Diversity in Dermatology Residency Programs

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Given the change in our population to one that is more racially and ethnically diverse, the topic of diversity in dermatology residency programs has gained attention. In a field that has become highly competitive, diversity is lagging behind. What are the reasons for this? The existing diversity among medical school matriculants is reflective of the applicant pool, and although modest, there has been an increase in applications and acceptances from minority populations. However, these proportions do not carry through to the population applying to dermatology residency. Making sense of this and planning how to recruit a more diverse applicant pool will improve the quality and cultural competency of future dermatologists.

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INTRODUCTION

The US population has changed. No longer are we a society that is monomorphic, and truly we never really were. Between immigrants, native peoples, and the institution of slavery, we have always been a mosaic of skin tones in this country, and we continue to become ever more diverse. The percentage of Americans who identify as people of color has been rapidly increasing. If current projected trends continue, more than one half of all Americans will belong to a minority group by 2050 (US Census Bureau, 2015a). Is this of importance in health care (Buster et al., 2012)? A good doctor is a good doctor, right? The significance of our country's evolving ethnic makeup is worth noting, especially because a disproportionate percentage of these fast-growing groups lack health insurance. According to the US Census report in 2013, those of Hispanic or Latino background had a higher rate of being uninsured compared with the non-Hispanic white population (24.3% vs. 9.8%) (Smith and Medalia, 2013). This was also true of those of Asian descent (14.5%) and African Americans (15.9%). These unmet health-related needs have not gone unnoticed by the US government and have resulted in initiatives aimed at eliminating health disparities. Consider, for example, that the US Department of Health and Human Services laid out the Action Plan to Reduce Racial and Ethnic Health Disparities in 2011 (US Department of Health and Human Services, Office of Minority Health, 2015) and that the Affordable Care Act, which in addition to aiming at increasing coverage options for low- and moderate-income populations, sought to also improve health disparities, with emphasis on medical homes, accountable care organizations, and increasing cultural sensitivity(Adepoju et al., 2015). But are these approaches the right way to go?

DIVERSITY IN MEDICINE

Despite efforts, disparities persist, and truly this is a problem that will take years to mend (Office of Disease Prevention and Health Promotion, 2017). Let us consider that in the United States, diversity among physicians is significantly less than that of the population. Only 4.4% of physicians identify as being of Hispanic or Latino ancestry, and 4.1% are of African American ancestry (Association of American Medical Colleges, 2014). Could this be part of the problem? When patients of color do access the health care system, they have a tendency to seek out a physician of their own race because of personal and primary language preferences, regardless of location (Moy and Bartman, 1995; Saha et al., 2000; Street et al., 2008). Without undermining the importance of access, the future of how these populations are served could depend, in part, on who the physician is and where he/she comes from.

So who are we? The typical US medical student class does not look like it did 50 years ago. We see a greater percentage of women medical students; however, the numbers for students of color still do not reflect our population (Association of American Medical Colleges [AAMC], 2012). Among the applicant pool from 2015 AAMC data (AAMC, 2016a), the black/African American and Hispanic/Latino groups continue to be underrepresented compared with the population in the United States (Figure 1a, c). Matriculation to medical school for these two groups is in proportion to the percentage of applications (AAMC, 2016b). These two populations had the greatest percentage increase in applications from 2013 to 2015, suggesting that recruitment and efforts to attract these students may be working (Figure 1d). However, the Asian population has seen the greatest increase in acceptance to medical school during that same time period (Figure 1d), in addition to being the second largest represented group (Figure 1a and b). When one considers that the total number of matriculants increased by only 2.85% from 2013 to 2015, it is clear that the gains to develop a more diversified physician workforce have been modest thus far.

