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Ophthalmology

Neuro Needs You— and Peds and Uveitis Do, Too

By Reena Mukamal, Contributing Writer

Three subspecialties—neuro-ophthalmology, pediatric ophthalmology, and uveitis—are experiencing workforce shortages, and the consequences are being felt across ophthalmology. These specialties care for some of the most complex and vulnerable patients in health care. Five experts weigh in on what will happen as patients lose access to qualified experts and offer suggestions as to how the next generation of ophthalmologists can resolve this crisis.

Magnitude, Imminence, and Importance

Neuro-ophthalmology. Neuro-ophthalmology was the first to sound the alarm about a numbers deficit. The subspecialty currently faces a 20% shortage in its workforce, and more than 20% of neuro-ophthalmologists report patient wait times greater than three months.¹ Only eight states have enough neuro-ophthalmologists, and six states don't have a single one, according to a recent survey conducted by the North American Neuro-Ophthalmology Society (NANOS).² The pain is greatest in rural areas. Further, more than one-third of neuro-ophthalmologists are in the third decade or later of their career, said Prem S. Subramanian, MD, PhD, at the University of Colorado in Aurora, and president of NANOS. While an estimated 10 to 14 new neuro-ophthalmologists are needed in the United States each year to replace those who are retiring, only five are entering the workforce, suggesting that the problem is only getting worse, he said.

These highly trained experts diagnose and treat complex systemic diseases that have manifestations in the visual system. They perform meticulous and labor-intensive evaluations to identify preliminary signs and symptoms of a wide range of conditions, including optic neuritis, nystagmus,

diplopia, multiple sclerosis, and more.³ “A lack of neuro-ophthalmology specialists could lead to excessive test ordering, misdiagnoses, and inappropriate or delayed treatment,” said Dr. Subramanian. For example, “certain kinds of optic neuritis require early treatment that, if delayed, could lead to permanent vision loss.” Although comprehensive ophthalmologists will do their best, he said, “busy nonspecialist clinicians likely won't have the expertise to look at the broad neuro-visual picture. They need rapid access to neuro-ophthalmologists to help their patients.”

Pediatric ophthalmology. Similarly, pediatric ophthalmology is struggling with its own shrinking supply of specialists, who are retiring at a faster rate than they are being replaced.⁴ “So much of what we treat is time sensitive. Take pediatric cataract surgery, strabismus surgery, or repair of an eyelid disorder; if a child has a delay in treatment, they are at risk for permanent vision loss,” said Yasmin S. Bradfield, MD, at the University of Wisconsin in Madison, and chair of the American Association for Pediatric Ophthalmology and Strabismus (AAPOS) Recruitment Task Force.

Adult patients also lose out when there aren't enough pediatric ophthalmologists. “There are adults with double vision after cataract surgery, for instance, or thyroid patients with scarred extraocular muscles causing diplopia who are referred to us by our ophthalmology colleagues. Without enough of us, these adults may lose their jobs and independence,” Dr. Bradfield said.

Like their neuro-ophthalmology colleagues, pediatric ophthalmologists suffer from an insufficient pipeline. “Fellowship match results for the past five years have been about 75%, and about 40% of those positions are taken by international graduates who will not stay in the

United States to practice,” said Dr. Bradfield. This is creating a strain on existing practitioners to manage the demand. Optometrists do not have the proper training to treat complex strabismus and other pediatric surgical eye conditions, according to Dr. Bradfield. Although comprehensive ophthalmologists

can help fill the void, patients without access to clinicians with specific pediatric eye expertise and strabismus management skills may not receive the qualified care they need, which can lead to poor visual outcomes and quality of life, she said.

