Analysis IN BRIEF

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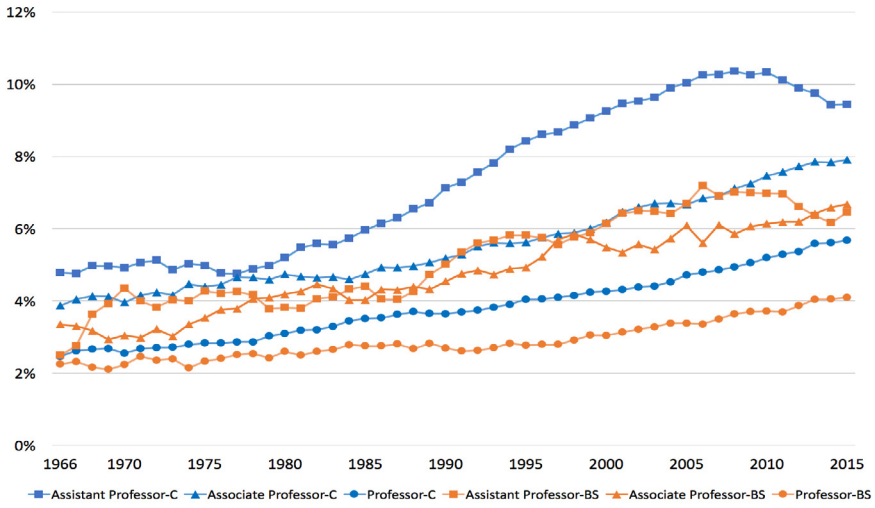
Faculty Diversity in U.S. Medical Schools: Progress and Gaps Coexist

In U.S. medical schools, faculty diversity is linked to student diversity,[1] cultural competence of graduates, and an inclusive climate on campus.[2] According to one study, a higher percentage of minority students than white students reported that faculty diversity was either a "positive" or "very positive" factor in their decision to attend a particular medical school.[3] Further, faculty racial, ethnic, and gender diversity helps ensure a more comprehensive research agenda,[4,5] improves patient care,[6,7] and is an institutional driver of excellence.[8]

Even though medical school faculty diversity has been increasing overall, it has not kept pace with the diversity of medical school students or the general society at large. In this *Analysis in Brief*, we examine trends in racial, ethnic, and gender diversity in full-time faculty at U.S. medical schools in the last half century; review the gaps in those trends that persist; and analyze the association between faculty diversity and matriculating student diversity to provide a current understanding of these issues.

Figure 1. U.S. medical school URM faculty diversity trends by rank and department type, 1966–2015.

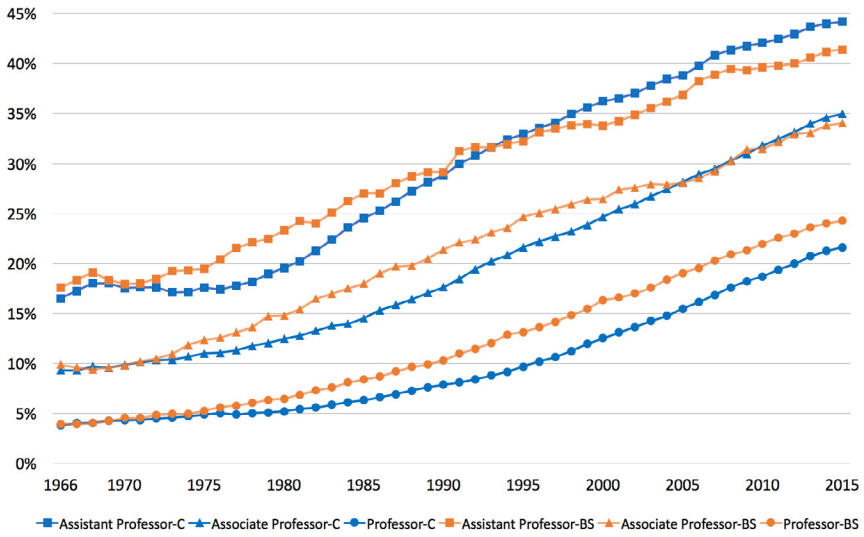


Source: AAMC Faculty Roster, December 31 Snapshots, 1966–2015.
Note: C = clinical department; BS = basic science department.

Methods

We used data from the Association of American Medical Colleges (AAMC) Faculty Roster,[9] a comprehensive national database of full-time U.S. medical school faculty, to describe the trends in the last 50 years in race, ethnicity, and gender by academic rank and department type in U.S. medical schools accredited by the Liaison Committee on Medical Education (LCME). We calculated the proportion of both females and racial and ethnic minorities underrepresented in medicine (URM) by faculty ranks, excluding faculty with ranks other than assistant professor, associate professor, and professor. In this study, URM includes blacks/African Americans, American Indians/Alaskan Natives, Native Hawaiians/Pacific Islanders, and Hispanics (of any race). Next, we assessed the correlation between faculty diversity and matriculating student diversity from 1973 to 2015, the years for which data were available at the time of the analysis. Matriculating student demographic data were from students' most recent medical school applications. The American Institutes for Research Institutional Review Board deemed this project exempt from human subject research guidelines.

