Do Urban Patients Have Selection Preferences for Academic Oral and Maxillofacial Surgeons Based on Race?

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INTRODUCTION

The city of Philadelphia is stratified with multiple racial groups within the metropolitan area, with the top three being African American, Caucasian, and Asian. As of 2020, Philadelphia observed a population of 1,603,797, increasing steadily about 5% from a population of 1,526,006 back in 2010 (Table 1). [1,2] Philadelphia is a melting pot of different cultures and ethnicities, with multiple Hispanic and Latino refugees immigrating into this city looking for opportunities to grow (+2.9% growth from 2010 to 2020). Unfortunately, there is a disproportionately large share of underrepresented minorities within the Philadelphia community, many of whom do not have adequate access to healthcare. Through multiple outreach programs, the University of Pennsylvania Health System has built nonprofit organizations to support the underrepresented minorities in education, healthcare, and community. For instance, many undocumented Latino immigrants who came to Philadelphia face hardships with financials and insurances. Through a collaboration between the medical and dental schools, the University of Pennsylvania has built a site called Puentes de Salud (Bridges of Health) that support these immigrants for medical and dental services.

Table 1. US Census Bureau Distribution of Race in Philadelphia, PA (2010 and 2020)

Race	2010	2020	Change
White or Caucasian	41.0%	39.3%	–1.7%
Black or African American	43.4%	43.6%	+0.2%
Asian	6.3%	7.8%	+1.5%
American Indian and Alaskan Native	0.5%	0.9%	+0.4%
Native Hawaiian and Pacific Islander	0.1%	0.2%	+0.1%
Unknown Race	5.9%	5.4%	–0.5%
Two or More Races	2.8%	2.8%	±0%
Hispanic or Latino	12.3%	15.2%	+2.9%

METHODS & MATERIAL

At the University of Pennsylvania Department of Oral and Maxillofacial Surgery (OMS), we investigated if the race of our patients correlates to the race of our OMS providers, especially in the underrepresented minorities (eg, African American, Hispanic or Latino, Pacific Islander). We performed an extensive database search of OMS operating room (OR) logs by OMS attendings from 2011 to 2021 (n = 88435) after granting an exemption by the Institutional Review Board. During this decade, our OMS department categorized fourteen surgeons based on the race of Asian (3), Caucasian (8), East Indian (1), and Middle Eastern (2). The objective of our study is to show that we can expand the diversity of OMS providers so that patients of any background can feel more connected with at least one of their providers based on cultural and ethnic background. Ideally, we expect that each OMS provider sees a similar distribution of demographics compared to the Philadelphia demographics based on the census (Figure 1). Based on the race that each surgeon is categorized in, we noted if there is any significant difference compared to the Philadelphia demographics.

Figure 1. Demographics of Patient Population Treated Based on OMS Race at Penn Medicine

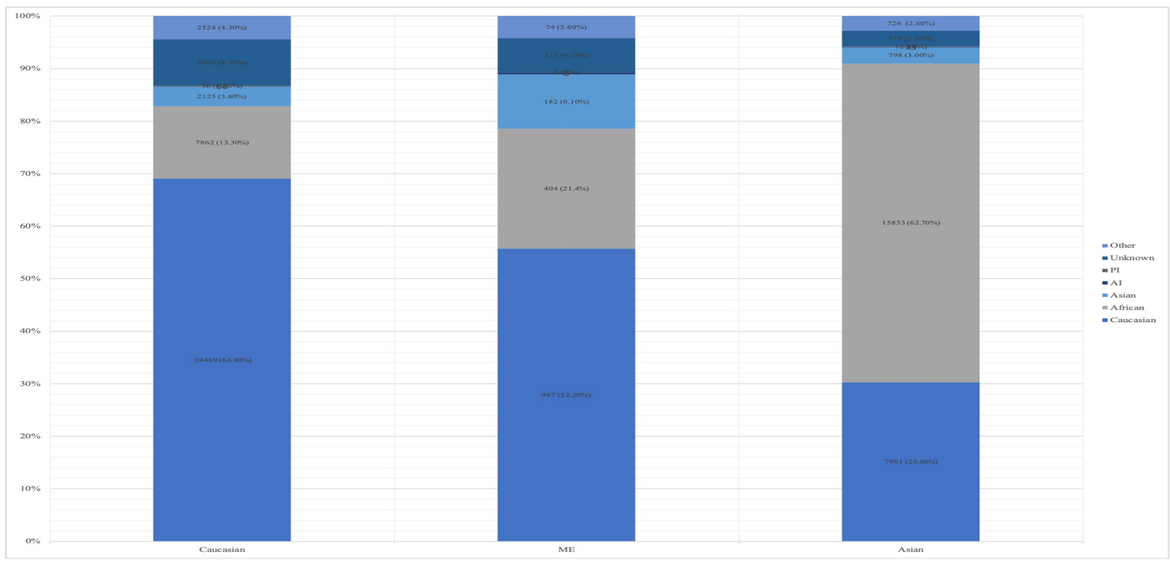


Figure 2. Racial Distribution of Procedures Conducted by Penn OMS (2011-2021)

