

AAIM Perspectives

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Gender Differences in Salary of Internal Medicine Residency Directors: A National Survey



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ABSTRACT

OBJECTIVES: Whether salary disparities exist between men and women in medical education leadership roles is not known. The study objective was to determine whether salary disparities exist between male and female Internal Medicine residency program directors, and if so, to identify factors associated with the disparities and explore historical trends.

METHODS: The annual Association of Program Directors in Internal Medicine (APDIM) survey in August 2012 included items to assess the salary and demographic characteristics of program directors, which were merged with publically available program data. To assess historical trends, we used similarly obtained survey data from 2008 to 2011. The study included program directors of 370 APDIM member programs, representing 95.6% of the 387 accredited Internal Medicine training programs in the United States and Puerto Rico. Of the 370 APDIM member programs, 241 (65.1%) completed the survey, of whom 169 (70.1%) were men and 72 (29.9%) were women. Program directors' total annual salary, measured in \$25,000 increments, ranged from \$75,000 or less to more than \$400,000. Historical trends of mode salary by gender from 2008 to 2012 were assessed.

RESULTS: The mode salary was \$200,000 to 225,000 for men and \$175,000 to \$200,000 for women ($P = .0005$). After controlling for academic rank, career in general internal medicine, and program director age, the distribution of salary remained different by gender ($P = .004$). Historical trends show that the difference in mode salary has persisted since 2008.

CONCLUSIONS: Leaders in academic medical centers, residency and fellowship directors, and all faculty in medical education need to be aware that salary disparities cited decades ago persist in this sample of medical educators. Closing the gender gap will require continued advocacy for measuring and reporting salary gaps, and changing the culture of academic medical centers.

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There is a large gap in achievement between men and women in academic medicine.¹⁻⁴ Earlier studies attributed this gap to multiple social factors, such as family responsibilities, childbearing, gender stereotyping, and organizational structure.⁵⁻¹⁰ Despite the increased percentage of women faculty in US academic medicine,¹¹ disparities in achievement still exist. A recent report highlights that women in academic medicine centers are underrepresented in advanced leadership positions, representing only 14% of department chairs and 12% of deans in 2011.^{1,11} In medical education, women have better representation in leadership roles. For example, in 2010, 32% of Vice Chairs of Education in North American departments of medicine were women,¹² and in 2012, women represented 29% of residency program directors in Internal Medicine, ranging from 27% to 34% for the past 5 years (2009-2013).¹³

The residency program director plays a pivotal role in academic medicine centers for Graduate Medical Education (GME). GME is responsible for training the nation's physician workforce and upholding the social contract to ensure that trainees are clinically competent and prepared for independent practice.¹⁴ The importance of GME is reflected in the level of public funding of more than \$13 billion per year.¹⁵ The program director is responsible for the oversight of the curriculum, evaluations, work hours, supervision, fatigue, verifications, scholarship, and schedules of more than 110,000 residents and fellows enrolled in US GME programs.^{16,17} With the launch of the Next Accreditation System,¹⁴ the responsibilities of residency program directors have become increasingly complex. Because program directors are critical to the educational viability of GME and are leaders in the educational missions of academic medicine centers, their well-being and success are important areas of study. Yearly job turnover among program directors is high,¹⁸ and burnout is prevalent.¹⁹ Although gender and salary have not been associated with job turnover,¹⁸ salaries for some program directors are significantly lower than for practicing clinicians.²⁰

Recent national data^{21,22} and commentary²³ highlight that women in medicine remain underpaid compared with their male colleagues.²⁴⁻³⁰ These differences persist regardless of specialty, academic rank, clinical, and research productivity.^{2,21,24} Seabury et al²² showed that female physicians earned significantly less than men from 2006 to 2010, even when adjusted for age, hours worked, and years of experience. Further, the gender gap in salaries between male and female

physicians is increasing. The adjusted earnings of male physicians exceeded female physicians by 16.3% from 1996 to 2000 and by 25.3% from 2006 to 2010. In 2012, Jagsi et al²¹ demonstrated a significant salary gap among physician researchers, regardless of specialty, academic productivity, academic rank, and work hours.

