

Nonphysician Clinicians in Dermatology Residencies: Cross-sectional Survey on Residency Education

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PRACTICE POINTS

- Most dermatology residency programs do not offer training on working with and supervising non-physician clinicians.
- Dermatology residents think that formal training in supervising nonphysician clinicians would be a beneficial addition to the residency curriculum.

To the Editor:

There is increasing demand for medical care in the United States due to expanded health care coverage; an aging population; and advancements in diagnostics, treatment, and technology.¹ It is predicted that by 2050 the number of dermatologists will be 24.4% short of the expected estimate of demand.²

Accordingly, dermatologists are increasingly practicing in team-based care delivery models that incorporate non-physician clinicians (NPCs), including nurse practitioners and physician assistants.¹ Despite recognition that NPCs are taking a larger role in medical teams, there is, to our knowledge, limited training for dermatologists and dermatologists-in-training to optimize this professional alliance.

The objectives of this study included (1) determining whether residency programs adequately prepare residents

to work with or supervise NPCs and (2) understanding the relationship between NPCs and dermatology residents across residency programs in the United States.

An anonymous cross-sectional, Internet-based survey designed using Google Forms survey creation and administration software was distributed to 117 dermatology residency program directors through email, with a request for further dissemination to residents through self-maintained listserves. Four email reminders about completing and disseminating the survey were sent to program directors between August and November 2020. The study was approved by the Emory University institutional review board. All respondents consented to participate in this survey prior to completing it.

The survey included questions pertaining to demographic information, residents' experiences working with NPCs, residency program training specific to working with NPCs, and residents' and residency program directors' opinions on NPCs' impact on education and patient care. Program directors were asked to respond N/A to 6 questions on the survey because data from those questions represented residents' opinions only. Questions relating to residents' and residency program directors' opinions were based on a 5-point scale of impact (1=strongly impact in a negative way; 5=strongly impact in a positive way) or importance (1=not at all important; 5=extremely important). The survey was not previously validated.

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Dr. Barrett reports no conflict of interest. Dr. Blalock is an employee of Emory Healthcare; is a speaker for Physicians' Education Resource, LLC; and is a principal investigator for Castle Biosciences LLC.

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TABLE 1. Characteristics of Survey Respondents and Dermatology Residency Programs (N=81)

Characteristic	Respondents	Characteristic	Respondents
Mean age (SD), y	36.10 (9.19)	Program size, n (%)	
Sex, n (%)		≤6 residents	3 (3.7)
Female	40 (49.4)	7–11 residents	24 (29.6)
Male	39 (48.1)	≥12 residents	53 (65.4)
Other or prefer not to say	2 (2.5)	Uncertain	1 (1.2)
Race, n (%)		Program region, n (%)	
Asian or Asian American	9 (11.1)	Mid-Atlantic	6 (7.4)
Black or African American	1 (1.2)	Midwest	19 (23.5)
Prefer not to say	5 (6.2)	Northeast	19 (23.5)
Two or more races	5 (6.2)	Northwest	1 (1.2)
White or Caucasian	60 (74.1)	Southeast	18 (22.2)
Another race	1 (1.2)	Southwest	11 (13.6)
Ethnicity, n (%)		West	7 (8.6)
Hispanic	6 (7.4)	Do nonphysician clinicians work at your residency program site?, n (%)	
Non-Hispanic	69 (85.2)	Yes	71 (87.7)
Prefer not to say	6 (7.4)	No	10 (12.3)
Residency year, n (%)			
PGY-2	13 (16.0)		
PGY-3	15 (18.5)		
PGY-4	16 (19.8)		
Recent graduation	1 (1.2)		
Residency director	35 (43.2)		
Other	1 (1.2)		

Abbreviation: PGY, postgraduate year.

TABLE 2. Dermatology Residents' Interactions With Nonphysician Clinicians and Current Program Training Exposure

Questions	Frequency, n (%)
How frequently do residents work directly with a nonphysician clinician? ^a (n=45)	
Daily	2 (4.4)
Weekly	13 (28.9)
Monthly	3 (6.7)
Quarterly	10 (22.2)
Semiannually	1 (2.2)
Annually	1 (2.2)
Less than annually	2 (4.4)
Never	13 (28.9)
How often are residents supervised by a nonphysician clinician? ^a (n=45)	
Quarterly	1 (2.2)
Never	44 (97.8)
Have residents ever provided supervision to nonphysician clinicians? ^a (n=45)	
Yes	5 (11.1)
No	39 (86.7)
Uncertain	1 (2.2)
How often do residents provide supervision to nonphysician clinicians? ^a (n=45)	
Weekly	1 (2.2)
Monthly	1 (2.2)
Quarterly	3 (6.7)
Semiannually	1 (2.2)
Never	39 (86.7)
Do residents foresee the need to work with or supervise nonphysician clinicians in the future? ^a (n=45)	
Yes	29 (64.4)
No	9 (20.0)
Uncertain	7 (15.6)