DIVERSITY IN DERMATOLOGY

How does this affect dermatology? In our field we often can have the "pick of the medical school litter," but the number of trainees entering our field from underrepresented backgrounds is very small. Of the nearly 36,000 applicants seeking residency seats in 2015, those applying to dermatology programs made up slightly less than 2% (AAMC, 2016c). This dilutional effect of students matriculating and applying to residency seems to further negatively affect dermatology applicants identifying as

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Abbreviation: AAMC, Association of American Medical Colleges

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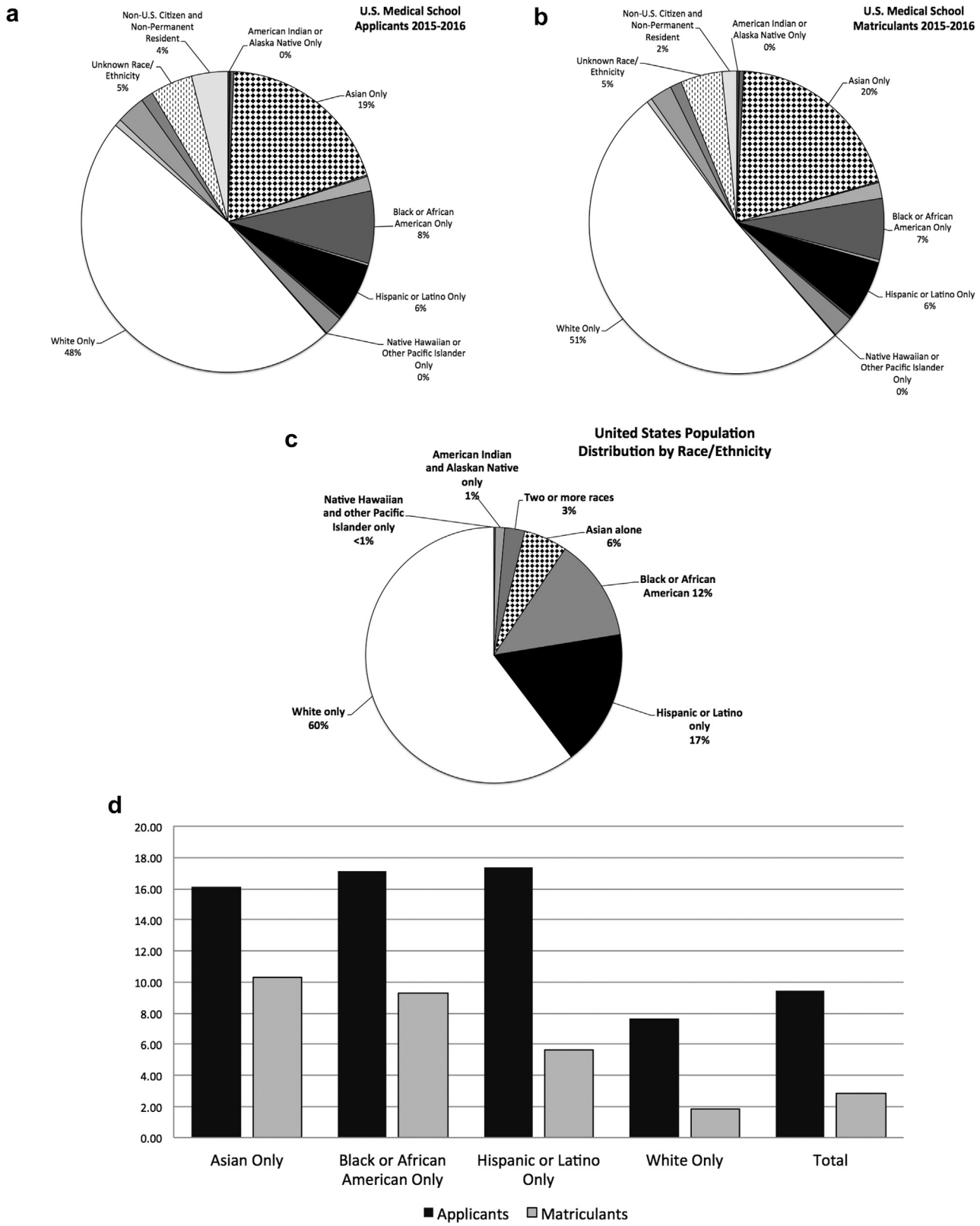

Figure 1. **Distribution of race and ethnicity among medical school applicants and matriculants.** (**a, b**) Distribution of race and ethnicity among (**a**) medical school applicants and (**b**) matriculants to MD degree-granting medical schools in the United States in 2015. Nonlabeled fractions included identifiers with multiple race/ethnicities: American Indian or Alaska Native, black or African American; American Indian or Alaska Native, white; Asian, black or African American; Asian, white; black or African American, white; Hispanic or Latino, black or African American; Hispanic or Latino, white; white, other; other; and multiple race/ethnicity not listed above. (**c**) Estimated distribution of race and ethnicity in the United States, 2015. (**d**) The percentage increase of medical applicants and matriculants from 2013 to 2015 to MD degree-granting medical schools in the United States.