To date, the issues of salary equity among leaders in GME has not been reported. Our study's aim was to determine whether salary disparities exist between men and women Internal Medicine residency program directors, and if so, to identify factors associated with the disparities and explore historical trends.

MATERIALS AND METHODS

Data Collection

The Association of Program Directors in Internal Medicine (APDIM) administers an annual survey of Internal Medicine program directors, the goal of which is to develop a longitudinal database for GME. Data are used to shape organizational policies and initiatives, and inform APDIM membership of topics important to residency programs.¹³

For the 2012 survey, e-mail notifications with program-specific hyperlinks to a Web-based questionnaire were sent in August 2012 to program directors and program administrators at 370 APDIM member programs, representing 95.6% of the 387 Accreditation Council for Graduate Medical Education-accredited programs. In addition to biweekly email reminders until the survey closed in November 2012, APDIM survey committee members made personal phone call reminders to incomplete programs in October 2012. Reminder flyers were included in the registration packet of any nonresponders in October 2012 during the Fall APDIM meeting. We obtained data with a standard set of questions related to program characteristics and program director characteristics (eg, age, gender, academic rank, specialty, and salary). Before blinding of program identity for analysis, survey responses were appended with data from publically available sources accessed in December 2012. Programs were assigned to geographic regions by US Census Bureau definition.³¹ Program description was obtained from the American Medical Association Fellowship and Residency Electronic Interactive Database Access System Online.³² Three-year rolling pass rates on the American Board of Internal Medicine certification examination were obtained for each program.³³ Data from the Accreditation Council for Graduate Medical Education³⁴

PERSPECTIVE VIEWPOINTS

- Gender disparity in salary of Internal Medicine Program Directors exists, despite academic rank or years of experience.
- The salary gap has not improved in the past 5 years.
- Sponsorship of women without awareness of, and subsequent advocacy for, salary equity is unlikely to correct the disparity.

included number of approved training positions and program director appointment date, from which we calculated program director tenure as of December 2012. A similar set of methods was used for all surveys since 2008. This study was approved by the Mayo Clinic Institutional Review Board.

Measures

In addition to region, program type, and program director tenure obtained from public sources, a core set of questions are asked every year that informs program director characteristics over time. These include year of birth, gender, status as an international medical graduate or chief medical resident, academic rank, career specialty, percentage of time (clinical, research, administrative), and salary. For salary, we asked "For the most recent complete year, what was the program director's total annual salary (inclusive of all sources, do not limit to program director-related salary)?" Responses are listed in \$25,000 increments, ranging from "\$75,000 or less" to "more than \$400,000." We explored historical trends of mode salary by gender from 2008 to 2012 from similarly collected surveys.

Data Analysis

After de-identifying the merged data set, survey responses were summarized using descriptive statistics, and responders were compared with nonresponders on publically available variables using Fisher exact tests or *t* tests, as appropriate. Potential differences in program director characteristics by gender were assessed using Cochran-Mantel-Haenszel tests. Potential differences in salary by program director characteristics were assessed using Cochran-Mantel-Haenszel statistics based on rank scores and testing if row mean scores differed (nonparametric analysis of variance models). The bivariate association between program director gender and ordinal salary category was assessed using a nonparametric analysis of variance model, with stratum-adjusted models used to control for any program director characteristics found to have significant association with program director gender or salary in prior steps. To acknowledge the presence of multiple comparisons, we set the significance threshold at 0.01. We used SAS version 9.3 (SAS Institute Inc, Cary, NC) for all statistical analyses.

RESULTS

Of 370 programs, 241 (65.1%) completed all the survey questions we assessed, of whom 169 (70.1%) were men and 72 (29.9%) were women. There were no significant differences between responders and nonresponders for program description, geographic region represented, board certification rate, program director tenure, or

program size (all $P > .01$). The response rates for surveys administered since 2008 ranged from 65.9% to 71.9%.

