

MEDICAL SCHOOL HOTLINE

Mentoring as a Means to Achieving Workforce Diversification in Orthopaedic Surgery

Makoa Mau BS; Maria B.J. Chun PhD

In 1993, the Medical School Hotline was founded by Satoru Izutsu PhD (former vice-dean UH JABSOM), it is a monthly column from the University of Hawai'i John A. Burns School of Medicine and is edited by Kathleen Kihmm Connolly PhD; HJH&SW Contributing Editor.

Abstract

Orthopaedic surgery is no stranger to health care disparities and the American Academy of Orthopaedic Surgeons (AAOS) has expressed a commitment to a culturally competent and diverse workforce. Addressing workforce diversification is critical to recruiting a more diverse orthopaedic workforce and engaging the community to improve patient care and ensure equitable care for all. Unfortunately, these concerns were acknowledged by the AAOS almost 2 decades ago, without much significant progress. This article discusses mentoring as a means to address workforce diversification in orthopaedics and provides recommendations on how orthopaedics can enhance its efforts.

Keywords

mentoring, workforce diversity, orthopaedic surgery

Health care disparities in orthopaedic surgery are well-documented. Racial and ethnic minority groups demonstrate lower rates of total joint arthroplasty, greater complications after joint replacement, higher rates of readmission after surgery, and increased morbidity and mortality following hip fracture as compared to Whites.^{1,2} Reasons for these disparities are multifactorial, making the path toward eliminating them difficult. In addition to the cultural contexts of the patients they care for, orthopaedic surgeons themselves are not diverse; in the United States (US) approximately 92% of orthopaedists are males and 85% are White.³ Studies indicate that patients are more likely to be satisfied with their care if they are cared for by a physician of the same race/ethnicity.^{4,5} This creates a difficult scenario, as health care disparities in orthopaedic surgery may increase if action is not taken to encourage more culturally-tailored care, and to increase the diversity of the orthopaedic workforce. The specialty has acknowledged these concerns almost 2 decades ago,⁶ but not much progress has been made since. The purpose of this article is to provide a personal perspective from a Native Hawaiian third year medical student at the John A. Burns School of Medicine (JABSOM) on possible actions that can be taken to enhance diversity in orthopaedics through mentoring. Previous attempts at improving cultural competency and diversification within orthopaedics is also described.

Early attempts at addressing orthopaedic health care disparities focused on providing culturally competent communication methods and responses to various scenarios. In 2001, the American Academy of Orthopaedic Surgeons (AAOS) Communication Skills Mentoring Program began providing communication skills workshops and cultural competency resources developed by the AAOS Diversity Board, such as the *Cultural Competency Challenge CD-ROM* and *Culturally Competent Care Guidebook*.⁶ In 2004, at the AAOS Annual Meeting, the Diversity Advisory Board challenged participants to assess their ability to provide culturally competent care with hypothetical case scenarios.^{6,7} As a result, the *Cultural Competency Challenge CD-ROM* was developed in 2005, and includes 18 hypothetical interactions and questions with Latino/Hispanic, Asian, Arab, Muslim, African American, Native American, and female patients.^{6,7} Shortly after, the *Culturally Competent Care Guidebook* was developed in 2007 as a resource that provided tips on handling culturally sensitive scenarios with Hispanic/Latino, African American, Asian American, and Native American patients, and sex- and faith-based issues.⁶

In addition to cultural competency training, recent attempts at minimizing health care disparities have focused on the diversification of the orthopaedic workforce. The creation of the AAOS Diversity Advisory Board and the AAOS mentoring initiative "The Changing Face of Orthopedics" were made to enhance culturally competent care among practitioners and to provide information that guides those underrepresented in medicine (URM) to pursue an orthopaedic surgery residency.⁸ However, since the creation of these programs in the early 2000s, the diversity within orthopaedics has not changed, while the diversity within other specialties has increased. The orthopaedic workforce continues to be composed of only 6.7% Asian American, 2.2% Hispanic, 1.9% African American, and 0.4% Native American surgeons.³ Female orthopaedists have increased by 1.7% over a 10 year span, up to 5.8% in 2018, but are still clearly underrepresented.³ Furthermore, a recent study found that the number of URM orthopaedic residents has decreased over time from 9.3% (287 out of 3,074) in 2002 to

