Supplemental Information

Figure S1: NIH F30 applicants by enrollment
(**A**) Number of total MD-PhD program enrollees and percentage of total MD-PhD trainees that apply for F30s by year (2016-2025). (**B**) Total number of NIH F31 grants submitted and reviewed, number of newly awarded F31 grants, and F31 success rate calculated as percentage of F31s awarded relative to those submitted by year (2015-2025). Data was extracted from NIH RePORTER and is not differentiated by applicant type (i.e., dual-degree versus PhD). For both, fiscal year is reported on the *x*-axis.

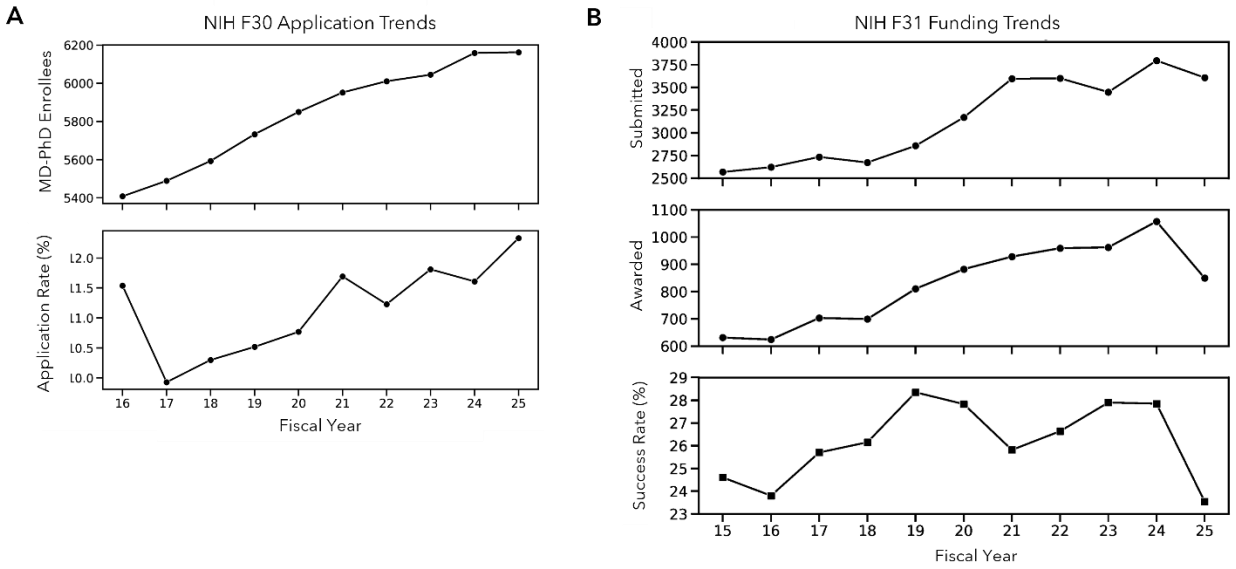
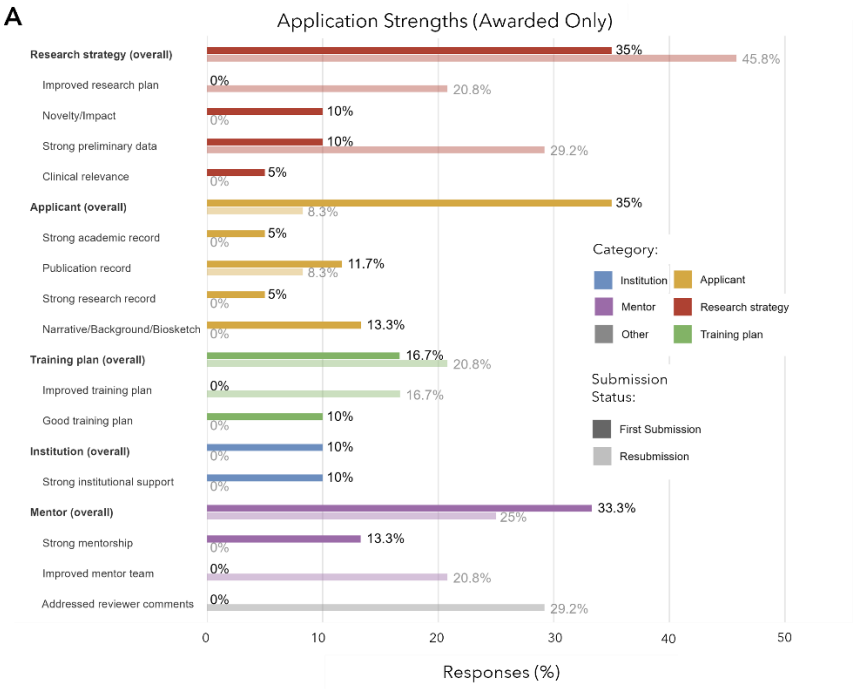


