







ORIGINAL CONTRIBUTION

Academic springboard: The chief resident position correlates with career path in emergency medicine

Jaime Jordan Md, MAEd^{1,2}  | Laura R. Hopson MD³  | Samuel O. Clarke MD, MAS⁴  | Adam Frisch MD⁵ | Anne K. Chipman MD, MS⁶ | Mark Curato DO⁷  | Adam Janicki MD, MS⁵  | Ignacio Calles MD¹ | Jonathan Ilgen MD, MCR⁶ | Michael Gottlieb MD⁸ 

¹Department of Emergency Medicine, Ronald Reagan–UCLA Medical Center, Los Angeles, California, USA

²Department of Emergency Medicine, David Geffen School of Medicine at UCLA, Los Angeles, California, USA

³Department of Emergency Medicine, University of Michigan Medical School, Ann Arbor, Michigan, USA

⁴Department of Emergency Medicine, University of California Davis Health, Sacramento, California, USA

⁵Department of Emergency Medicine, University of Pittsburgh School of Medicine, Pittsburgh, Pennsylvania, USA

⁶Department of Emergency Medicine, University of Washington, Seattle, Washington, USA

⁷Department of Emergency Medicine, New York Presbyterian Weill Cornell Medicine, New York, New York, USA

⁸Department of Emergency Medicine, Rush University Medical Center, Chicago, Illinois, USA

Correspondence

Jaime Jordan, MD, MAEd, UCLA Emergency Medicine, 924 Westwood Boulevard, Suite 300, Los Angeles, CA 90024, USA.

Email: jaimejordanmd@gmail.com

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Abstract

Background: The chief resident role often includes additional administrative and educational experiences beyond those of nonchief senior residents. It is unclear to what extent these experiences influence the postresidency career path of those selected as chief residents. The objective of this study was to evaluate the association of chief resident status on immediate postresidency career characteristics relative to nonchief residents in emergency medicine (EM).

Methods: We retrospectively analyzed graduate data from 2016 to 2020 at six accredited EM residency programs. Participating sites were geographically diverse and included 3- and 4-year training formats. Each site abstracted data using a standardized form including program, year of graduation, chief resident status, publications during residency, and immediate postresidency position (academic vs. nonacademic). We calculated descriptive statistics and performed logistic regression to explore differences between the chief resident cohort and other graduates.

Results: We gathered information on 365 total graduates (45.8% from 3-year programs and 54.2% from 4-year programs) including 93 (25.5%) chief residents. A total of 129 (35%) graduates assumed an academic position immediately following residency. Fifty-six (60%) of 93 chief residents assumed an academic position immediately following residency, compared to 74 (27%) of 272 other graduates. After program, year of graduation, and number of publications completed during residency were controlled for, chief resident status was a significant predictor of immediate postresidency academic career (odds ratio for a chief resident assuming an academic job = 5.36, 95% confidence interval = 3.10 to 9.27).

Conclusion: The chief resident role within EM is significantly associated with pursuit of an academic position immediately following residency compared to nonchiefs.

INTRODUCTION

The importance of the chief resident role is well established in medical training.¹⁻³ This role often comes with additional administrative and educational responsibilities, which demand time and effort in excess of what is generally required of nonchief residents.¹⁻³ In return, chief residents often receive additional training and opportunities to develop leadership skills, which can aid them in their future careers.¹

While being chief resident is often viewed as a “stepping stone” to an academic career, prior literature, although limited, has suggested that chief residents pursue a wide variety of career paths following residency.¹ Many factors influence medical trainee career paths including personal preferences and training program characteristics.⁴⁻¹¹ However, the impact of the chief resident role on initial career position in emergency medicine (EM) remains unknown. It is crucial for educators and mentors to understand how the chief resident position might influence a trainee’s initial postgraduate career path to optimize the experience and provide meaningful guidance during training. The objective of this study was to evaluate the association between the chief resident role in EM and immediate postresidency position.