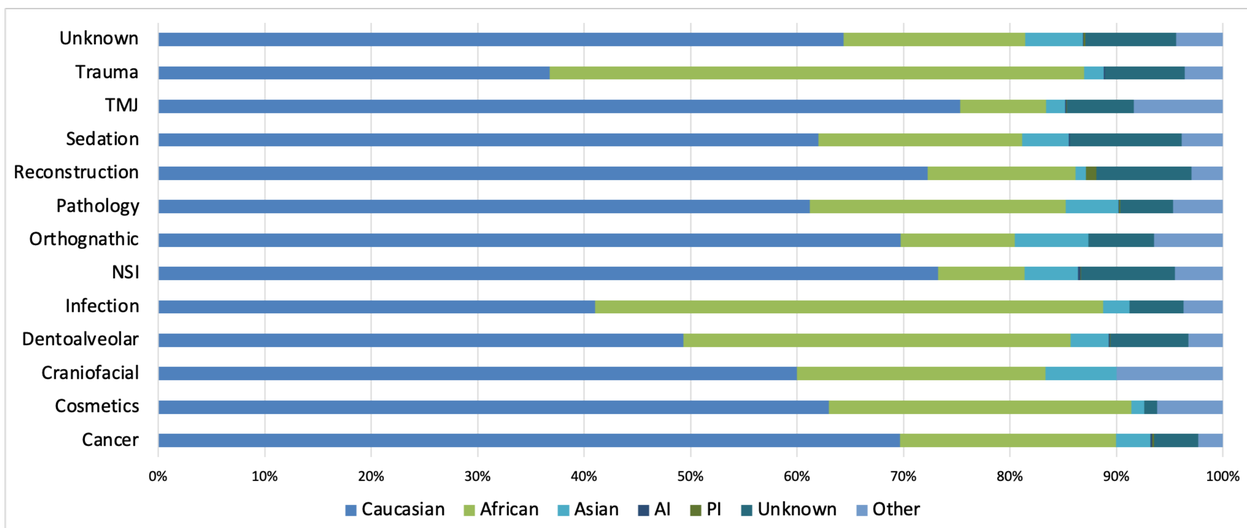
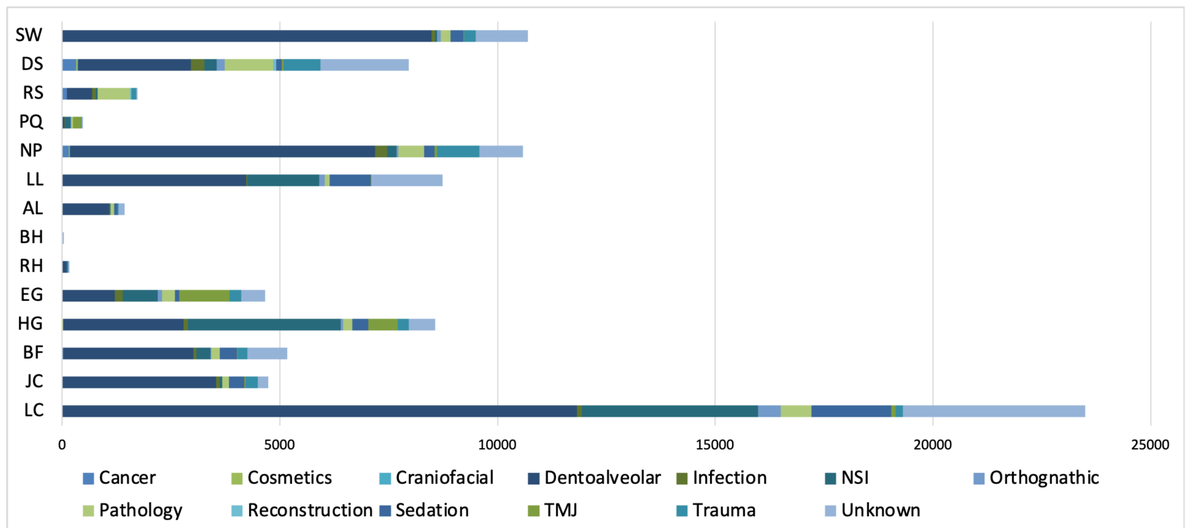