Figure 2. U.S. medical school female faculty diversity trends by rank and department type, 1966–2015.

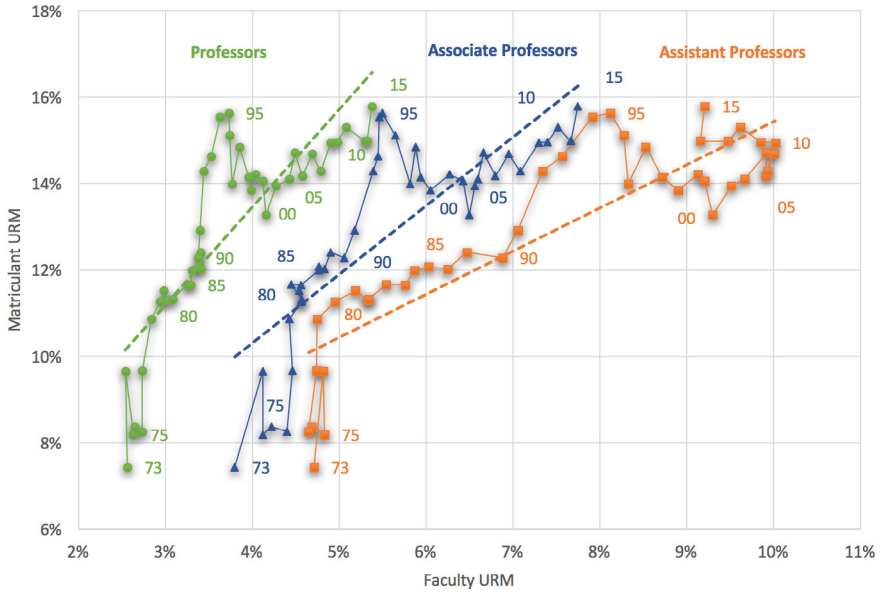


Source: AAMC Faculty Roster, December 31 Snapshots, 1966–2015.
Note: C = clinical department; BS = basic science department.

Results

The last half century saw significant growth in faculty size and a substantial increase in faculty diversity. The number of full-time faculty (all ranks) grew

Figure 3. Association between U.S. medical school matriculant diversity and URM faculty diversity by rank, 1973–2015.



Source: AAMC Data Warehouse: Applicant and Matriculant Demographic File, Annual Snapshots, 1973–2015.

Note: Faculty data based on full-time faculty in all departments. Orange line, assistant professors (r = 0.874); yellow line, associate professors (r = 0.8222); green line, professors (r = 0.8256). Numbers next to data points indicate reporting year. Data points are connected sequentially, from 1973 to 2015.

from 15,950 in 1966 to 161,125 in 2015. In 2015, 87 percent (n = 140,908) of faculty were in clinical departments and 12 percent (n = 18,841) in basic science departments. In 1966, these percentages were smaller for clinical departments, with 69 percent (n = 10,993), and larger for basic science departments, with 28 percent (n = 4,506).[10]

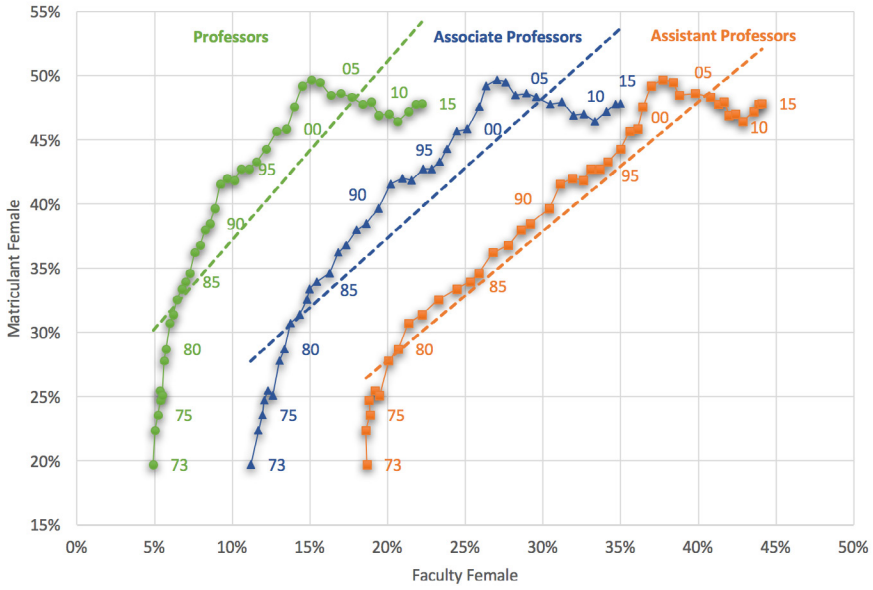
Results show that during the time period 1966–2015, female and URM proportions grew nearly twofold for assistant professors, associate professors, and professors (Figures 1 and 2). Faculty diversity was relatively stagnant in the 1960s and 1970s, and since the early 1980s, it has risen slowly. However, three distinct patterns emerged. First, lower-rank faculty remained more diverse than higher-rank faculty for the entire time period. Second, clinical departments overall had a higher proportion of URM and women than basic science departments. The proportion of URM faculty overall remained below 10 percent and the proportion of women remained below 37 percent for both clinical and basic science departments. Third, the proportion of URM faculty correlated positively with the proportion of incoming URM medical students for all three ranks, although the correlation was relatively higher at lower ranks. A similar correlation was observed for faculty and student gender (Figures 3 and 4).