Uveitis. Uveitis specialists also have raised the red flag about their unsustainable workload. Despite a high prevalence of the condition—an estimated 2.3 million Americans have uveitis, and approximately 165,000 new cases are diagnosed each year⁵—only 180 uveitis specialists are available to care for these patients, according to Russell W. Read, MD, PhD, at the University of Alabama in Birmingham, and executive secretary of the American Uveitis Society (AUS). Often, these patients have associated autoimmune diseases and require systemic immunosuppression to control their uveitis.⁶

Although fellowship opportunities have increased over the last decade, the number of trainees going into the subspecialty has remained flat, said Edmund Tsui, MD, at the Stein Eye Institute in Los Angeles, and chair of the Communications Committee of AUS. As a result, patients often have to drive across state lines or travel by air to receive care, he explained. This can become an insurmountable hurdle for patients with uveitis who may need frequent eye exams up to several weeks apart to manage their chronic disease. Long wait times snowball into treatment delays and worse patient outcomes, he said.

Even if the pipeline for uveitis fellowships were 100% full every year, it would take at least eight years to double the current number of uveitis specialists, according to Dr. Read. This just isn’t enough in the face of increasing population numbers and a growing incidence of autoimmune disease, he said. “It’s like bailing a boat that’s sinking;



NEURO. “I relish the opportunity to see multiple facets of medicine in my daily practice—from neoplasms to infections to inflammation, strokes, and genetic disorders.”

—Nailyn Rasool, MD, neuro-ophthalmology

it’s hard to stay ahead of the leak if you don’t have a big enough bucket.” Because of the shortage, non-fellowship-trained ophthalmologists and optometrists may often end up caring for uveitis patients. However, these clinicians don’t have the experience with immunosuppression that’s often necessary to control the disease,

said Dr. Read. “What ends up happening is a lot of prescribing of steroids or other local therapies without timely identification of the patient’s need for more potent medications that can truly improve their visual outcome and quality of life,” he said.

Why Are There Shortages?

The causes of shortfalls in these subspecialties are multifactorial and encompass economic challenges and false assumptions about the nature of the fields. These issues combine to deter residents from pursuing fellowships in these essential disciplines.

Financial disparities. “All three subspecialties involve highly cerebral, intricate, and time-intensive work due to the complexity of their patients,” said Michael X. Repka, MD, MBA, at the Wilmer Eye Institute in Baltimore, and the Academy Medical Director for Governmental Affairs. “The combination of seeing fewer patients per day and lower financial reimbursements for nonprocedural tasks adds up to reduced revenue,” he said.

Pediatric ophthalmologists see a disproportionate number of patients with Medicaid, which reimburses at a fraction of Medicare rates and well below private insurance, said Dr. Repka. And in a new blow to pediatric ophthalmologists, the recent devaluation of strabismus surgery by the CMS is further chipping away at their bottom line, added Dr. Bradfield.

Both neuro-ophthalmology and uveitis subspecialists spend substantially more time than most other ophthalmologists in ordering and reviewing imaging studies and laboratory tests, including CTs, MRIs, and routine blood work. They frequently consult and coordinate with other medical specialties to provide interdisciplinary

patient support. Despite this extra ancillary work, fewer than 30% of uveitis specialists have any support staff such as nurses, medical assistants (MAs), or physician assistants (PAs).⁶ “Not having an RN or MA becomes a barrier to having an efficient practice, yet it’s difficult for us to hire assistants in a clinic that’s already stretched thin financially,” said Dr. Tsui.

Myths. Several common misperceptions may dissuade residents from going into these subspecialties.

Myth No. 1: They don’t make a good living. Despite reimbursement challenges, there is a wide range of compensation for all three subspecialties, and these physicians earn a competitive livelihood. A 2017 internal NANOS survey showed the average neuro-ophthalmologist earns a base salary of \$215,000 per year—comparable to a compre-



PEDS. “I see such a variety of pathology every day, from retinal pathology including ROP to classic strabismus and amblyopia to cataracts to trauma to neurological emergencies to genetic disorders to ptosis and more!”

—Cate Jordan, MD, pediatric ophthalmology

hensive academic ophthalmologist—with high earners getting over \$400,000. Additionally, “some private practices and groups have developed revenue-sharing models where the neuro-ophthalmologist takes an extra cut of the profit in recognition of the value they bring to the practice,”

said Dr. Subramanian. Pediatric ophthalmologists’ gross salary is \$400,000 on average overall, according to the 2019 AcadeMetrics Benchmark Survey.

