



Lighting a Pathway: The Minority Ophthalmology Mentoring Program

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Racial disparities in eye health and health care are well documented, and in its 2016 report *Making Eye Health a Population Health Imperative: Vision for Tomorrow*, the National Academies of Sciences, Engineering, and Medicine (NAM) concludes that a diverse physician workforce is an essential element to solving this problem.¹ Despite an increasingly diverse US population, the proportion of individuals in ophthalmology from underrepresented-in-medicine (UiM) racial-ethnic groups has remained low. In 2015, for example, African-Americans, Latinx individuals, Native Americans, Alaska Natives, and Pacific Islanders together composed approximately one-third of the US population but only 6% of practicing ophthalmologists and ophthalmology faculty, unchanged from a decade earlier.²

Many complex factors contribute to racial health inequity, including individual experiences, unconscious (implicit) biases, structural barriers, and lack of culturally competent care (i.e., set of attitudes, knowledge, and skills that are necessary for care providers to effectively interact with culturally and ethnically diverse patient populations). A diversified workforce would help to decrease healthcare disparities for several reasons. First, compared with non-UiM physicians, nonwhite physicians disproportionately care for underserved and sicker patients.³⁻⁵ Second, a growing body of literature in primary care has documented associations between physician-patient racial-ethnic and language concordance (speaking the same language) and increased patient satisfaction and trust in the healthcare system. This includes more detailed clinician notes in patients' medical charts and improved continuity of care.^{6,7} Third, UiM researchers are more likely than their peers to study problems that disproportionately affect underserved communities.⁸

With this body of evidence and the NAM report, medical professional societies, educational institutions, and related organizations have increasingly acknowledged the need to improve health equity among all patients. Some have incorporated the need for greater diversity and inclusion in their strategic plan or mission statement. Despite these stakeholder acknowledgments, many physicians remain unaware of the extent of racial disparities in health care. Today, two-thirds of physicians know that disparities exist in specialty services but believe the problem is not

widespread. Less than 29% believe the healthcare system treats people unequally on the basis of race.⁹ As such, at a minimum, greater communication and education about these issues are needed to reduce health disparities and inequities so that we as physicians can better serve all our patients.

However, education and communication alone are insufficient. The Liaison Committee on Medical Education, which accredits US medical colleges, and the American Association of Medical Colleges have established a goal to increase the diversity of the medical student body and faculty, including through the development of "pipeline" (or pathway) programs.¹⁰ These are early career-development programs designed to provide UiM candidates with focused mentoring and skills-development tools standardized to enhance the participants' competitiveness for residency slots.

Despite slow gains in representation of UiM professionals in primary care, progress lags significantly in the specialties, including ophthalmology. On the basis of the available literature and the NAM report, expanding the number of UiM ophthalmologists should help reduce blindness related to glaucoma, diabetic retinopathy, and cataracts in underserved, low-income communities, where such UiM clinicians are more likely to practice.^{4,8} The US trend of a growing older adult population at risk for blinding diseases underscores an urgent need for greater diversity in ophthalmology—and care models—to meet the eye-care needs of an increasingly diverse population.

Minority Ophthalmology Mentoring

The American Academy of Ophthalmology (AAO) and the Association of University Professors in Ophthalmology (AUPO) have partnered to create the Minority Ophthalmology Mentoring (MOM) program, which aims in part to increase the diversity among ophthalmology trainees by introducing and recruiting UiM premedical and medical students to our rewarding specialty. An ophthalmology workforce that better represents the diversity of the US population and reduces racial and ethnic inequity will

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improve access to and delivery of quality eye care to a large segment of our population.

The MOM pipeline program targets premedical college seniors and first- and second-year medical students self-identifying as African-American, Latinx, Native American or Native Alaskan, or Pacific Islander. The program helps to make participants competitive applicants in the ophthalmology residency-selection process. The mission of MOM includes raising awareness among residency-training programs about the low numbers of UIM ophthalmologists and trainees. MOM also encourages the creation and implementation of a more holistic residency-selection process, in which decision makers receive training about unconscious bias. The decision makers are encouraged to complement applicant test scores with critical qualities of achievement, “grit,” and other characteristics sought by the institution that may be better related to becoming competent and compassionate physicians to whom we would be confident sending our loved ones for care.¹¹

To publicize opportunities for participation in the program, MOM partners with historically black colleges and universities and national organizations with a high enrollment of minority premedical or medical students (e.g., American Association of Medical Colleges [aamc.org]; Rabb—Venable Excellence in Ophthalmology Research Program [www.rabbvenable.org], offered through the National Medical Association [www.nmanet.org], Ophthalmology Section, and supported by the National Eye Institute; Student National Medical Association [<https://snma.org>]; Society for Advancement of Chicanos/Hispanics and Native Americans in Science [www.sacnas.org]; Latino Medical Student Association [<https://lmsa.site-ym.com>]; and Association of American Indian Physicians [www.aaip.org]). At www.aao.org/minority-mentoring, a MOM toolkit for ophthalmologists is available for outreach to local communities. Interested students must apply for participation.

The MOM program represents a long-term commitment by the AUPO and AAO. In addition, subspecialty professional societies, industry partners, and others have pledged financial support and help in advertising the June deadline for an incoming class of 35 student participants. The National Medical Fellowship, Inc. (www.nmf-online.org), is raising funds for additional program spots. Student travel expenses are generally supported by the students' current educational institution, although plans are being made to offer travel grants to the AAO annual meeting.

