

The Changing Demographics of Full-time U.S. Medical School Faculty, 1966-2009

Despite the continuing effort of increasing the representation of women and non-white faculty, when full-time faculty are viewed in aggregate, the diversity of medical school faculty has not kept pace with the diversity of medical school students or of society overall.^{1,2} While much has been written on the challenges of faculty diversity, there seems to be little long-term trend information to document the extent to which newly appointed faculty have been contributing to the diversity within the demographic composition of medical school faculty over the years. In 2009, for example, 48.8 percent of U.S. medical school graduates were women and 35.7 percent were non-white whereas 34.9 percent of U.S. medical school full-time faculty were women and 25.9 percent were non-white.^{3,4} To fill this gap, our *Analysis in Brief* presents the proportion of women and non-white among faculty new to academic medicine or new to rank in comparison to other faculty appointments. The findings have implications for a variety of policy issues regarding the training, recruitment, development, and retention of future medical school faculty.

Methodology

Data for this analysis came from the AAMC's Faculty Roster, the only national database on the employment and demographic backgrounds of individual U.S. medical school faculty. We examined new versus continuing full-time U.S. medical school faculty every year by race, gender, and department from 1966 to 2009 using

Table 1: Percentages of Women and Non-white Full-time U.S. Medical School Faculty in Three 20-year Cohorts, 1969-2009

Faculty Group	Study Group Size			Percentage of Faculty Group Who Were Women ¹			Percentage of Faculty Group Who Were Non-White ²		
	1969	1989	2009	1969	1989	2009	1969	1989	2009
New to Academic Medicine									
Full Professor	375	240	202	7.3	13.0	24.0	8.3	14.0	20.2
Associate Professor	583	587	386	8.7	21.8	35.9	7.8	16.9	19.8
Assistant Professor	1,374	3,701	5,323	15.8	31.7	42.4	13.7	17.8	34.2
Instructor or Other	894	1,717	2,961	28.8	36.2	50.1	14.8	19.5	36.2
New to Rank									
Full Professor	335	1,004	1,719	4.9	12.3	26.5	5.9	11.8	21.0
Associate Professor	414	1,429	2,627	10.6	21.5	35.0	10.0	13.9	31.1
Assistant Professor	317	774	1,536	19.1	28.6	44.8	9.5	17.4	34.4
Instructor or Other	217	315	719	30.3	44.9	42.0	16.9	30.2	33.0
Continuing Faculty									
Full Professor	7,392	18,994	29,588	4.6	8.4	18.2	4.5	9.4	14.1
Associate Professor	5,035	16,546	24,605	10.7	17.9	30.3	7.6	13.2	21.7
Assistant Professor	5,115	22,181	47,805	20.4	27.9	41.5	10.7	15.8	33.6
Instructor or Other	2,527	5,911	13,359	34.1	41.5	52.7	12.7	19.9	31.1
Overall Faculty									
Full Professor	8,102	20,238	31,509	4.7	8.6	18.7	4.7	9.5	14.5
Associate Professor	6,032	18,562	27,618	10.5	18.3	30.8	7.8	13.4	22.6
Assistant Professor	6,806	26,656	54,664	19.4	28.5	41.7	11.3	16.1	33.7
Instructor or Other	3,617	7,926	16,957	32.5	40.5	51.9	13.4	20.2	31.8

1 Excluding faculty with unknown gender information.

2 Excluding faculty with unknown race/ethnicity information.

data snapshots taken on December 31 of each year. Newly appointed faculty were individuals who were new to academic medicine or who were newly promoted in that calendar year. Continuing faculty included all other individuals. This analysis ended with 2009 because that is the last year for which reliable and complete December 31 snapshot information was available as medical schools submit information on a rolling basis.

Results

Newly appointed faculty were generally more diverse than continuing faculty. In 20-year intervals, Table 1 shows the changes in the proportion of faculty consisting of non-white members and women members. In 2009, for example, 20.2 percent of full professors new to

academic medicine were non-white, while 14.1 percent of full professors continuing in their positions were non-white. In 2009, women accounted for 24.0 percent of full professors new to academic medicine and for 18.2 percent of full professors continuing in their positions. For women, this pattern held for associate professors and assistant professors as well but not for instructors or other (e.g., unranked) faculty. A supplement to this analysis breaks out the non-white and women faculty in Table 1 by department type and degree.⁵

Diversity tended to decrease with increases in rank. Figure 1 suggests a relationship between the representation of women in academic medicine and rank, with a decrease

1 Magrane D, Jolly P. The Changing Representation of Men and Women in Academic Medicine. *Analysis in Brief*, July 2005, Washington DC: Association of American Medical Colleges.

2 USA *QuickFacts* 2009. Retrieved 03/14/2011 from <http://quickfacts.census.gov/qfd/states/00000.html>. Washington DC: US Census Bureau.

3 AAMC Data Book 2010. Student data came from Table B8 and B10 on medical students graduated in academic year 2008-09, excluding unknown race. Faculty data came from C4 and C5 on medical school faculty in AAMC Faculty Roster as of December 31, 2009, excluding unknown race or gender.

4 The non-white faculty category includes individuals with Hispanic/Latino ethnicity as well as Alaska natives, American Indians, Asians, blacks, native Hawaiians, and other Pacific Islanders.