Myth No. 2: They don’t do surgery. Some residents and medical school directors characterize these subspecialties as nonsurgical. However, Dr. Tsui asserted that two-thirds of uveitis specialists maintain a surgical practice. “We are trained to do routine cataract surgery plus more complex cases that may have greater density, scarring, and/or inflammation in the eye,” he said.

Why I Love . . . Neuro, Peds, Uveitis

Have you contemplated a career in any of these subspecialties? Consider some of the reasons uveitis, neuro-, and pediatric ophthalmologists are passionate about their work.

Variety + Interdisciplinary Support

“I love being an integral player in multidisciplinary care. Working with rheumatology, infectious disease, and other specialties keeps me engaged and diversifies my day-to-day work.”

—Edmund Tsui, MD, uveitis

“I relish the opportunity to interact with patients of all age groups, with a diverse array of pathology, and to see multiple facets of medicine in my daily practice—from neoplasms to infections to inflammation, strokes, and genetic disorders.”

—Nailyn Rasool, MD, neuro-ophthalmology

Illuminating Complexity

“At least once a day, a non-neuro-ophthalmology colleague or trainee will seek me out to help with a patient with unexplained vision loss or visual symptom. I feel valued to be able to pro-

vide answers for these difficult patients, which is gratifying and improves my relationships with my colleagues.”

—John Chen, MD, PhD, neuro-ophthalmology

“Being able to perform retinoscopy on a noncooperative or nonverbal (sometimes screaming!) child is truly fulfilling. It is so rewarding to discover high refractive errors, corneal and lenticular opacities, anisometropia, and more, which can make a huge difference in a child’s life.”

—Cate Jordan, MD, pediatric ophthalmology

Profound Patient Relationships

“One of the greatest rewards of being a pediatric ophthalmologist is having long-term continuity with patients and their families.”

—Yasmin S. Bradfield, MD, pediatric ophthalmology

“I love a challenge and helping people, and uveitis patients are among the most appreciative patients in all of medicine.”

—Russell W. Read, MD, uveitis

Although some neuro-ophthalmologists choose not to do any surgery, others “do strabismus surgery, orbital surgery, and/or combined skull-base cases with neurosurgery and ENT [otolaryngology—head and neck surgery]. Still others perform cataract surgery because they enjoy offering it as a service to their patients,” said Dr. Subramanian.

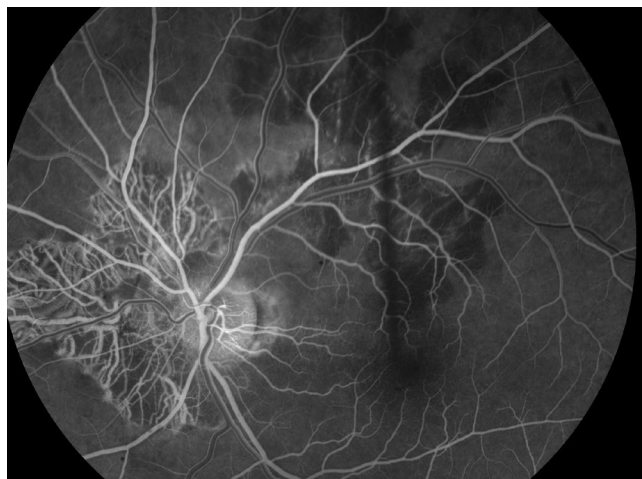
Dr. Bradfield emphasized that “the vast majority of pediatric ophthalmologists do high volumes of surgery that includes pediatric and adult strabismus, pediatric cataracts, eyelid disorders, retinopathy of prematurity [ROP] laser procedures, pediatric glaucoma surgery, and more.”

Myth No. 3: They don’t go into private practice. Many residents assume that these subspecialties are limited to academic centers, but that’s changing rapidly. “A quarter of uveitis specialists are in private practice, either solo or in partnership with retina specialists or comprehensive ophthalmologists,” said Dr. Tsui. About 60% of AAPOS members are in private practice, according to AAPOS membership data. And Dr. Subramanian said that a growing number of neuro-ophthalmologists are entering private practice, often through recruitment by group practices that want to capture the value in added referrals.

