Diversity in Orthopaedic Surgery Residencies Based on Allopathic Medical School Affiliation

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INTRODUCTION:

Orthopaedic surgery is one of the most competitive and least diverse specialties in medicine. Affiliation of an orthopaedic surgery residency program with an allopathic medical school impacts networking and research opportunities, program cultures, and clinical exposure to resident applicants. The purpose of this study is to examine the potential effect medical school affiliation has upon resident demographics and academic characteristics.

METHODS: All 202 ACGME-accredited orthopaedic programs were divided into two groups: Group 1 consisted of residency programs without an affiliated allopathic medical school, and Group 2 of programs with an affiliated allopathic medical school. Affiliations were determined by cross referencing the ACGME residency program list with the medical school list published by AAMC. Program and resident characteristics were then compiled using AAMC's Residency Explorer including region, program setting, number of residents, number of PGY1 positions, number of applicants, percentage of applicants interviewed, and DO recognition. Resident characteristics included race, gender, applicant type, work experiences, volunteer experiences, research experiences, peer-reviewed publications, USMLE Step 1 Scores, Alpha Omega Alpha (AOA), and Gold Humanism Honor Society (GHHS). Descriptive statistics were used to characterize each group, and chi-square test and t-test were used to assess for differences between both groups. Significance level was set at $\alpha = 0.05$.

RESULTS:

Of the 202 orthopaedic residencies, Group 1 had 61 (30.2%) programs and Group 2 had 141 (69.8%) programs. Most Group 1 programs were based at affiliated hospitals (41.0%) or community hospitals (39.3%), whereas most Group 2 programs were based out of a university hospital (70.9%). Group 2 had larger residency programs (4.9 versus 3.2 resident positions/year, $P < 0.001$) and 1.7 times the number of residency applicants (655.8 versus 385.5, $P < 0.001$). Both types of programs interviewed a similar percentage of applicants, corresponding to 11.1% of applying applicants. Group 1 had 6.1% more White residents, and Group 2 had 3.5% more Black residents (5.1% versus 1.6%) and 2.9% more Hispanic residents (6.8% versus 3.9%). The distribution of other races was similar between both groups, and so was the distribution of genders. The type of applicants matching in each group differed as well. The majority of Group 2 residents were allopathic medical school graduates, 95.5%, compared to 41.6% in Group 1. Group 1 had 57.0% osteopathic medical school graduates, compared to 2.9% in Group 2. Academic performance statistics were comparable between the two groups ($P > 0.05$).

DISCUSSION AND CONCLUSION:

This study demonstrated that candidates who successfully match into an orthopaedic surgery residency program have high academic performance, regardless of whether the program was affiliated with an allopathic medical school or not. However, there are notable differences in resident demographics as residency training programs with an allopathic medical school affiliation have higher proportions of Black, Hispanic, and allopathic medical school graduates. Differences may be influenced by increased representation of minority faculty, greater demand for allopathic residents, or stronger emphasis on promotion of diversity in those residency programs. Further work is needed to understand the characteristics desired by program directors in both of these groups as well as determining how a home program may affect medical students' decisions in the match process.