	0.0021–0.6891	0.0270*
5	0.1176	0.0084–1.6420	0.1116	2.0345	0.0918–45.0675	0.6532
6	0.0221	0.0044–0.1102	< 0.0001*	0.0569	0.0063–0.5114	0.0105*
US census region			0.0070			0.0714
South	[REF]			[REF]		
Midwest	2.3681	0.8141–6.8882	0.1136	3.4883	0.6649–18.2999	0.1396
Northeast	3.4444	1.2285–9.6577	0.0187*	3.8397	0.7453–19.7809	0.1077
West	7.5778	2.0826–27.5729	0.0021*	14.2630	1.5903–127.9208	0.0176*
City Population Size (Thousands)	1.0002	1.0000–1.0005	0.0494*	1.0001	0.9997–1.0005	0.6490
# of Clinical Faculty	1.2785	1.1597–1.4094	< 0.0001*	1.1160	0.9545–1.3048	0.1688
# of Pubmed Papers	1.0892	1.0496–1.1304	< 0.0001*	1.0283	0.9816–1.0773	0.2393
# of Lectures	1.2028	1.1048–1.3094	< 0.0001*	1.0135	0.8827–1.1635	0.8494

*$p < 0.05$

at conferences; however, these associations did not persist after adjustment. Dermatology programs in the Western US region were significantly more likely to be carrying NIH funding in 2014, which may result from fewer community dermatology programs within the region. Limitations of this study include a focus on only NIH sources of funding and evaluating data from a single calendar year. Nevertheless, this study captures the larger trends in successful research funding for dermatology training programs.

The factors that influence successful research funding for dermatology programs are multiple, and while many program characteristics are unmodifiable, departmental status offered a strong trend that should be further analyzed. Research funding remains inconsistent among dermatology programs, and this may provide some support for programs that have yet to achieve departmental status.

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Data availability Data available on request from the authors.

Declarations

Conflict of interest The authors declare that they have no competing interests.

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