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**Running title:** Chief Resident...

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**Abstract**

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

**Methods:** We retrospectively analyzed graduate data from 2016-2020 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 post-residency position (academic vs. non-academic). 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. One hundred twenty-nine (35%) graduates assumed an academic position immediately following residency. Fifty-six (60%) out of 93 chief residents assumed an academic position immediately following residency, compared to 74 (27%) of 272 other graduates. After controlling for program, year of graduation, and number of publications completed during residency, chief resident status was a significant predictor of immediate post-residency academic career (odds ratio for a chief resident assuming an academic job 5.36, 95% CI [3.10, 9.27]).

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

## Introduction

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

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.<sup>1</sup> Many factors influence medical trainee career paths including personal preferences and training program characteristics.<sup>4-11</sup> 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 in order 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 post-residency position.

## **Methods**

This was a multi-institutional, retrospective observational study of post-residency 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.<sup>12</sup> We reviewed all graduate data from the last five 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 upon 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 post residency career type. We defined an academic position as fellowship or a full-time, faculty position with or without a research focus. A non-academic position was defined as working at a community-based, non-residency hospital. We calculated descriptive statistics and used logistic regression to explore differences between the chief resident cohort and non-chiefs. As 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, as scholarly productivity has been shown to be associated with an academic career, we also chose to include number of publications as a covariate.<sup>6</sup> We entered and compiled all data using Microsoft Excel (Microsoft Corporation, Redmond, WA) and transferred to SPSS (IBM SPSS Statistics for Windows, Version 27.0. Armonk, NY: IBM Corp) 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. One hundred sixty-seven 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 Appendix A. The mean number of publications completed during residency was  $1.60 \pm 4.21$  for chiefs and  $0.83 \pm 1.25$  for non-chiefs. The majority of graduates went into community practice positions (233/365, 63.8%), with or without teaching, immediately following residency. One hundred twenty-nine (35.3%) assumed an academic position immediately following residency, including fellowship, full-time academic position with research focus, and full-time academic position with non-research focus. The positions of 3 (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 post residency positions of graduates are displayed in Table 1.

After controlling for program, year of graduation, and number of publications completed during residency, chief resident status was a significant predictor of immediate post-residency career path. When considering the binary composite outcome variable of academic (including fellowship, full time academic with research focus, full time academic with non-research focus) vs. non-academic career (community practice non-teaching, community practice with teaching, other), chief resident

status was a significant predictor of immediate post-residency academic career (odds ratio [OR] for a chief resident assuming an academic job was 5.36, 95% CI [3.10, 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 non-research focus (OR 13.56, 95% CI [4.78, 38.44]) as opposed to a non-teaching community practice position. Chief residents were also more likely to enter a community practice with teaching position (OR 4.33, 95% CI [1.87, 10.03]) as opposed to a non-teaching community practice position. For those whose immediate post residency position was “other,” there was no significant difference between chiefs and non-chiefs (OR 2.41, 95% CI [0.21, 27.61]).

## Discussion

In this study, we found that the role of chief resident was a significant predictor of immediate post-residency 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.<sup>6,13-14</sup> This is not surprising as chiefs often receive opportunities for advanced training and scholarship; such activities have previously been found to be associated with an academic career.<sup>1,8</sup>

Similar to previous literature, our study found that the majority of EM residents pursue careers in community practice.<sup>10-11</sup> 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.<sup>6,9-11</sup> 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.<sup>13,15</sup> 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.<sup>16</sup> 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.<sup>5,16-17</sup> Additionally, chief residents in other specialties have noted a desire for more teaching and research experience.<sup>18-19</sup> 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 post-residency 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 post-residency position. EM chief residents were more likely to pursue an academic position immediately following residency compared to non-chiefs.