The characteristics of program directors by gender are shown in **Table**. Only academic rank showed a significant association with gender ($P = .008$). The percentage of time spent in clinical duties was similar for men versus women, including inpatient time with residents (20.2%, 19.6%) and without residents (2.6%, 1.5%), and outpatient time with residents (9.6%, 11.3%) and without residents (9.4%, 6.5%) (all $P > .03$). The majority of program directors have a career in General Internal Medicine (145 [60.2%]), including traditional (42.3%), hospitalists (14.1%), and ambulatory only (3.7%).

The mode (most frequent category) salary for men was higher than for women (**Figure**). The mode salary was \$200,000 to 225,000 for men and \$175,000 to \$200,000 for women. Overall, the distribution of salary differed by gender ($P = .0005$). When assessing differences in salary by program director characteristics, academic rank, General Internal Medicine career, and age showed significant associations (all $P < .008$). After simultaneously controlling for academic rank, General Internal Medicine career, and age, the distribution of salary remained significantly different by gender ($P = .004$). Historical trends show that the one category discrepancy in the mode salary persisted from 2008 to 2012 (all $P < .008$).

DISCUSSION

To our knowledge, this is the first study to demonstrate gender disparity in salary for Internal Medicine residency program directors. The disparity exists regardless of region, program type, academic rank, General Internal Medicine specialty, age, or years of experience. In addition, we found that the gap in salary has not narrowed over the past 5 years. Our study findings are similar to recent findings of salary differences for female physician researchers,²¹ and we extend the scope of the impact of salary disparities to female leaders in medical education.

In 2000, Buckley et al¹⁰ highlighted that despite similar years of training at the start of their academic careers, women and men progressed at different rates in academic achievement. Obstacles cited included domestic responsibilities including childbearing, rigidity in career structures, discrimination, and psychologic barriers (eg, gender stereotyping). Specific interventions, such as flexibility, mentorship, and administrative support, were offered as solutions to help women succeed in academic medicine.⁵ Our study highlights that more than a decade later, there is still much work to be done to ensure gender equity in the academic medical environment.

Reports on salary disparities and under-representation of women in academic leadership positions were also

Table Program Director Characteristics by Gender (N = 241)

	N (%)	N (%)		P Value*
		Male (N = 169)	Female (N = 72)	
Region				
Northeast	79 (32.8)	58 (73.4)	21 (26.6)	.54
South	63 (26.1)	43 (68.3)	20 (31.8)	
Midwest	59 (24.5)	44 (74.6)	15 (25.4)	
West	37 (15.4)	22 (59.5)	15 (40.5)	
Unincorporated territory	3 (1.2)	2 (66.7)	1 (33.3)	
Program Type				
Community-based, university affiliated	128 (53.1)	91 (71.1)	37 (28.9)	.65
University-based	89 (36.9)	63 (70.8)	26 (29.2)	
Community-based	19 (7.9)	11 (57.9)	8 (42.1)	
Military-based	5 (2.1)	4 (80.0)	1 (20.0)	
Academic Rank				
Professor	67 (27.8)	54 (80.6)	13 (19.4)	.008
Associate Professor	92 (38.2)	60 (65.2)	32 (34.8)	
Assistant Professor	64 (26.6)	47 (73.4)	17 (26.6)	
Instructor	2 (0.8)	2 (100.0)	0 (0.0)	
None	16 (6.6)	6 (37.5)	10 (62.5)	
GIM Career†				
Yes	145 (60.2)	98 (67.6)	47 (32.4)	.29
No	96 (39.8)	71 (74.0)	25 (26.0)	
CMR				
No	123 (51.0)	83 (67.5)	40 (32.5)	.36
Yes	118 (49.0)	86 (72.9)	32 (27.1)	
IMG				
No	210 (87.1)	148 (70.5)	62 (29.5)	.76
Yes	31 (12.9)	21 (67.7)	10 (32.3)	
Age				
<46 y	76 (31.5)	46 (60.5)	30 (39.5)	.02
≥46-<56 y	83 (34.4)	57 (68.7)	26 (31.3)	
≥56 y	82 (34.0)	66 (80.5)	16 (19.5)	
Tenure as PD				
<3	81 (33.6)	53 (65.4)	28 (34.6)	.43
≥3-≤7 y	84 (34.9)	59 (70.2)	25 (29.8)	
>7 y	76 (31.5)	57 (75.0)	19 (25.0)	

CMR = chief medical resident; GIM = general internal medicine; IMG = international medical graduate.