Figure S2: Application strengths and pitfalls.
(**A**) Free-text perceived application strengths from applicants who were awarded on first submission (dark shaded bars) or resubmission (light shaded bars). (**B**) Free-text perceived application pitfalls for those who were awarded (dark blue bar) or not awarded on first submission (light blue bar) or resubmission (orange bar). For both, percentage of respondents is reported on the *x*-axis. Major categories are reported on the *y*-axis in bold with sub-categories beneath. Statistical analysis was performed using a Chi-squared test.



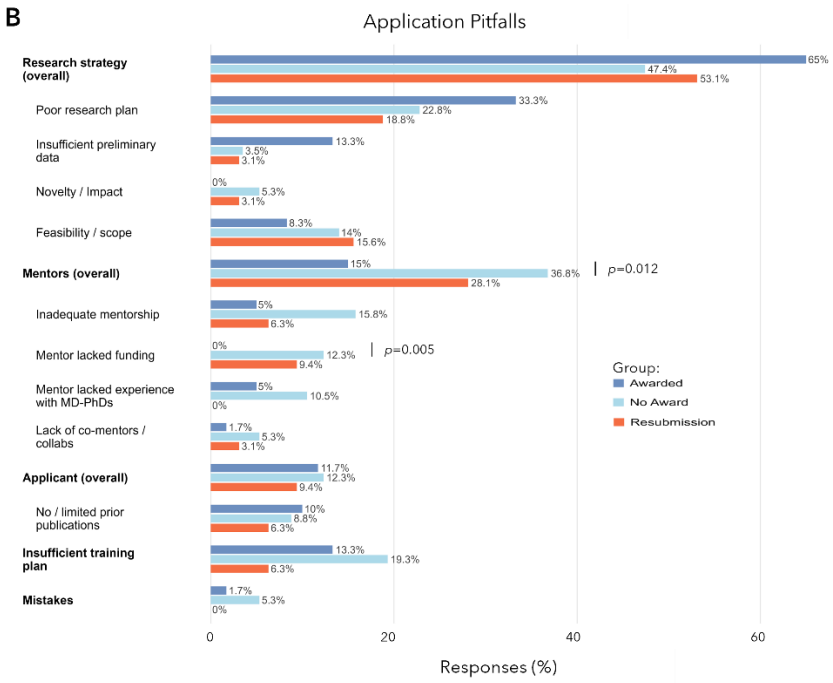


Figure S3: Application components associated with award versus no award
Univariable logistic regression analyses comparing NIH F30/F31 (predoctoral) grants that were awarded and not awarded on first submission. An odds ratio (OR)<1 indicates reduced likelihood of receiving an awarded grant, whereas OR>1 indicates increased likelihood. Statistical analysis was performed using logistic regression with Wald test. Points represent OR, lines represent 95% confidence intervals (CI), and red indicates statistical significance (p<0.05)