METHODS

This was a multi-institutional, retrospective observational study of postresidency positions among EM residents assessing the impact of the chief resident position. We adhered to the strengthening the reporting of observational studies in epidemiology guidelines.¹² We reviewed all graduate data from the past 5 years (2016–2020) at six Accreditation Council for Graduate Medical Education (ACGME)-accredited EM residency programs in the United States. Participating sites were intentionally selected to be geographically diverse and included both 3- and 4-year training formats. All graduated residents were eligible for inclusion and there were no exclusion criteria. Each site collected data using a standard abstraction form. The abstraction form was created by the study team based on a literature search and their experience in residency leadership. We piloted the abstraction form prior to use. All abstractors were members of education leadership and familiar with the characteristics of the institutions or groups at which their graduates sought employment. Additionally, abstractors participated in a brief training session to review the abstraction form and define categories prior to abstracting data. Abstracted data included residency program name, year of graduation, chief resident status, number of publications during residency, and immediate postresidency career type. We defined an academic position as fellowship or a full-time, faculty position with or without a research focus. A nonacademic position was defined as working at a community-based, nonresidency hospital. We calculated descriptive statistics and used logistic regression to explore differences between the chief resident cohort and nonchiefs. Because career choice could be influenced by the experiences or mentorship a resident receives in any given training program, the

behavior of peers, and the job market in any given year, we chose to include program and year of graduation as covariates in the regression analysis. Additionally, because scholarly productivity has been shown to be associated with an academic career, we also chose to include number of publications as a covariate.⁶ We entered and compiled all data using Microsoft Excel (Microsoft Corp., Redmond, WA) and transferred to SPSS (IBM SPSS Statistics for Windows, Version 27.0, IBM Corp., Armonk, NY) for analysis. This study was approved by the institutional review board of the David Geffen School of Medicine at UCLA.

RESULTS

We gathered information on a total of 365 graduates including 93 chief residents (25.5%). There were no missing data on any graduates. A total of 167 residents (45.8%) graduated from a 3-year program and 198 (54.2%) residents from a 4-year program. Demographics of the programs are included in the Data Supplement S1 (available as supporting information in the online version of this paper, which is available at <http://onlinelibrary.wiley.com/doi/10.1002/aet2.10639/full>). The mean \pm SD number of publications completed during residency was 1.60 ± 4.21 for chiefs and 0.83 ± 1.25 for nonchiefs. The majority of graduates went into community practice positions (233/365, 63.8%), with or without teaching, immediately following residency. A total of 129 (35.3%) assumed an academic position immediately following residency, including fellowship, full-time academic position with research focus, and full-time academic position with nonresearch focus. The positions of three (0.8%) graduates were characterized as “other” (i.e., did not fall into one of the above specified categories). These graduates included one who was working in military medicine and two who worked part-time at academic centers and part-time at community practice sites without teaching. The immediate postresidency positions of graduates are displayed in Table 1.

After program, year of graduation, and number of publications completed during residency were controlled for, chief resident status was a significant predictor of immediate postresidency career path. When considering the binary composite outcome variable of academic (including fellowship, full-time academic with research focus, full-time academic with nonresearch focus) versus nonacademic career (community practice nonteaching, community practice with teaching, other), chief resident status was a significant predictor of immediate postresidency academic career (odds ratio [OR] for a chief resident assuming an academic job = 5.36, 95% confidence interval [CI] = 3.10 to 9.27).

Our multinomial regression found chief residents more likely than other graduates to enter a fellowship (OR = 7.32, 95% CI = 3.73, 14.34), full-time academic position with research focus (OR 6.27, 95% CI [1.80, 21.82], or full-time academic position with nonresearch focus (OR = 13.56, 95% CI = 4.78 to 38.44) as opposed to a nonteaching community practice position. Chief residents were also more likely to enter a community practice with teaching position

TABLE 1 Immediate postresidency careers of graduates 2016–2020.