*Cochran–Mantel–Haenszel test for general association.

†Traditional, hospitalist, or ambulatory only.

attributed to their level of academic rank and choice of specialty.³⁵ Female residents in Internal Medicine plan to postpone childbearing beyond residency training.³⁶ For those with careers in academia, this delay likely results in childbearing during their early faculty years, perhaps contributing to subsequent delays in promotion and lower academic rank. Women residents also pursue subspecialty careers with lower mean salary at higher rates compared with men.³⁷ In our study, we found that women program directors had a lower academic rank than men, but the distribution of subspecialties did not differ between genders. When we adjusted the salary modes for subspecialty, rank, and years of experience, the gender disparities persisted.

A systematic review of women physicians identified salary as an important facet for career satisfaction.³⁸

However, the culture in academic medicine may not lend itself to overt attention to salary, especially for women.³⁹ In structured interviews, Borges et al⁴⁰ identified reasons why women choose careers in academic medicine. The majority were most interested in teaching (62.3%), compared with clinical (28.3%), research (7.5%), and administrative roles (1.9%). “Fit” was important to women, as defined by a sense of congruence with their lives and careers. Of note, salary was not cited as a reason that women choose a career in academic medicine. Given their desire to teach, women may find themselves in leadership roles in education, such as a residency program director. If teaching and fit are important and salary is less of an issue, then women may be unaware of what an equitable salary should be, and therefore, less likely to negotiate for one. If they do

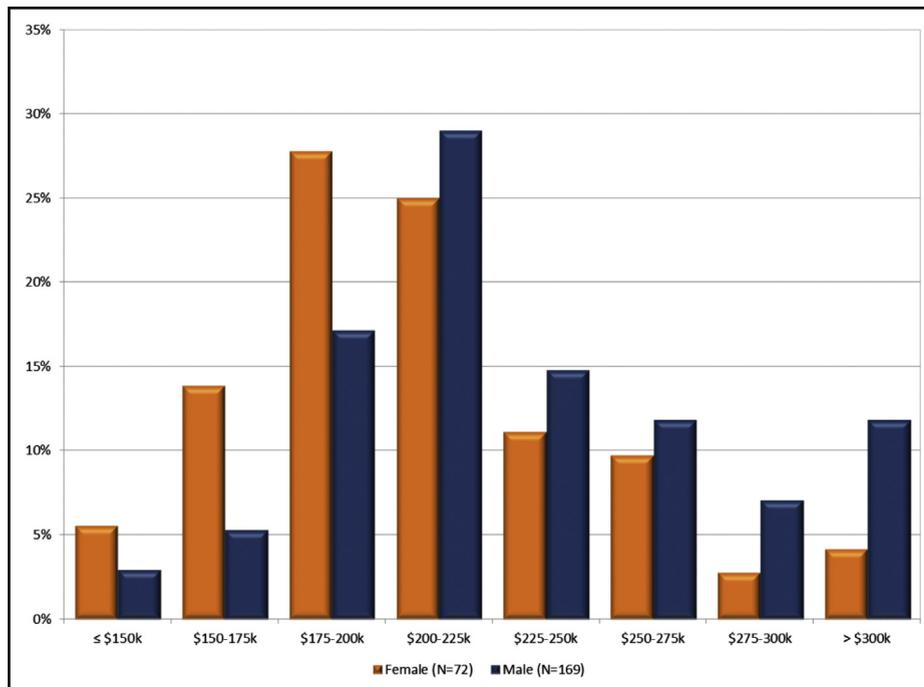


Figure Program director salary by gender (N = 241).

not negotiate for equitable salary, they are unlikely to receive it. Recent attention in the business world on job pursuit and negotiation⁴¹ shows that men and women approach salary discussions differently. This does not mean that women do not value money, desire fair compensation, or deserve equal salary for equal work. Our findings support that greater transparency of faculty salaries by leaders in academic medicine centers is essential, and women in medical education should actively seek information about salaries and learn how to negotiate for fair compensation.

