

## Trends in Racial, Ethnic and Gender Diversity in Integrated Versus Independent Plastic Surgery Residencies

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**Introduction:** No prior studies have examined the differences between integrated and independent programs with regard to race, ethnic and gender composition, or whether there are trends in their respective demographic compositions.

**Methods:** JAMA Graduate Medical Education annual reports of integrated versus independent residencies were reviewed for the 2009-2015 academic years. Data recorded included academic year, race, ethnicity and gender. An analysis of 3 specific sub-groups was performed: Blacks, Hispanics and females. The Cochran-Armitage test was used to assess trends among the subgroups.

**Results:** From the 2009 to 2015 academic years, active residents in integrated programs rose from 189 to 573 residents (+203.2%). During the same period, the number of independent residents declined from 508 to 372 (-26.7%). Blacks saw a statistically significant trend decline in representation in integrated programs from 2009 (4.8%) to 2015 (2.1%),  $p = 0.026$ , but no statistically significant difference in the independent pathway from 2009 (4.5%) to 2015 (5.6%),  $p = 0.19$ . Hispanic ethnicity saw an increase, but not statistically significant trend in representation in the integrated and independent programs from 2009 to 2015, 4.8% to 7.0%,  $p = 0.64$  and 7.7% to 9.4%,  $p = 0.71$ , respectively. Females saw a statistically significant trend increase in representation in integrated programs from 2009 (21.7%) to 2015 (38.0%),  $p < 0.01$ . For the independent programs, no statistically significant difference was observed from 2009 (24.8%) to 2015 (26.3%),  $p = 0.43$ .

**Discussion:** The integrated pathway has seen significant growth and surpassed the independent pathway in number of residency positions. During the study period, females saw a significant representation trend increase in the integrated pathway, but not the independent pathway. However, the integrated pathway also saw a statistically significant decline in Black representation. Overall, the percentage of Blacks in graduating medical schools classes has increased and the decline in representation in plastic surgery integrated programs is concerning. Moreover, despite increased representation in surgery, it is unclear why more females are not pursuing the independent pathway. Further research is needed to explore the reasons for these specific abnormalities in racial and gender representation among plastic surgery trainees.