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Reliably Fallible—Pondering Workforce Projections

Many ophthalmology practices are facing a challenge that is not good for patient care or for business: Long wait times for appointments and surgery. This has not always been the case. Senior ophthalmologists remember a time when it took months, even years, to develop full clinical and surgical schedules. Now, newly practicing ophthalmologists are often busy right from the start, and patients wait months for an appointment or surgery.

Ophthalmology's new report on workforce projections predicts a significant shortage of ophthalmologists by 2035—disturbing, but not shocking, findings.¹ An aging U.S. population is leading to a crush of patients with cataracts and chronic eye disease. The study analyzed ophthalmology workforce supply and demand using data from the HHS Health Resources and Services Administration, projecting a 30% workforce inadequacy by 2035 with even lower workforce adequacy in rural areas.

But workforce projections are notoriously inaccurate. In an editorial response to the new research, Flora Lum, Vice President of Quality and Data Science at the Academy, and Ravi Goel, a comprehensive ophthalmologist and Academy Trustee, point out, “workforce projections are inherently complicated and fragile in nature.”² One reason is that forecasting requires model assumptions, which can be flawed or change over time. Flora and Ravi note that the new study assumes a high demand for office visits, doesn't specifically designate surgical demand, and slightly underestimates the ophthalmology residency pipeline.

Perhaps most significant, it's impossible to predict how science and technology will affect the practice of medicine and, in turn, affect the demand for care. For example, an eye drop that slows cataract progression would decrease the cataract burden. A neuroprotective or neuroregenerative treatment could dramatically change glaucoma care.

Another unknown is how artificial intelligence (AI) will alter ophthalmic care. AI is already used to screen patients for diabetic retinopathy.³ Jeffrey Henderer, the Dr. Edward Hagop Bedrossian Chair and Professor of Ophthalmology at Temple University, reports that 80%-85% of people screened annually for diabetic retinopathy at Temple's program do not have significant findings. Researchers there are creating

predictive analytics to identify higher-risk patients who need annual screening. Jeff said, “I look forward to one day ending the inefficient annual diabetic eye exam and replacing it with risk-based screening programs.”

AI could also disrupt glaucoma—and other subspecialty—practice patterns. What if AI could use visual field, OCT, and IOP data to accurately predict fast versus slow progressors? In his 2024 AGS lecture “The Worried Well,” James Brandt, the Geweke Endowed Chair in Glaucoma and Professor of Ophthalmology and Vision Science at the University of California Davis School of Medicine, outlined the overdiagnosis, overtesting, and overtreatment of some patients with ocular hypertension, preperimetric glaucoma, and glaucoma suspicion. Jamie demonstrated how polygenic risk scores might help identify at-risk patients. He also predicted that electronic medical records will eventually provide real-time decision support. Jamie said, “We need to be developing and deploying real-time decision support to integrate all the clinical, functional, structural, and now genomic data to better discriminate between the patients we should be worried about and those who are simply the ‘worried well.’”

Workforce projections are useful as a tool to analyze practice patterns and predict supply and demand, but it's important to point out the limitations of workforce studies. Our health care delivery system is in constant flux, and innovations in medical science and technology are progressing at an unprecedented rate. What's certain is that the demand for well-trained ophthalmologists and for superb care will continue.



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1 Berkowitz S et al. *Ophthalmology*. 2024;131(2):133-139.

2 Lum F, Goel R. *Ophthalmology*. 2024;131:e1-2.

3 Abramoff MD et al. *NPJ Digit Med*. 2018;1:39.