Discussion

This analysis highlights a substantial increase in faculty diversity, although several differences and gaps persist. First, these results show that lower-rank faculty had higher proportions of URM and females, which is consistent with previous research.[11] This difference may indicate that there are mobility barriers for URM and female faculty within the academic promotional structure.[12] Early studies have found that women and non-white faculty members had lower promotion rates[13] and were leaving full-time faculty appointments at a higher rate than men and white faculty members.[14]

Diversity in the faculty body of U.S. medical schools has shown a historic increase but not to a level that reflects the growing diversity of the U.S. population, which in 2014 consisted of a URM population at 31 percent and women holding steady at 51 percent.[15] The finding that basic science departments have less diversity than clinical departments may point to diversity challenges in the biomedical research workforce overall.[16] Because physicians[17] represented a lower proportion of faculty in basic science departments than in clinical departments in 2015 (18.4 percent and 80.7 percent, respectively), different approaches may be required for enhancing faculty diversity in basic science departments than in clinical departments.[18] However, a study found that the proportions of women and black faculty in basic science departments of medical schools are lower than the proportions in university science departments that are

Figure 4. Association between U.S. medical school female matriculant diversity and female faculty diversity by rank, 1973–2015.



Source: AAMC Faculty Roster, December 31 Snapshots, 1973–2015. AAMC Data Warehouse: Applicant and Matriculant Demographic File, Annual Snapshots, 1973–2015.

Note: Faculty data based on full-time faculty in all departments. Orange line, assistant professors (r = 0.9562); yellow line, associate professors (r = 0.916); green line, professors (r = 0.8631). Numbers next to data points indicate reporting year. Data points are connected sequentially, from 1973 to 2015.

similarly research intensive.[19] Moreover, basic science department faculty did not see a commensurate increase in URM representation as did the nation's biomedical PhD graduate pools.[20] The finding that incoming student diversity and faculty diversity are correlated points to the intertwined nature of diversity for medical schools, which require an integrated approach for improving both student and faculty diversity.

Two of this study's limitations are that our correlation analysis is at a national level and is based on yearly snapshots of faculty and student counts. Although the analysis captures national trends for diversity in faculty and medical students, the analysis does not permit controls (for instance, differentiating medical schools by school characteristics that affect their missions). Future studies should conduct school-level correlation analysis between faculty diversity and medical student diversity. Another limitation is that this analysis does not establish a causal relationship between faculty diversity and student diversity. Earlier findings do suggest, however, that changes in diversity would be slower for faculty as their turnover time is typically much longer than medical students.[21]

In conclusion, continuing to promote diversity among faculty remains important for medical schools. As such, these results have practical implications for institutional leaders as they work to increase diversity at their schools. We suggest that more innovative approaches and a renewed commitment are needed to improve faculty diversity. Pipeline programs, for instance, should be strengthened and started earlier as they have been shown to be effective in increasing diversity among medical students,[8] and student diversity has been shown in this analysis and in previous research to be a modifiable factor associated with faculty diversity.[1] Mentoring minority and women junior faculty in academic medicine is also important.[22] Finally, medical schools may need to review their current practices and policies with an eye toward enabling more faculty diversity through institutional transformation[8] and moving diversity from the periphery to the core of institutional excellence.[23]

Notes

1. Page KR, Castillo-Page L, Wright SM. Faculty diversity programs in U.S. medical schools and characteristics associated with higher faculty diversity. *Acad Med*. 2011;86:1221-1228.
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10. In 2015, just under 1 percent were in "other" departments (n = 1,376); in 1966, 3 percent (n = 451) were in "other" departments.
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