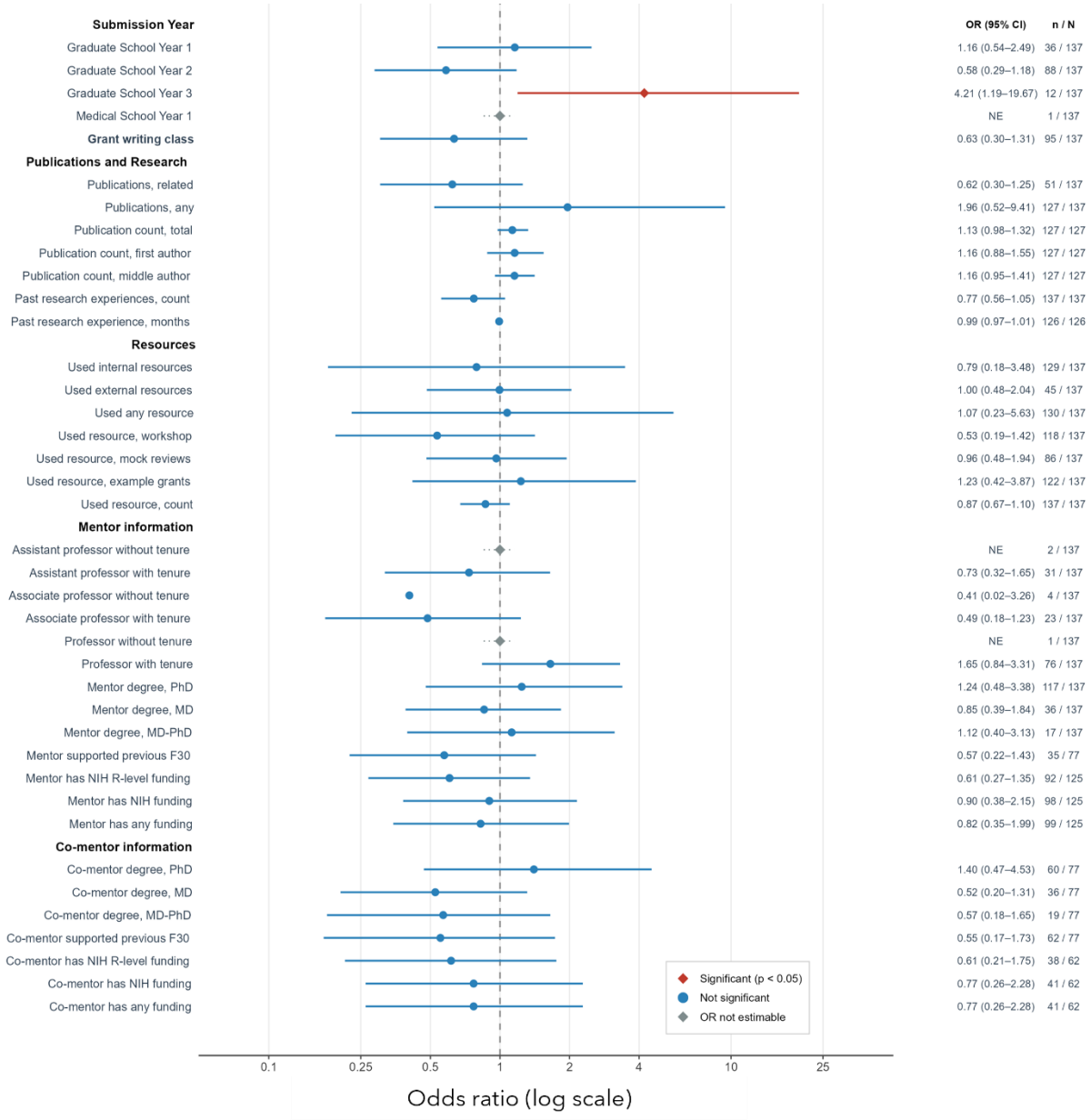


Figure S4: Major NIH F30 categorical changes made in 2025
Major categorical changes were made to pre-doctoral grant submissions in January 2025. The changes were made in an effort to minimize disparities from the suggested overinfluence of institutional status, mentor status, and applicant profile. with increased focus on the training plan, mentoring team, and trainability of the applicant. Image prepared using Perplexity.