Ophthalmology Exposure

Evidence suggests that clinical and other curricular exposure to ophthalmology is declining at US medical schools.^{12,13} This decline corresponds to missed opportunities to inspire entry into our competitive specialty. Student participants in MOM are each paired with an ophthalmologist mentor, exposed to research opportunities, and offered resources to prepare for medical board examinations. Student participants are also provided with information and support to become competitive applicants for ophthalmology-residency selection, and they

are encouraged to bring their personal experiences and gravitas to that process.

The SF Match form permits self-report of race-ethnicity. The holistic approach, for example, consideration of candidates' status as first-generation college or medical school educated in their family, is a topic of active discussion and development in the executive committee of the MOM program.

Unconscious bias training of program directors and champions of ophthalmology educators will help elevate awareness.¹¹ Because of the high volume of residency applications received by residency programs, scores on the US Medical License Examination Step 1 (which will be graded on a pass-fail basis starting in 2022) have often been used as an evaluation screening tool; however, the test was not designed for this purpose. The Accreditation Council for Graduate Medical Education has been exploring ways to match candidates with the characteristics sought by residency programs. Ideally, future applications for residency training will include various performance indicators to aid programs in successfully identifying excellent candidates from a diverse range of backgrounds and experiences.

In 2019 and the preceding 2-year pilot phase, students and faculty staffed booths at national and regional meetings attended by medical or premedical students. They distributed flyers and other materials to engage attendees to consider a career in ophthalmology. Advertisements about our specialty are placed at these meetings. Breakfasts and specialty panels are organized with AAO volunteers. Mentors and research preceptors in MOM are chosen on the basis of their experience in postgraduate selection and training and its selection process. A standardized process uses different contracts for mentors and mentees, outlining the expectations to be fulfilled to retain accountability to each other and the program. A selection committee evaluates student candidates according to a written personal statement, the individuals' “distance traveled” (obstacles overcome), self-reported race-ethnicity, history of community involvement, and other factors.

The inaugural MOM student class convened at the 2019 AAO annual meeting. Activities included a kick-off Engagement Day, mentor—mentee match, small group roundtable discussions with ophthalmology practitioners and trainees, and presentations by private-practice and academic physicians describing their own career pathways. In addition, participants enjoyed an exhibit-hall wet-lab cataract surgical experience, hands-on experience with ophthalmic technology, and exploration of the eye anatomy using a virtual reality simulator. Responses to surveys administered during the pilot phase indicated a considerable, positive effect of the Engagement Day activities on participants' interest in pursuing a career in ophthalmology.

The MOM program also provides webinars that highlight ophthalmology-related career opportunities and toolkits for AAO members who are interested in conducting community educational events. An established data matrix committee evaluates different aspects of the program and discusses ways to improve the program and to measure success, such

as match and retention with an ophthalmology residency program and publication of research papers.

Conclusions

The MOM program is designed to increase the number of UiM applicants to US ophthalmology-residency programs (Table 1) and support those accepted in the pipeline program. The AAO and AUPO, along with subspecialty organizations and other partners, have provided invaluable assistance in initiating and funding this long-term effort. Sponsors of the program include the American Board of Ophthalmology; American Glaucoma Society; American Glaucoma Society Foundation; American Ophthalmological Society; American Society of Cataract and Refractive Surgery; American Society of Ophthalmic Plastic and Reconstructive Surgery; National Medical Association, Ophthalmology Section; North American Neuro-Ophthalmology Society; Outpatient Ophthalmic Surgery Society; The Retina Society; American Association for Pediatric Ophthalmology and Strabismus; American Uveitis Society; Contact Lens Association of Ophthalmologists; Cornea Society; and Mallinckrodt Pharmaceuticals. Collaboration with other pipeline programs (e.g., the Nth Dimensions orthopedic program; Mentoring in Medicine, Inc.; programs offered through the Office of Minority Health Research Coordination and National Institute of Diabetes and Digestive and Kidney Diseases; and the aforementioned Rabb–Venable program) can create momentum to increase the pool of successful residency applicants. Diversifying our workforce will enhance the awareness among all ophthalmologists of health disparities, direct research resources toward understudied medical problems affecting minority communities, and help us provide high-quality patient-centered medicine to all our patients. MOM will set

measurable goals for improving the quality of care and ensuring that goals are achieved equitably across all races and ethnicities.

The enrollment and sustained engagement of MOM volunteerism are imperative if we are to succeed in our audacious goal of increasing diversity in our ranks to reduce health inequity, thereby better serving *all* our patients. Currently, approximately 150 physician-volunteers mentor participants, provide research opportunities, and reach out to schools with minority students. Further expansion of our volunteer network is sought to strengthen the pathway that our diversity champions have pioneered.¹⁴

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Table 1. US Population and US Ophthalmology Residency-Program Applicants by Race-Ethnicity, 2018–2019*

Ethnicity, Race	Population, n (%)	
	United States	Residency Applicants
Non-Hispanic white	250 139 096 (60.4)	305 (51.9)
Hispanic or Latino	58 846 134 (18.3)	48 (8.2)
Black or African American	43 804 319 (13.4)	21 (3.6)
Asian	19 330 600 (5.9)	181 (30.8)
American Indian and Alaska Native	4 147 521 (1.3)	0 (0.0)
Native Hawaiian and other Pacific Islander	799 418 (0.2)	0 (0.0)
≥2 races	8 946 480 (2.7)	13 (2.2)

*US population estimates are for 2018; data for participants in the SF Match for Ophthalmology are for 2019. Sources: US Census Bureau estimates, July 1, 2018 (data available at www.census.gov); American Academy of Ophthalmology; and Association of University Professors of Ophthalmology and SF Match. Gender and Ethnicity Data: Ophthalmology Residency, 2019 (available at <https://aupo.org/news/2019-03/gender-and-ethnicity-data-ophthalmology-residency-2019>).

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