That salary disparities between genders exist is of concern, but perhaps even more concerning is the lack of improvement in historical trends. Similar to Seabury et al's study,²² our study shows that the salary gap has not improved for the past 5 years. To close the gender gap, honest attention to this important issue will require continued advocacy for measuring and reporting salary gaps, and changing the culture of academic medical centers. Deliberate action can be taken with supportive leadership.^{3,24,39,42,43} Multiple facets of leadership support are shown to be effective. Women who attend programs for professional development, such as the Executive Leadership in Academic Medicine Program for Women, have greater academic success.^{3,42} Travis et al⁴³ described the concept of "sponsorship" for women. Sponsorship is the "public support by a powerful, influential persona for the advancement and promotion of an individual within whom he or she sees untapped or unappreciated leadership talent or potential." Sponsorship is different

from mentorship, in that well-qualified women need to be identified and supported for leadership positions. But sponsorship that focuses on the academic title without ensuring equitable salary is unlikely to close the gender salary gap. Those responsible for advancement of educational leaders, Deans and Chairs, should recognize that salary must be commensurate with the responsibilities of the job, and that gender salary gaps remain. To reduce the disparities in compensation, there must be accountability in the leadership of academic medicine centers. Executive leadership must be mindful of faculty salaries by creating a salary fact base, identifying individuals who are paid lower salaries, and implementing a plan to make appropriate salary adjustments.^{24,39} Our study provides a start to that fact base by identifying that gender disparities remain a significant problem for program directors. Although our study highlights the importance for academic medicine centers to ensure equitable salary for women and men program directors, the need for gender salary equity extends to all leaders in medical education.

Given the importance of their role and the critical educational responsibilities of program directors, this group of educators should be supported and paid an equitable salary. Successful accreditation has been shown to be independent of most program director characteristics, such as salary, gender, academic rank, and years of experience, but associated with higher job satisfaction.⁴⁴ In the past decade, job satisfaction for program directors has become an area of concern, with

high yearly turnover.¹⁸ In 2013, West et al¹⁹ used a validated tool to explore the well-being of program directors across multiple domains, including quality of life, satisfaction with work and life balance, and burnout. The study found that women program directors, compared with men, have greater emotional exhaustion, depersonalization, and overall burnout. Our study provides the context that these female educators are doing the same work as their male colleagues, but with less pay.

Study Limitations

Our survey was not designed to account for reasons to explain the salary disparities we observed. We did not ask about marital status, children, or race, factors that may influence the salary disparities. For our adjusted analysis, we used a categorical salary variable and not mean salary. We have found from prior years of survey responses that the majority of program directors do not respond to a free text question for their actual salary. Using the categorical salary variable lowers the power to detect a difference; however, the fact that we found a difference strengthens our findings. Finally, we do not know the percentage of program directors in our sample who also serve in other leadership roles, such as vice chairs or associate chairs for education, or Designated Institutional Officers for their institution, which may contribute to higher salaries. In a survey of Vice Chairs for Education, 53% were also program directors.¹² Although we report this as a study of program directors, many have dual roles in medical education leadership, and thus the implications of our work are broad within GME.

CONCLUSIONS

There is much to learn about women program directors as important leaders in medical education. Leaders in academic medicine centers, residency and fellowship directors, and all faculty in medical education need to be aware that the salary disparities cited decades ago still persist in this important population of medical educators. Reporting this information is an important step in addressing the disparity in an effort to improve it. Sponsorship of women without awareness of, and subsequent advocacy for, salary equity is unlikely to correct these disparities.

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