## References

1. Hafner JW, Gardner JC, Boston WS, Aldag JC. The chief resident role in emergency medicine residency programs. *West J Emerg Med* 2010;11(2):120-5.
2. Grant I, Dorus W, McGlashan T, Perry S, Sherman R. The chief resident in psychiatry. *Arch Gen Psychiatry* 1974;30(4):503–7.
3. Nelson CS, Brown IE, Rao TK. A study of the responsibilities of chief residents in anesthesiology with a suggested job description. *Anesthesiol Rev* 1994;21(6):199–202.
4. Sanders AB, Fulginiti JV, Witzke DB. Factors influencing resident career choices in emergency medicine. *Ann Emerg Med* 1992;21(1):47–52.
5. Sanders AB, Fulginiti JV, Witzke DB, et al. Characteristics influencing career decisions of academic and nonacademic emergency physicians. *Ann Emerg Med* 1994;23(1):81–7.
6. Burkhardt J, Kowalenko T, Meurer W. Academic career selection in American emergency medicine residents. *Acad Emerg Med* 2011:S48–S53.
7. Borges NJ, Navarro AM, Grover AM, Hoban JD. How, when, and why do physicians choose careers in academic medicine? A literature review. *Acad Med* 2010;85(4):680–6.
8. Straus SE, Straus C, Tzanetos K. Career choice in academic medicine. *J Gen Intern Med* 2006;21(12):1222–9.
9. Stern SA, Kim HM, Neacy K, et al. The impact of environmental factors on emergency medicine resident career choice. *Acad Emerg Med* 1999;6(4):262–70.

10. Lubavin BV, Langdorf MI, Blasko BJ. The effect of emergency medicine residency format on pursuit of fellowship training and an academic career. *Acad Emerg Med* 2004;11(9):938–43.
11. Jordan J, Hwang M, Kaji AH, Coates WC. Scholarly Tracks in Emergency Medicine Residency Programs Are Associated with Increased Choice of Academic Career. *West J Emerg Med* 2018;19(3):593-599.
12. Strobe Statement. Strengthening the reporting of observational studies in epidemiology. (*Accessed on April 14, 2021 at <https://www.strobe-statement.org/index.php?id=strobe-home>*)
13. Stern S. Fellowship training: a necessity in today's academic world. *Acad Emerg Med* 2002; 9(7):713-6.
14. DeLong MR, Hughes DB, Tandon VJ, Choi BD, Zenn MR. Factors influencing fellowship selection, career trajectory, and academic productivity among plastic surgeons. *Plast Reconstr Surg* 2014;133(3):730–6.
15. Society for Academic Emergency Medicine. Emergency Medicine: An Academic Career Guide. (*Accessed on April 14, 2021 at <https://issuu.com/saemonline/docs/emergency-medicine-academic-career-guide>*)
16. Neacy K, Stern SA, Kim HM, Dronen SC. Resident perception of academic skills training and impact on academic career choice. *Acad Emerg Med* 2000; 7(12):1408-15.
17. Cerrone SA, Adelman P, Akbar S, Yacht AC, Fornari A. Using Objective Structured Teaching Encounters (OSTEs) to prepare chief residents to be emotionally intelligent leaders. *Med Educ Online* 2017;22(1):1320186.
18. Kim SC, Giardino AP, Casey R, Magnusson MR, Pinto-Martin JA. Experiences and reflections of former pediatric chief residents. *Arch Pediatr Adolesc Med* 1994; 148(5):518-21.
19. Susman J, Gilbert C. Family medicine residency directors' perceptions of the position of chief resident. *Acad Med* 1992;67(3):212-3.

Table 1. Immediate Post-residency Careers of Graduates 2016-2020.

	Chiefs n (%)	Non-chiefs n (%)	All graduates n (%)

	(total n= 93)	(total n = 272)	(total n= 365)
Community practice, non-teaching	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 non-research focus	13 (14.0)	15 (5.5)	28 (7.7)
Other	1 (1.1)	2 (0.7)	3 (0.8)

Appendix A. Program Characteristics

	n (%)
<b>Program Region</b>	
Midwest	2 (33)
Northeast	1 (17)
South	0 (0)
West	3 (50)
<b>Number of Program Residents</b>	
25-35	0 (0)
36-45	1 (17)
46-55	2 (33)
56-65	3 (50)
<b>Program Format</b>	
1-3 Years	3 (50)
1-4 Years	3 (50)



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