Closing the Gap

In order for these subspecialties to survive, they need help from medical schools, the Academy, membership groups, and individual ophthalmologists. Reenergizing residents’ interest in and pursuit of neuro-ophthalmology, pediatric ophthalmology, and uveitis careers will require addressing both the economic imbalances and the presumptions. Here’s what’s in progress and what remains to be done.

Advocacy for increased compensation. The Academy is looking into how to work collaboratively with state medical and ophthalmology societies to lobby for improvement in Medicaid payment rates. “We have looked at Maryland as a



UVEITIS. “I love the opportunity to approach a diagnostic dilemma, figure out why a patient has this condition, break down the complex presentation of their disease, and determine what treatment may work best. The intellectual stimulation reaffirms my love for this field daily.”

—Edmund Tsui, MD, uveitis

successful model; they raised Medicaid rates in 2022 to be paid on par with Medicare,” said Dr. Repka. This is still a conceptual, grassroots initiative, and the next step is to establish a program or to work with other medical specialty lobbyists on this issue, he said. AAPOS recently hired its first lobbying firm and tasked it with increasing reimbursement rates for CPT

codes and working with federal programs to provide loan forgiveness for trainees entering pediatric ophthalmology. Both the Academy and AAPOS are also actively engaging with the American Academy of Pediatrics to find opportunities to join forces on improving reimbursement for pediatric health care, said Dr. Repka.

NANOS is hustling to shape compensation policy as part of the Cognitive Specialty Coalition—a group of various subspecialty organizations that manage complex conditions with low-volume procedural work, said Dr. Subramanian. “This group has representation on Capitol Hill and is lobbying Congress to pass specific legislation to improve specialist remuneration,” he said. One recent success includes a change to an evaluation and management (E/M) code for higher-complexity cases, which is now being reimbursed at a rate 17% higher than before, said Dr. Subramanian.

Boosting recruitment. When, where, and how medical students are engaged are all being revisited by both the Academy and the subspecialty societies. “You need to find and/or develop people who really want to do these subspecialties. This requires connecting with students in medical school who may not be considering ophthalmology and exposing them to pediatric eye care, uveitis, and neuro-ophthalmology,” said Dr. Repka.

Piquing interest at earlier stages in medical education is one of the primary goals of the Pipeline Initiative being spearheaded by NANOS. “The Pipeline Committee is working to create a neuro-ophthalmology elective rotation at every medical school, starting with engagement of medical student educators in schools that offer an

ophthalmology residency,” said Dr. Subramanian. The committee is also enticing members to invite trainees to the annual NANOS meeting, where they can attend targeted sessions and panels that help dissipate myths about the field including “academic versus private practice” and “lack of surgical opportunities in neuro-ophthalmology.” Travel grants and research grants are available to interested students.

AAPOS has also formed a recruitment task force charged with attracting medical students. It has established financial scholarships for students to attend the annual AAPOS meeting and is seeking private practice mentors to allow medical students to shadow them in clinics and surgery, said Dr. Bradfield.

Similarly, the AUS and its Young Uveitis Specialists group are working to raise awareness of the field among trainees and provide greater support to early career uveitis specialists, said Dr. Tsui. They are holding virtual educational events for both residents and fellows and offering mentorship opportunities and quarterly virtual grand rounds.

All three subspecialties are ramping up their presence on social media platforms (see “Social Media Resources”) to highlight their accomplishments and reinforce the facts about their fields.

Promoting hybrid fellowships. To further expand surgical and other revenue opportunities, each of these subspecialties is establishing dual fellowship pathways and/or encouraging trainees to combine their specialty expertise. For example, the

University of Wisconsin is offering a new hybrid pediatric plus comprehensive ophthalmology fellowship to attract residents who might also want to do higher volumes of adult cataract surgery, said Dr. Bradfield.

Dr. Subramanian said NANOS has worked with the Association of University Professors of Ophthalmology Fellowship Compliance Committee to create formal surgical neuro-ophthalmology fellowships “where surgery is an integral part of the fellowship training.”

Dr. Read said that surgical retina combined with uveitis has become a common co-fellowship that is attracting more residents. There are “dozens of uveitis specialists who have done two fellowships,” said Dr. Tsui, and these doctors are more versatile, with greater compensation potential.

