

Diversity of Regional Anesthesiology and Acute Pain Medicine Trainees and Faculty in the United States: An Analysis of Fellowship Training from 2016–2023

Parisorn Thepmankorn, MD¹, George Popa, BS², Nivetha Srinivasan, MD², Jean D. Eloy, MD²

¹Overlook Medical Center, Atlantic Health Systems

²Rutgers New Jersey Medical School, Department of Anesthesiology



49th Annual Regional
Anesthesiology and Acute
Pain Medicine Meeting

March 21-23, 2024
Hilton Bayfront San Diego | San Diego, CA
#ASRASPRING24

Background

- Females comprise approximately 26.1% of practicing anesthesiologists and 19.6% of pain medicine physicians.¹
- Anesthesiologists and pain physicians are also predominantly white, comprising 68.7% and 52.9% of active physicians, respectively.¹
- Since the ACGME began accrediting regional anesthesiology/acute pain (RA/AP) fellowships in 2016, no study has yet examined the diversity of RA/AP training programs.
- We aimed to examine the gender and racial diversity in ACGME-accredited RA/AP fellowship programs from 2016-2023.

Methods

- The ACGME website was accessed to identify ACGME-accredited RA/AP fellowship programs as of December 2023.
- Each program website was accessed to determine the gender of the fellowship program director (PD) gender, division chief, and anesthesiology department chair.
- ACGME’s Graduate Medical Education Data Resource Book for the years 2016-2023 was accessed for anesthesiology residents’, pain medicine fellows’, and RA/AP fellows’ sex and race/ethnicity. Data on total number of trainees and training programs available was also abstracted for each year.
- The U.S. Census website was accessed for their population estimates of the proportion of the US population identifying as Black and Hispanic.
- AAMC’s Annual Report on Residents was accessed for data on recently graduated fellows working in medically underserved areas (MUAs) in 2022.
- Two-sample tests of proportions and odds ratio testing were performed.
- The threshold for significance was set at p<0.05 for two-tailed p-values. SPSS (IRB Corp., Armonk, NY) was used for all statistical analysis.
- Study was exempt from IRB review requirements as per Rutgers University policy.

Citations

- Active Physicians by Sex and Specialty, 2021 | AAMC. (n.d.). AAMC. <https://www.aamc.org/data-reports/workforce/data/active-physicians-sex-specialty-2021>

Table 1. RA/AP Fellowship Programs from 2016-2023

	2016-2017	2017-2018	2018-2019	2019-2020	2020-2021	2021-2022	2022-2023	p-value
Total number of programs	9	18	19	35	38	40	42	
Total number of fellows	20	48	58	72	77	88	92	
Gender (%)								
Female	8 (40)	18 (37.5)	23 (39.7)	30 (41.7)	26 (33.8)	33 (37.5)	34 (36.9)	0.8
Race (%)								
White	10 (50.0)	20 (41.7)	26 (44.8)	34 (47.2)	43 (55.8)	45 (51.1)	37 (40.2)	
Asian	6 (30.0)	16 (33.3)	19 (32.8)	17 (23.6)	19 (24.7)	26 (29.5)	34 (36.9)	
Black/African-American	1 (5.0)	2 (4.2)	3 (5.2)	3 (4.2)	5 (6.5)	2 (2.3)	4 (4.3)	0.89
American Indian/Alaskan Native	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	
Native Hawaiian/Pacific Islander	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	
Other/unknown	3 (15.0)	8 (16.7)	10 (17.2)	15 (20.8)	2 (2.6)	4 (4.5)	8 (8.6)	
Ethnicity (%)								
Hispanic	0 (0)	2 (4.2)	0 (0)	3 (4.2)	6 (7.8)	8 (9.0)	7 (7.6)	0.20

Table 2. RA/AP Program Faculty by Gender and Rank in 2022-2023

	Program Director (%)	Division Chief (%)	Chair (%)
Female	20 (47.6)	8 (24.2)	7 (17.9)
Assistant Professor	10	2	0
Associate Professor	8	5	0
Professor	1	1	7
Not Available	1	0	0
Male	22 (52.4)	25 (75.8)	31 (82.1)
Assistant Professor	6	6	0
Associate Professor	8	8	0
Professor	3	10	31
Not Available	5	0	0
Total Number	42	33	42

Results

- From 2016-2017 to 2022-2023, RA/AP programs increased from 9 programs to 42 programs. RA/AP fellows rose from 20 to 92 fellows.
- The proportion of female RA/AP fellows in 2022-2023 (36.9%) was not significantly different than the proportion of female anesthesiology residents (35%, p=0.34) but was significantly greater than that of female pain medicine fellows (23.3%, p=0.007).
- There was no significance difference in the proportion of Black or Hispanic RA/AP fellows in 2022-23 (4.3%, 7.6%, respectively) as compared to that of anesthesiology residents (6.8%, 8.0%; p=0.34, 0.87) nor that of pain medicine fellows (4.3%, 6.3%; p=0.99, 0.64).
- The odds of a RA/AP fellow working in a MUA (15.4%) after completing training was significantly lower than compared to that of an anesthesiology resident (22.5%) (p=0.046), but was not significantly lower than that of pain medicine fellows (21%) p=0.11).
- There was a significantly lower proportion of female RA/AP faculty (139/429, 31.6%) as compared to that of female anesthesiology department faculty (36.9%) (p=0.02).
- There was a significantly lower proportion of female anesthesiology department chairs as compared to female RA/AD PDs (p=0.0046).
- The odds of being a female RA/AP faculty member when the division chief is a female was higher at 1.32, but not significantly so (p=0.25).
- The odds of being a female RA/AP faculty member when the department chair is a female was lower at 0.77, but not significantly so (p=0.38).

Discussion

The proportion of female and Black/Hispanic RA/AP fellows have remained stably low from 2016 to 2023. There remains a significant disparity in the proportion of Black and Hispanic RA/AP fellows as compared to the general population. While there is more female representation in RA/AP fellowships compared to pain medicine fellowships, minority RA/AP fellow representation is comparable to anesthesiology residency and pain medicine representation, all of which have poor racial minority representation.

Though RA/AP PDs were almost evenly split by gender, there was a steep decline in females in top positions as RA/AP division chiefs and anesthesiology department chair. Lack of gender and racial representation could also translate to fewer RA/AP physicians practicing in MUAs. This suggests there is a need to improve gender and racial representation among ACGME-accredited RA/AP fellowship programs among both fellows and faculty as the fellowship continues expanding.