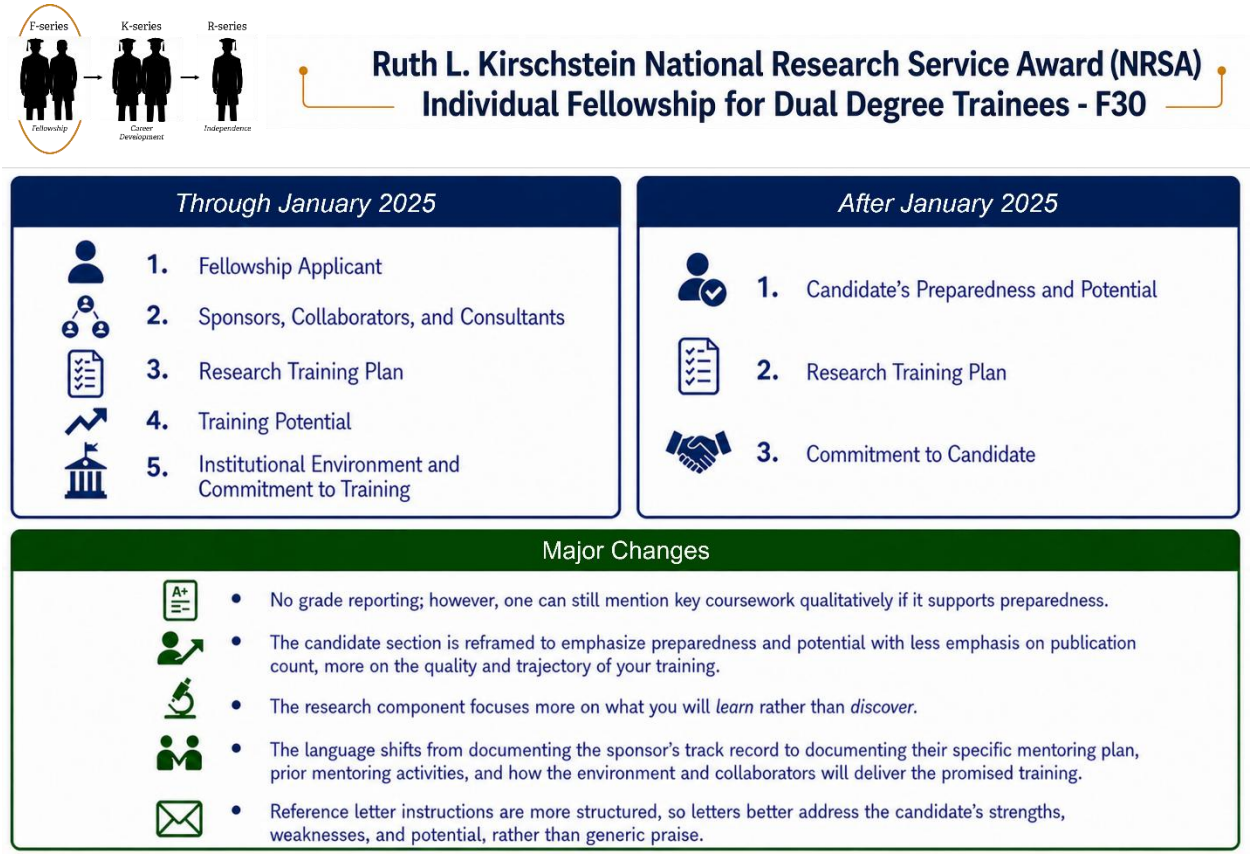


Table S1: Survey respondent demographics.

		Total n=256	Yes Submission n=137	No Submission n=119	p-val	No Award n=76	Yes Award n=61	p-val
gender	*man*	102	58	44	0.398	31	27	0.614
	woman	141	75	66		44	31	
	other	9	3	6		1	2	
	unspecified	4	1	3			1	
race/ethnicity	*white*	159	89	70		52	37	
	asian	70	35	35		17	18	
	hispanic	27	14	13		8	6	
	black	17	8	9		5	3	
	middle eastern/ north african	11	5	6		2	3	
	native american/ american indian	3	0	3		0	0	
	native hawaiian pacific islander	2	2	0		2	0	
	other	2	0	2		0	0	
	unspecified	7	4	3		2	2	
parent degree	*some HS*	3	0	3	0.239	0	0	0.191
	HS diploma	16	7	9		2	5	
	some college	14	9	5		4	5	
	college degree	65	37	28		23	14	
	master's degree	67	33	34		17	16	
	graduate degree (PhD)	31	15	16		10	5	
	medical degree (MD)	31	16	15		8	8	
	dual-degree (MD/DO-PhD)	6	3	3		0	3	
	other professional	14	11	3		8	3	
	other	3	3	0		3	0	
	unspecified	6	3	3		1	2	
household income	*<25000*	12	6	6	0.846	4	2	0.917
	25000-49999	23	10	13		6	4	
	50000-74999	27	13	14		7	6	
	75000-99999	42	21	21		11	10	
	100000-149999	58	35	23		23	12	
	150000-250000	35	19	16		10	9	
	>250000	32	18	14		9	9	
	unspecified	27	15	12		6	9	
age at submission	*mean*	26.86	26.6	27.7	0.017	26.7	26.53	0.646
	std dev	1.99	1.9	2.1		1.8	1.98	
	NA or unspecified	121	30	91		20	10	

Demographics were grouped by submission and award status. Submission constitutes respondents who did (Yes) or did not (No) submit an F30/F31 grant. Award constitutes respondents, who at the time of survey submitted a grant, had received (Yes) or not received (No) an award. HS = high school, NA = not applicable. The differences between census groups were compared with Chi-squared tests and Fisher exact tests when the number of responses within any subgroups was below 5. Mann-Whitney tests were used for continuous variables. Additional information such as fractions and statistical tests used is provided in the supporting data document.

Graphical abstract: Predoctoral grant writing barriers and interventions for physician-scientist trainees.
Practical interventions to help alleviate survey-identified grant writing barriers and obstacles and to improve the predoctoral grant writing experience. Image prepared using Perplexity.