What you can do today. With increased awareness of these shortages and their impact comes greater responsibility for medical school faculty and all ophthalmologists to represent these specialties in a fair and balanced way. “If you are talking to trainees, acknowledge not just the need but the passion these subspecialists have for their field,” said Dr. Repka (see “Why I Love . . . Neuro, Peds, Uveitis,” page 43). To take it one step further, organizations could provide support commensurate with the complexity of these conditions and need for these specific types of subspecialty care, suggested Dr. Tsui. Along those lines, having multi-specialty practices provide subsidies to, or cost sharing with, subspecialists in these fields could benefit the whole practice. “This frees up other

SOCIAL MEDIA RESOURCES

AAPOS

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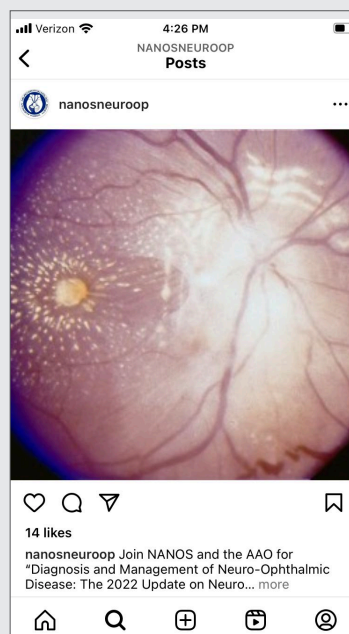
AUS

Instagram @uveitissociety,
@younguveitis
Twitter @uveitissociety,
@YoungUveitis

NANOS

Facebook
@NeuroOphthalmology
Instagram @NANOSneuroop
Twitter @NANOSTweets

YONO portal. The NANOS Young Neuro-Ophthalmologist portal has career-building resources for those who are at the start of their career



or who are interested in the field: www.nanosweb.org/YONOPortal.

Listserv. NANOS has a trainee discussion forum. This listserv is a low-pressure way for medical students, residents, and fellows to learn more about the field, ask questions about applying for fellowships, obtain information about research or mentorship opportunities, and receive guidance about becoming a neuro-ophthalmologist. Subscribers are free to post questions to the group. To subscribe, email info@nanosweb.org with your preferred email address.

subspecialists to be productive because they can offload the more time-consuming patients to these experts,” said Dr. Read. Practices that are already doing this successfully should share case studies of how this model positively impacts their bottom line, he said.

In the meantime, all three subspecialties can use telemedicine to extend access to more patients. Although it doesn’t fully replace an in-person eye exam, “telemedicine for ROP screening has already been adopted in several states with inadequate access to pediatric ophthalmologists,” said Dr. Bradfield.

In Northern California, Kaiser’s neuro-ophthalmologists provide a high volume of care via teleconsultations. This is effective “because Kaiser positions are salaried rather than compensated on a per procedure basis,” said Dr. Subramanian. He added that improving reimbursement for telehealth is another agenda item for the Cognitive Specialty Coalition that could help improve access for more patients across all three specialties.

Additionally, physician extenders can play an important supporting role in caring for patients with established diagnoses and a stable treatment course, said Dr. Subramanian. Further specialty

training for selected PAs and nurse practitioners in these disciplines would be helpful, he said. “Orthoptists who are well trained in strabismus diagnosis, amblyopia patching treatment, and prism management can legally act as physician extenders if under the guidance of an ophthalmologist,” agreed Dr. Bradfield.

Finally, comprehensive ophthalmologists who see complex patients with uveitis or neuro-ophthalmic conditions should create and nurture collaborative relationships with clinicians in other medical specialties, including rheumatologists, hematologists, oncologists, and neurologists. Established relationships and close communication with ophthalmologists empower these physicians to provide better patient care in absence of a highly trained subspecialist, said Dr. Read.

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6 Tsui E et al. *J Acad Ophthalmol*. 2022;14(02):e187-e192.

MEET THE EXPERTS



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See the disclosure key, page 10. For full disclosures, see this article at aao.org/eyenet.

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