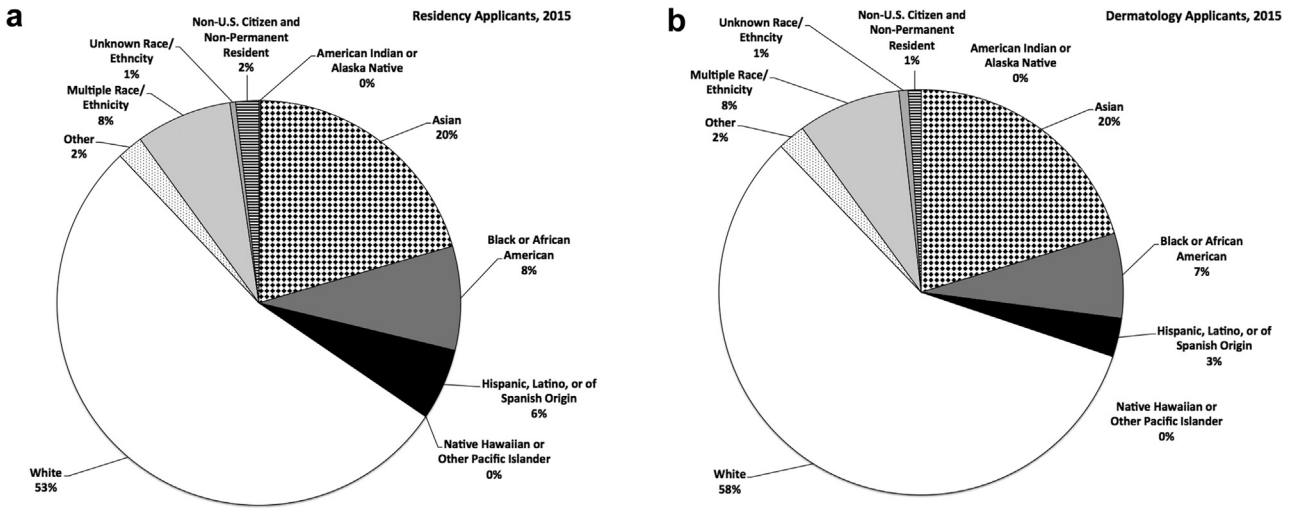

Figure 2. Distribution of race and ethnicity among dermatology residency applicants and all residency applicants. (**a, b**) Distribution of race and ethnicity among all (**a**) residency applicants and (**b**) dermatology applicants from MD degree-granting medical schools in the United States, 2015.

Hispanic or Latino (6% total to 3% applying to dermatology programs) and black/African American (8% total to 7% applying to dermatology programs) (Figure 2). In light of this, out of the 46 possible residency categories listed in the Electronic Residency Application Service for 2015, dermatology ranked 35th in terms of attracting a diverse applicant pool (i.e., percentage total minority representation of applicants) (AAMC, 2016c). These data should prepare us for the unfortunate statistics that only 4.2% of practicing dermatologists self-identify as being of Hispanic ancestry compared with 17.8% (US Census Bureau, 2015b) in the general population and merely 3% or practicing dermatologists self-identify as African Americans compared with 13.3% (US Census Bureau, 2015b) of the population at large (Bae et al., 2016; Pandya et al., 2016).