5.9% (215 out of 3,621) in 2016.⁹ In response, orthopaedists in collaboration with academic institutions and industry are creating intensive mentoring programs. The Nth Dimensions program, founded by a group of African American orthopaedic surgeons in 2004, is reportedly the most successful pipeline program in the US for women and minorities, producing 275 scholarly presentations and publications between 2017-2020, and boasting a 92% match rate into orthopaedics.¹⁰ The program, a 501(c)(3) nonprofit organization, seeks to address and eliminate healthcare inequities by providing a 3 phase research and mentorship opportunity for competitive rising second year medical students.¹¹ The Phase 1 programs promote student growth through interactive workshops with orthopaedic surgeons who reflect the diversity of the students' race/ethnicity and/or gender, learning about orthopaedic practices with actual orthopaedic equipment provided by industry. Phase 2 is comprised of a summer internship program, where students join mentors in clinic and in research, culminating with a presentation at the National Medical Association annual meeting. Students are chosen for the 8-week summer internship via the Association of American Medical Colleges' Holistic Review Framework, which includes an interview with the entire leadership team and participants from other large orthopaedic organizations, such as the AAOS. Each candidate is evaluated on attributes, such as grit and resilience, academic metrics, and experiences such as socioeconomic status and cultural barriers overcome. When chosen, students are matched with a long-term mentor who oversees their research project and immerses them in clinical experiences. Lastly, the Phase 3 program focuses on continuing mentoring and professional development. This program is open to students who are interested in orthopaedics, but may not have completed the Phase 2 program. This allows Nth Dimensions to reach a wide array of scholars, and helps them with mentoring for personal statement reviews, subinternship selections, and interviewing skills.¹¹ The impressive achievements of Nth Dimensions demonstrates that a successful mentoring program is possible and could greatly improve the diversity of the specialty.

Lack of mentorship is one of the greatest barriers for URM students. Many minority students miss out on the hidden curriculum (ie, norms and values of the medical profession not formally taught) needed to excel in medical school and match into residency.¹² As a Native Hawaiian, first-generation medical student, much of my mentoring experiences have come from personal requests made towards willing surgeons, orthopaedic residents, and senior medical students. JABSOM, like many medical schools, does not have a formal orthopaedic mentoring program. Instead, students are provided with a list of possible research opportunities across all specialties. This resulted in frequent cold-calling with little response. This has been the only way a URM without previous ties to orthopaedics or medicine in general can gain experience. In my efforts to contact orthopaedic mentors, I have been fortunate to receive a few responses. Once they become third year students, JABSOM students are given the opportunity to contact career advisors in their specialty of

choice. This career advisor helps navigate subinternships and residency applications in addition to mentoring. However, like many other surgical subspecialties, there is only 1 orthopaedic career advisor available at JABSOM. This can be improved by increasing availability to career advisors. Career advisors should be formally introduced to all students as early as possible, creating long-term relationships and exposure to the specialty. Hopefully, the long-term relationship stimulates positive affirmation and lowers the frequency of "imposter syndrome." Furthermore, more career advisors should be recruited. Career advisors or mentors may be incentivized, as financial resources could be allocated to support and protect time for advisors/mentors to routinely meet with students. Furthermore, career advisors do not need to be based in Hawai'i, as the use of virtual meetings has been shown to be an adequate form of communication. The "success" of these mentors should be documented and they should be publicly acknowledged for their efforts furthering the next generation of surgeons. Involvement with formal career advising or mentoring may be recognized by roles, titles, and credit. Alternatively, if more career advisors cannot be identified, increased opportunities for students to be exposed to orthopaedics should be available, such as invitations to Grand Rounds or academic conferences. Due to the lack of a formal mentoring program in orthopaedics, finding a mentorship experience in Hawai'i is difficult and relies heavily on student efforts to make the connection.

Additional mentoring programs are needed for URM in orthopaedic surgery. Opportunities like the Nth Dimensions program are few, dispersed along the East Coast, and extremely competitive. This makes it difficult for most URM outside that area to find similar opportunities. In Hawai'i there are a few mentorship programs specifically for Native Hawaiian students. For Native Hawaiian medical and pre-medical students, the 'Ahaui o Nā Kauka, Association of Native Hawaiian Physicians created the Pū Pa'akai Native Hawaiian Tiered Mentoring program to match Native Hawaiian medical and pre-medical students with a Native Hawaiian mentor in their desired career field. This program provided me with an opportunity to shadow a Native Hawaiian orthopaedic surgeon for the first time. Observing someone similar to my ethnic identity has further inspired me to continue pursuing orthopaedics. However, this program is not actively advertised and is limited to Native Hawaiian students, so it does not impact other URM. More programs are needed so that the workforce continues to diversify.

