Diversity, Equity, Inclusion, and Justice

Using Graduate Medical Education Institutional Data to Enhance Diverse Recruitment Strategies

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Individuals identifying as Black, Latinx, Native American, Alaskan, Hawaiian, and Pacific Islander represent 33% of the US population but just 11% of the US physician workforce.[1,2] Incongruity exists between the medical workforce and the US population despite studies that show underrepresented in medicine (UIM) physicians more frequently work in underserved communities, reduce health care disparities, and enhance race-concordant care, patient satisfaction, and medical treatment adherence.[3-8] Accreditation bodies, including the Liaison Committee on Medical Education and the Accreditation Council for Graduate Medical Education, have issued workforce diversity requirements.[9,10] In addition, institutional diversity metrics are now collected and reported by *US News & World Report* to address workforce disparity.[9-11]

Recruiting a diverse workforce is challenging given the limited candidate pool and biased selection processes that contribute to disparities. The limited number of diverse candidates can lead to competition between institutions in attracting candidates in a zero-sum proposition that fails to address physician workforce disparity. While we do not advocate for a specific quota of diverse physicians at any one institution, a critical mass is needed to impact the long-term goal of expanding the entire pool of diverse applicants. This starts with increasing underrepresented students entering STEM (science, technology, engineering, and mathematics) pathways that lead to careers in medicine. Holistic application reviews de-emphasizing test scores and biased metrics, implicit bias training for selection committees, and review of recruitment data have been advocated to improve selection of diverse candidates in the applicant pool.[12,13]

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This perspective provides a structured approach to inclusive recruitment through recruitment data organization, strategic program recommendations, and graduate medical education (GME)-led supporting initiatives. We recognize there are many recruitment strategies that can drive diversity. Our process offers a structured recruitment framework with initiatives that can be implemented in many institutions.

Data Collection and Analysis

When the Electronic Residency Application Service (ERAS) system became fully electronic in 2017, it provided easier access to program recruitment data for centralized review and analysis. The University of Chicago's GME team collected ERAS application data and National Resident Matching Program (NRMP) Match Results by Ranked Applicants reports over 3 years (2018-2020) for our core residency programs. For simplicity, we show a single year of de-identified data (FIGURE). Program-specific ERAS data were aggregated so that applicants who applied to multiple programs were accounted for among each program. ERAS and NRMP data were linked through the Association of American Medical Colleges' identification numbers to track where applicants ultimately matched.

We analyzed program recruitment data for self-identified UIM and non-UIM applicants. We compared the percentage that applied, were ranked, and ultimately matched for each program. Two scatterplots were created. One scatterplot compared the percentage of UIM who applied with the percentage of UIM who were ranked. The second compared the percentage of UIM who were ranked with the percentage of UIM who matched. Our institution's average for each of these values was used to separate the 2 plots into 4 quadrants (FIGURE). Averages were based on institutional data and were not aspirational. The aggregated data and figures provided visual

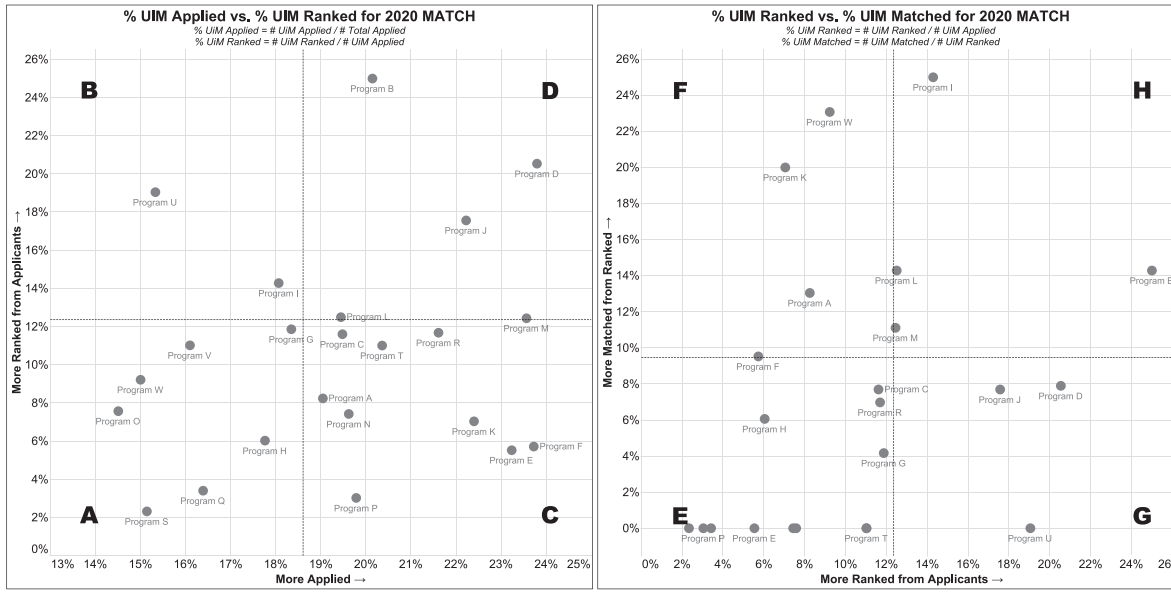

FIGURE
Quadrant Scatter Plot

Note: The quadrant where specific programs fall corresponds to a letter that will direct the program to recommendations and strategies to consider for the next recruitment cycle.

representation of relative program performance so that program-specific recommendations and strategies could be discussed (TABLE). The GME team also provided individual program-level numerical and graphical recruitment trends over 3 years (2018-2020). The de-identified chart, best practices, and strategies within each quadrant were shared with all program directors during GME monthly meetings.