Figure 3. Distribution of Surgery Per Scope by Penn OMS Provider (2011-2021)



DISCUSSION

Although each University of Pennsylvania OMS provider treats a disparate distribution of demographics compared to the Philadelphia population, there are some potential explanations to these findings in our data that cannot be based solely on patients' racial preferences in doctor selection. Firstly, our OMS department had multiple faculties that have entered and retired within this time period, which affected the flow of our patient care from the retired providers to the next available ones, while the new providers required time to establish the flow of their practice. Secondly, all of our providers tailor their expertise towards certain pillars within OMS. Some of our providers have emphasis in only the core aspects of OMS such as orthognathic surgery, dentoalveolar surgery, and implant surgery. While certainly all of our providers are able to provide the core aspects of OMS for Philadelphia, special cases such as temporomandibular joint disorders (TMD), benign and malignant head-and-neck pathology, and cleft-and-craniofacial disorders are only provided by certain attendings of our department. The epidemiology of different types of procedures performed at our OMS department varies widely. For example, African Americans ages 18 to 65 are the most affected patient demographic in our trauma cases. [4] Within the past five years, we have hired fellowship-trained surgeons in head-and-neck cancer and cleft-and-craniofacial care. The epidemiology of multiple pathologies that encompass these pillars of OMS certainly are skewed towards certain races, and therefore we can only rely on these surgeons for any of these special cases. As seen on Figure 2, the assignment of a patient to the surgeon of their choice on the basis of demographics can also be affected by other factors as demonstrated in this review. Not only are the surgeons providing different degrees of expertise in particular areas of oral and maxillofacial surgery, but the distribution of that is unevenly spread and independent to the race of the surgeon. Hence, the question of to what extend does the patient's choice of surgeon depend on the basis of demographics such as race or on the basis of expertise and experience in the industry. The skillset that the surgeon offers in a particular expertise is likely to also impact the decision-making process. In fact, there is a discrepancy worth noting considering that patients did not always receive treatments from surgeons of their own race. As portrayed on Figure 3, the Asian population opted for a Caucasian doctor more often than an Asian doctor. Similarly, this can be seen with most African American patients opting for an Asian provider. This pattern raises the question for further research as to whether the choice in an oral and maxillofacial surgeon is dependent on the preference being treated by a provider with a race that is dissimilar to their own or if this disparity can be contributed to the expertise of that doctor and the requirements of the treatment plan to an extended degree. Thirdly, not all of our providers practice in the same locations within Penn Medicine. We believe patients, regardless of race, are more likely to receive care at wherever locations that are most convenient to them, so the epidemiology of the patient base at each of our OMS provider locations could vary from none to widely.

CONCLUSION

We noted that not a single provider race category's patient base within our OMS department aligned similarly to the Philadelphia demographics. We report more than twice the volumes of OR logs among Caucasian patients than African American patients. The majority of our OR cases bill medical insurances instead of dental insurances, and we believe this signifies that there may be a lack of access to medical insurance among African Americans compared to Caucasians in Philadelphia. However, some interesting findings are noted through our investigation. First, Asian OMS providers had the highest percentage of visits from African Americans while Caucasian OMS providers had the highest percentage of visits from Caucasian patients. In addition, when comparing which provider race had the most similar distribution to the overall experience at University of Pennsylvania, Middle Eastern surgeons had the closest match. The percentages of other patients, such as Asian and Hispanics, are significantly lower than the Philadelphia demographics. Even though it may seem that African American patients favor Asian OMS providers or Caucasian patients favor Caucasian OMS providers, it is difficult to draw this association as other factors, such as socioeconomics and social determinants of health, may influence which patients step into our doors. We also believe that had our OMS team had an African American provider that had practiced within this decade, our data would have given another significant view. Philadelphia is almost equally split in population of African Americans and Caucasians, and therefore having African American providers in OMS could significantly help our academic practice by ensuring that patients are equally represented. Another way that would have helped to enhance our analysis is to collect patient surveys after the end of each visit, which would be more suggestive and conclusive than our OR log database.

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