A targeted solution would be to promote intensive, highly successful orthopaedic internship opportunities for URM, such as Nth Dimensions, and encourage the creation of more programs nationwide, including in Hawai'i. Recently, the Weill Cornell Medicine/New York Presbyterian Hospital Network, NY developed a 4-tier pipeline program for prospective surgeons.¹³ This cascading mentorship program increases surgical exposure to URM beginning in high school, and subsequently provides increasingly relevant resources and exposure to students pro-

gressing through undergraduate college and medical school.¹³ The program ends as residency members are inducted in a national society membership, ensuring that mentorship among all levels of medical training is accomplished. The aforementioned programs can provide a framework for mentorship and diversification of the orthopaedic field. JABSOM, a community-based medical school, has the seeds to enhance relationships with the community through existing efforts in the primary care specialties. This should be expanded to orthopaedic surgery, which would help address workforce diversity.

Authors' Affiliations:

- John A Burns School of Medicine, University of Hawai'i, Honolulu, HI (MM)
- Department of Surgery, John A Burns School of Medicine, University of Hawai'i, Honolulu, HI (MBJC)

References

1. Fayaz HC, Smith RM, Ebrahimzadeh MH, et al. Improvement of orthopedic residency programs and diversity: Dilemmas and challenges, an international perspective. *Arch Bone Jt Surg*. 2019; 7(4): 384-396. PMID: 31448318; PMCID: PMC6686073.
2. Adelani MA, O'Connor MI. Perspectives of orthopedic surgeons on racial/ethnic disparities in care. *J Racial Ethn Heal Disparities*. 2017;4(4):758-762. doi:10.1007/s40615-016-0279-z
3. American Academy of Orthopedic Surgeons. A Snapshot of U.S. Orthopaedic Surgeons: Results From the 2018 OPUS Survey. AAOS Now. Accessed January 2, 2022. <https://www.aaos.org/aaosnow/2019/sep/youraaos/youraaos01/>
4. Poon AW, Gray KV, Franco GC, et al. Cultural competence: Serving Latino patients. *J Pediatr Orthop*. 2003; 23(4):546-9. PMID: 12826958.
5. Weaver ML, Cooper M. A diverse patient population requires a more diverse surgical workforce. *J Am Coll Surg*. 2022;234(1):73-74. doi:10.1097/XCS.0000000000000021
6. Jimenez RL. Current activities in orthopaedic culturally competent care education. *J Am Acad Orthop Surg*. 2007;15 Suppl 1:S76-9. doi: 10.5435/00124635-200700001-00017. PMID: 17766796.
7. American Academy of Orthopaedic Surgeons. Cultural Competency Challenge CD-ROM. AAOS Now. Accessed January 2, 2022. <https://www.aaos.org/aaosnow/2007/may/managing/managing3/>
8. Etienne G, Pierce TP, Khlopas A, et al. Cultural biases in current medical practices with a specific attention to orthopedic surgery: A review. *J Racial Ethn Heal Disparities*. 2018;5(3):563-569. doi:10.1007/s40615-017-0400-y
9. Adelani MA, Harrington MA, Montgomery CO. The distribution of underrepresented minorities in U.S. orthopaedic surgery residency programs. *J Bone Joint Surg Am*. 2019;101(18):E96. doi:10.2106/JBJS.18.00879
10. Nth Dimensions. Who We Are. 2020. Accessed January 2, 2022. <http://www.nthdimensions.org/>
11. Mason B, Ross Jr WAJ, Bradford L. Nth Dimensions evolution, impact, and recommendations for equity practices in orthopaedics. *J Am Acad Orthop Surg*. 2022; 30: 350-357.
12. McFarling UL. As medicine aims to close diversity gaps, orthopedic surgery is an outlier. Stat. December 13, 2021. Accessed January 2, 2022. <https://www.statnews.com/2021/12/13/whitest-specialty-as-medicine-strives-to-close-diversity-gaps-orthopedic-surgery-remains-stubborn-outlier/>
13. Bayard S, Connolly JG, Johnson J, et al. DEI in action: Patching the leaky pipeline: Increasing diversity in surgery through parallel initiatives targeting four educational levels. *Bull Am Coll Surg*. 2022;107(5): 61-64. Accessed May 17, 2022. <https://www.facs.org/for-medical-professionals/news-publications/news-and-articles/bulletin/may-2022-volume-107-number-5/dei-in-action-patching-the-leaky-pipeline-increasing-diversity-in-surgery-through-parallel-initiatives-targeting-four-educational-levels>