There are many reasons for increasing minority representation in medicine (Saha, 2014). However, could diversity among dermatology providers help solve some of the most serious disparities in the field? Although slightly naïve, this is an important question to ask ourselves. In primary care, diversity, and specifically race concordance, has been associated with longer visit times and positive patient affects (Cooper et al., 2003; Street et al., 2008), and historically, nonwhite physicians have been more likely to care for minority populations (Moy and Bartman, 1995). An important example to consider is racial disparity in melanoma survival. Despite the incidence of cutaneous melanoma being much greater in the white population, survival is significantly lower in nonwhite populations and is often associated with late diagnosis (Cormier et al., 2006; Dawes et al., 2016; Hu et al., 2009; Ortiz et al., 2005; Pollitt et al., 2012; Singh et al., 2011). This relationship is undoubtedly complex; however, for those of us in the position to mentor and train the future generations of dermatologists, understanding the limiting nature of a less-diverse provider population is of the utmost importance.

There are several possible reasons for this lack of diversity within our field (Imadojemu and James, 2016). However, there is a discordance between the number of minority medical school applicants who matriculate and those who go on to consider dermatology as a career, especially among the Hispanic/Latino and Black/African American students. This may be due to lack of early exposure to dermatology before and/or during medical school (McCleskey et al., 2009). Additionally, there may be a lack of discussion in the medical school curriculum emphasizing the impact of skin disease on people of color. Recruitment is challenging given the limited pool of candidates applying to dermatology programs (i.e., the dilutional effect). Further, the lack of community focus in dermatology may hurt our attractiveness to students from underrepresented populations. Many of those students have dedicated themselves to returning to serve in their communities and cannot imagine our field as a vehicle for doing that. Lastly, the competitive nature of our specialty may deter some of the underrepresented applicants.

RECOMMENDATIONS

With the number of minority medical school applicants increasing each year, there will be numerous opportunities to attempt to attract more applicants to our field. In fact it is paramount that we do so. This is a call to action for a grassroots effort within our own specialty. Certainly, exposure to dermatology is something we can begin to improve upon, at all levels of education. Mentorship and community presence are also undertakings that we should be investing our time in. For those of us in a position to review applicants, we should remind ourselves to consider the value of a wider range of attributes including family and school experiences, cultural competency, and the desire to care for underserved populations. Going forward, we believe that we will need to value student applicants more individually (test scores are known to predict testing talent, not doctor talent) so that they can be evaluated for their unique experiences and talents.

This is an understudied area of dermatology, resulting in limited evidence-based recommendations for improvement. In light of this, we can consider what has been accomplished in other fields. By focusing on recruitment, mentorship, and applicant exposure, other specialties have found success. For example, making diversity a priority in recruitment efforts in a cardiology fellowship training program increased the number of fellows from underrepresented backgrounds by 25% (Auseon et al., 2013). This was accomplished by the formation

of subcommittees whose sole purpose was to review and rank applications from underrepresented minority candidates, by reaching out to already diverse residency programs to seek potential candidates, and by encouraging targeted postinterview communication with competitive underrepresented applicants (Auseon et al., 2013). Similarly, the number of minority applicants to orthopedic surgery residency programs was shown to be dramatically increased from medical schools that provide exposure to the field as part of the required medical school curriculum (Bernstein et al., 2004). Additionally, mentorship of underrepresented minority medical students by department faculty in otolaryngology-head and neck surgery increased interest and applicants in 11 different medical schools (Nellis et al., 2016). These proactive, hands-on approaches have been in practice at the societal level (American Academy of Dermatology, 2016) but should be implemented within our field at the institutional level, with the goal of diversifying and cultivating our future applicants.

CONCLUSION

Diversity in our specialty is falling behind that of the US population. A more diverse dermatology provider base will help reach and treat more patients, many of whom lack proper care. There is a less diverse applicant pool applying to dermatology residency compared with other specialties, despite an increase in minority representation in medical school applicants. We need to approach this problem at multiple levels to improve recruitment into our field. A grassroots initiative among dermatologists is needed to improve the diversity of our applicant pool. Further, the highly selective nature of our specialty may be limiting our exposure to worthy applicants, highlighting the need for a more individual evaluation. Addressing these will help us make dermatology a more diverse and effective practice of medicine and prepare our future dermatologists to think bigger than ever before.

CONFLICT OF INTEREST

The authors state no conflict of interest.

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