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TABLE 2. (continued)

Questions	Frequency, n (%)
Do residents feel adequately trained to provide supervision to and work with nonphysician clinicians? ^a (n=45)	
Yes	16 (35.6)
No	15 (33.3)
Uncertain	14 (31.1)
Does respondent's residency program allow for residents and nonphysician clinicians to oversee or supervise one another? (N=81)	
Yes	2 (2.5)
No	68 (84.0)
Uncertain	11 (13.6)
Does respondent's residency program offer any formalized training (eg, didactic lectures) on supervising or working with nonphysician clinicians? (N=81)	
Yes	7 (8.6)
No	65 (80.2)
Uncertain	9 (11.1)
Does respondent's residency program offer any informal training on supervision or working with nonphysician clinicians? (N=81)	
Yes	13 (16.0)
No	63 (77.8)
Uncertain	5 (6.2)
Does respondent's residency program provide adequate training in supervising nonphysician clinicians? (N=81)	
Yes	12 (14.8)
No	45 (55.6)
Uncertain	24 (29.6)
Does respondent feel that a more formal curriculum (including didactic experience) addressing supervisory skills for working with nonphysician clinicians would benefit residency education? (N=81)	
Yes	34 (42.0)
No	24 (29.6)
Uncertain	23 (28.4)

^aResponses that did not originate with dermatology residents (ie, originated with residency directors or others) are not included.

TABLE 3. Dermatology Residency Directors' and Residents' Perceptions of Working With Nonphysician Clinicians

	Overall, mean (SD)	Residency directors, mean (SD)	Residents, mean (SD)	P value (95% CI)
How do respondents feel that nonphysician clinicians impact... ^a				
Resident education	2.95 (0.967)	3.09 (0.70)	2.84 (1.13)	.27 (-0.67 to 0.19)
Patient care	3.06 (1.44)	3.43 (1.40)	2.78 (1.41)	.043 (-1.28 to -0.20)
Residents' job search	2.46 (0.87)	2.54 (0.78)	2.40 (0.94)	.46 (-0.53 to 0.24)
How important is it to your/ your residents' practice to learn supervision skills for working with nonphysician clinicians? ^b	2.45 (1.16)	2.49 (1.01)	2.42 (1.27)	.80 (-0.57 to 0.44)

^aScale of impact: 1=strongly impact in a negative way; 5=strongly impact in a positive way.

^bScale of importance: 1=not at all important; 5=extremely important.

Descriptive analysis and a paired *t* test were conducted when appropriate. Missing data were excluded.

There were 81 respondents to the survey. Demographic information is shown Table 1. Thirty-five dermatology residency program directors (29.9% of 117 programs) responded. Of the 45 residents or recent graduates, 29 (64.4%) reported that they foresaw the need to work with or supervise NPCs in the future (Table 2). Currently, 29 (64.4%) residents also reported that (1) they do not feel adequately trained to provide supervision of or to work with NPCs or (2) were uncertain whether they could do so. Sixty-five (80.2%) respondents stated that there was no formalized training in their program for supervising or working with NPCs; 45 (55.6%) respondents noted that they do not think that their program provided adequate training in supervising NPCs.

Regarding NPCs impact on care, residency program directors who completed the survey were more likely to rank NPCs as having a more significant positive impact on patient care than residents (mean score, 3.43 vs 2.78; *P*=.043; 95% CI, -1.28 to -0.20)(Table 3).

This study demonstrated a lack of dermatology training related to working with NPCs in a professional setting and highlighted residents' perception that formal education in working with and supervising NPCs could be of benefit to their education. Furthermore, residency directors perceived NPCs as having a greater positive impact on patient care than residents did, underscoring the importance of the continued need to educate residents on working synergistically with NPCs to optimize patient care. Ultimately, these results suggest a potential area for further development of residency curricula.

There are approximately 360,000 NPCs serving as integral members of interdisciplinary medical teams across the United States.^{3,4} In a 2014 survey, 46% of 2001 dermatologists noted that they already employed 1 or more NPCs, a number that has increased over time and is likely to continue to do so.⁵ Although the number of NPCs in dermatology has increased, there remain limited formal training and certificate programs for these providers.^{3,6}

Furthermore, the American Academy of Dermatology recommends that "[w]hen practicing in a dermatological setting, non-dermatologist physicians and non-physician clinicians . . . should be directly supervised by a board-certified dermatologist."⁷ Therefore, the responsibility for a dermatology-specific education can fall on the dermatologist, necessitating adequate supervision and training of NPCs.

The findings of this study were limited by a small sample size; response bias because distribution of the survey relied on program directors disseminating the instrument to their residents, thereby limiting generalizability; and a lack of predissemation validation of the survey. Additional research in this area should focus on survey validation and distribution directly to dermatology residents, instead of relying on dermatology program directors to disseminate the survey.

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