Recommendations and Actions

The recommended strategies were proposed based on published evidence, expert opinion, and practical approaches to recruitment (TABLE). Programs with above-average rates of UIM at each stage of the recruitment process (applied, ranked, and matched) were encouraged to review data and share their strategies during GME meetings (FIGURE, Quadrants D, H). Programs with below-average UIM applications were encouraged to use similar strategies to increase applicants. Strategies considered by our programs included program branding, virtual recruitment, and collaboration with national student organizations (eg, Student National Medical Association, Latino Medical Student Association).[14-17] We also recommended aligning program mission with clinical standards and focusing on mission visibility through clear messaging, marketing, and media presence emphasizing diversity and inclusion (FIGURE, Quadrants A, B). Programs with below average rates of UIM ranked, but average/above-average UIM who applied, were asked to review their departmental mission to ensure workforce diversity was prioritized. Revision of the selection process should ensure a holistic review of applicants and avoid implicit bias (FIGURE, Quadrant C). Programs with below-average UIM ranked were recommended to reassess the program mission and selection process (FIGURE, Quadrants E and F). Programs with average/above-average numbers of UIM ranked but below-average UIM matched, were recommended to focus on the peri-interview experience by exploring second-look visits with subsidized travel so that prospective residents gain deeper program familiarity (FIGURE, Quadrant G).[15]

An important consideration is the disparity among programs that are less positioned to recruit prospective residents. Through GME-led interventions, institutional resources can better support programs that may not otherwise have dedicated staff, time, and capacity for recruitment. Two faculty diversity officers were given leadership roles in GME, each with protected 10% full-time equivalents, to enhance recruitment efforts. To increase residency applications across GME, we organized institution-wide virtual residency recruitment events, expanded our social media presence, and created video recruitment content to increase our institution's visibility. We believe these interventions appeal to younger prospective applicants who are more engaged in virtual content and platforms. A privately funded scholarship program was started to support visiting clerkship rotations for UIM medical students, and a house staff

TABLE
Recommendations and Strategies for Diverse Recruitment

% Applied vs % Ranked	Recommendations and Strategies
A: Low applied/low ranked	▪ Increase UIM applications o Review diversity statement on webpage o Host virtual showcase of programs o Increase opportunities to interact with faculty and residents through subsidized visiting clerkships o Increase outreach to UIM medical student organizations o Review marketing, website, and social media[17] o Increase outreach to medical schools with high number of UIM students ▪ Reassess selection process (holistic review, implicit bias training)
B: Low applied/high ranked	▪ Increase UIM applications (see above) ▪ Review Match outcomes ▪ Consider branding and recruitment practices including brand identity, brand image, brand positioning, brand experience, and brand auditing[17]
C: High applied/low ranked	▪ Reassess selection process (holistic review) ▪ Reassess implicit bias training for individuals reviewing applications ▪ Reassess alignment of applicant pool and program mission
D: High applied/high ranked	▪ Sustain best practices ▪ Review Match outcomes
% Ranked vs % Matched	**Recommendations and Strategies**
E: Low ranked/low matched	▪ Reassess selection process (holistic review) ▪ Reassess implicit bias training for individuals reviewing applications ▪ Reassess rank strategy (order/placement in rank list) ▪ Improve branding and inclusive recruitment strategies[17]
F: Low ranked/high matched	▪ Reassess selection process (holistic review) ▪ Reassess implicit bias training for individuals reviewing applications ▪ Reassess alignment of applicant pool and program mission
G: High ranked/low matched	▪ Reassess rank strategy (order/placement in rank list) ▪ Consider branding and recruitment practices including brand identity, brand image, brand positioning, brand experience, and brand auditing[17] ▪ Allow second-look visits with subsidized travel ▪ Review program competitiveness
H: High ranked/high matched	▪ Review total No. of UIM/total No. of slots ▪ Sustain best practices

Abbreviation: UIM, underrepresented in medicine.

diversity committee exists for residents and fellows from across our institution to enhance inclusion and a sense of belonging. Medical students at our institution participate in these GME-supported committees in addition to other public service and social events to better engage and retain our diverse medical student body. To improve the institution's link between service and mission, the GME team launched an institution-wide community outreach program and selected 30 residents through an application process. The selected residents engaged in required, year-long community outreach initiatives and a virtual health equity curriculum. Participants received a small university-funded stipend to compensate for their time and effort in this program.

Our perspective offers specific examples of GME-supported recruitment that can be implemented at many institutions. Over a 3-year recruitment cycle, we observed higher numbers of UIM applicants and higher match rates. From 2019 to 2021, total applications rose by 9.8% with the greatest increase among UIM candidates. This follows the national NRMP trend of increased applications with a 6% increase noted in the 2021 main Match.[18] In 2021, our institution observed an increase in the percentage of matched UIM applicants from 14% to 24%. UIM main Match rate increases were observed among medicine-, surgical-, and hospital-based programs and among both above- and below-average programs with UIM representation. These are observational trends, and we cannot determine whether data organization, program-specific recommendations, or GME-supported initiatives caused these improvements.

Conclusions

We believe a concentrated, centralized approach to recruitment can enhance workforce diversity beyond what may be achievable by individual programs.

When a critical mass of UIM talent is achieved, mentorship, sponsorship, and premedical career pathways are enhanced. We believe this approach will drive UIM workforce representation and foster UIM physicians in all specialties to improve patient care.

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