	Chiefs (total <i>n</i> = 93)	Nonchiefs (total <i>n</i> = 272)	All graduates (total <i>n</i> = 365)
Community practice, nonteaching	21 (22.6)	164 (60.3)	185 (50.7)
Community practice, with teaching	15 (16.1)	33 (12.1)	48 (13.2)
Fellowship	42 (45.2)	57 (21.0)	99 (27.1)
Full-time academic, with research focus	1 (1.1)	1 (0.4)	2 (0.5)
Full-time academic, with nonresearch focus	13 (14.0)	15 (5.5)	28 (7.7)
Other	1 (1.1)	2 (0.7)	3 (0.8)

Note: Data are reported as *n* (%).

(OR = 4.33, 95% CI = 1.87 to 10.03) as opposed to a nonteaching community practice position. For those whose immediate postresidency position was “other,” there was no significant difference between chiefs and nonchiefs (OR = 2.41, 95% CI = 0.21 to 27.61).

DISCUSSION

In this study, we found that the role of chief resident was a significant predictor of immediate postresidency career position. Specifically, being a chief resident was associated with initial pursuit of an academic career. This result held true after accounting for scholarly productivity, which is a known predictor of pursuing an academic career.^{6,13,14} This is not surprising because chiefs often receive opportunities for advanced training and scholarship; such activities have previously been found to be associated with an academic career.^{1,8}

Similar to previous literature, our study found that the majority of EM residents pursue careers in community practice.^{10,11} We also found a greater percentage of residents pursuing fellowships and fewer pursuing full-time faculty positions immediately following residency compared to 20 years ago, which is similar to more recent reports.^{6,9–11} This may be due to the expansion of available EM fellowships and the competitiveness and increasing specialization of academic faculty positions in recent years. Prior literature has shown that EM leaders strongly recommend fellowship as a precursor to an academic career.^{13,15} Department chairs and those with hiring decision-making capabilities may be looking for faculty applicants with more advanced skills and experience than most new residency graduates possess.

While we found an association between the chief resident role and an academic career, this does not equate with causation. It is not known if the chief role itself increases the likelihood of pursuing an academic career or if it simply indicates that residents who are interested in an academic career are more likely to find value in and seek out the experience provided by the chief role. However, given this association, we believe that educators and program leadership should ensure that chief residents are provided with ample learning opportunities to prepare them for an academic career. Academic skill preparation has been associated with a greater interest in an academic career.¹⁶ This preparation may include training in leadership and communication skills, program administration, teaching, and scholarship. Previous literature has demonstrated that residents do

not often receive leadership training and thus may feel ill-prepared for an academic career.^{5,16,17} Additionally, chief residents in other specialties have noted a desire for more teaching and research experience.^{18,19} This is an area for further investigation and future studies should assess if the chief role adequately prepares residents for academic careers and how to best provide this training.

LIMITATIONS

This study has several limitations which must be considered when interpreting the results. This was a retrospective analysis and so may be limited by inaccurate or incomplete documentation. We used multiple abstractors and it is possible that they may have categorized initial job positions in different ways. However, we piloted the abstraction form and all abstractors participated in a training session to minimize the chance of this occurring. We assessed immediate postresidency positions, and it is unknown how long graduates remained in those positions or if career paths subsequently changed. Additionally, participating sites were not representative of all regions and program types, which may limit generalizability. Despite these limitations we feel that our findings provide insight into the impact of the chief resident role on EM physician careers.

CONCLUSION

The role of chief resident is significantly associated with immediate postresidency position. Emergency medicine chief residents were more likely to pursue an academic position immediately following residency compared to nonchiefs.

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CONFLICT OF INTEREST

The authors have no potential conflicts to disclose.

ORCID

Jaime Jordan  <https://orcid.org/0000-0002-6573-7041>

Laura R. Hopson  <https://orcid.org/0000-0002-1183-4751>
 Samuel O. Clarke  <https://orcid.org/0000-0003-3762-1727>
 Mark Curato  <https://orcid.org/0000-0001-5463-6387>
 Adam Janicki  <https://orcid.org/0000-0002-6013-177X>
 Michael Gottlieb  <https://orcid.org/0000-0003-3276-8375>

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SUPPORTING INFORMATION

Additional supporting information may be found online in the Supporting Information section.

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