5 For supplemental materials, go to www.aamc.org/aib.

Figure 1: Percentages of New and Continuing Faculty in Academic Medicine Who Were Women, 1966-2009

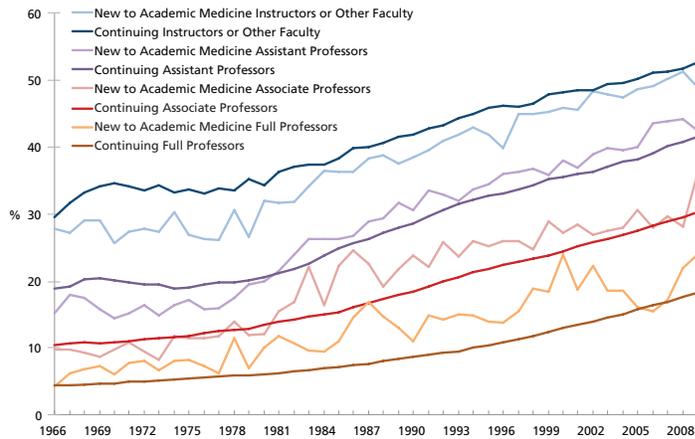
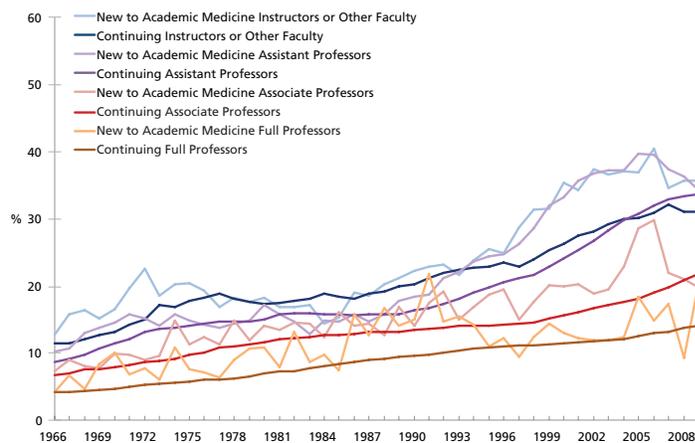


Figure 2: Percentages of New and Continuing Faculty in Academic Medicine Who Were Non-White, 1966-2009



in representation of women for each increase in rank. This pattern held for women new to academic medicine as well as for women continuing in academic medicine. By and large, Figure 2 shows non-white faculty making up a greater proportion of new academic medicine faculty than continuing faculty for many years, regardless of rank. Nevertheless, the relationship between representation and rank does not appear to be as strong for non-white faculty as for women faculty.

In addition, Figures 1 and 2 illustrate that over time women faculty and non-white faculty tended to grow faster as a percentage of new faculty than as a percentage of continuing faculty at the ranks of full professors,

associate professors, and assistant professors. Women and non-white faculty who were new to rank have a similar trend (not shown) as their counterparts who were new to academic medicine. Among instructors or other unranked faculty, Figure 1 shows that women new to academic medicine were less well represented than women continuing in those positions.

Discussion

This *Analysis in Brief* documents that the diversity of U.S. medical school faculty in gender and race has increased over the last four decades, with newly appointed faculty generally more diverse than continuing faculty. The results suggest that diversity has increased among

faculty who were newly promoted as well as among faculty who were new to academic medicine. What constitutes ‘reasonable’ rate of change, and whether this rate of change is satisfactory or needs continued attention, may depend on the context of each medical school and department. Furthermore, how individuals and institutions conceive of diversity can extend to issues such as socio-economic status, national origin, sexual orientation, and religion.

These findings may help inform a variety of policy issues. For example, one might wonder whether the increasing representation of women faculty and non-white faculty at each rank points to generally successful early-career, mid-career, and late-career diversity programs. Despite the overall increase of women faculty and non-white faculty across ranks, the different trend lines for the two groups may reflect different recruitment and professional development opportunities. Moreover, the decline in the representation of women faculty and non-white faculty as one goes up the ranks may reflect pipeline issues—the relatively recent arrival of these demographic groups to academic medicine in appreciable numbers may require time for a significant presence among the senior ranks. Nonetheless, the lower retention rates, lower promotion rates, and longer times to promotion for women faculty and non-white faculty that other *Analysis in Brief* studies have found indicate that there may be non-pipeline issues impacting the progression through the ranks as well.^{6, 7}

Authors:

Christine Qi Liu, Ph.D.
Senior Research Analyst
cliu@aamc.org,
(202) 862-6014

Hershel Alexander, Ph.D.
Director, Data Operations and Services
halexander@aamc.org,
(202) 828-0649

Association of American Medical Colleges
2450 N Street, N.W.
Washington, D.C. 20037-1127
analysis@aamc.org
www.aamc.org/data/aib

6 Alexander H, Lang J. The Long-term Retention and Attrition of U.S. Medical School Faculty. *Analysis in Brief*, June 2008, Washington DC: Association of American Medical Colleges.
7 Liu CQ, Alexander H. Promotion Rates for First-time Assistant and Associate Professors Appointed from 1967 to 1997. *Analysis in Brief*, May 2010, Washington DC: Association of American Medical Colleges.