

American Telemedicine Association Ocular Telehealth Special Interest Group Statement:

Ocular Telehealth Assessments and Disease Monitoring

PART TWO – The Need for and Benefits of Ocular Telemedicine for Primary and Specialty Eye Care

The American Telemedicine Association (ATA) Ocular Telehealth Special Interest Group (Ocular SIG) issues the second of a two-part statement about remote ocular health assessments or telehealth disease monitoring, and the need for telehealth in the eye care arena. Part one addresses the elements needed to provide high quality remote eye exams, and part two addresses the need for telehealth as a tool for eye care delivery.

This two-part statement was written in response to laws and policies recently set by professional boards and state lawmakers that deliberately or inadvertently limit the practice of ocular telehealth. These two statements address concerns raised by lawmakers and regulators, and the statements draw from the vast clinical experience and expertise of the authors to show how eye care providers use ocular telehealth programs to serve eye care patients' needs.

The Ocular SIG comprises multiple disciplines, including but not limited to, optometrists, ophthalmologists, other health care professionals, and attorneys. Our members have significant expertise in ocular telehealth, with many of the clinicians actively practicing telehealth in various healthcare settings and systems across the United States.

We have previously issued Practice Guidelines for Ocular Health - Diabetic Retinopathy (Third Edition), [Telehealth Resources for Eye Care During COVID-19²](#) and a previous statement specific to refractive correction via telehealth. In this two-part statement, we discuss our conclusions that:

- (A) an optometrist or ophthalmologist (collectively “eye care providers” or “ECPs”) can conduct an ocular health assessment (including the elements of a comprehensive eye examination) and prescribe corrective eyewear in a single patient encounter using ocular telehealth. Should the patient need additional services that can only be provided in-person, the telehealth encounter can speed the referral for and delivery of such care.

- (B) Ocular telemedicine should be allowed and even encouraged to improve access to care, improve population health, and enhance the ability of ECPs to practice. Ocular telemedicine can lead to early detection and treatment of refractive error and of eye and other health issues. This can improve patient well-being and productivity, as well as decrease the overall cost of healthcare by allowing health care practitioners to address problems before loss of sight or other health problems become irreversible.

Part one of this statement about remote ocular health assessments addresses questions about what elements of an eye health examination can now be performed using telehealth, how the processes work, and where technology is currently lacking but may develop in the future. As we note in Part One, we emphasize that even if every procedure or test in an eye exam cannot currently be performed remotely, other elements of an eye exam should be allowed to be conducted remotely. Indeed, there are specific benefits to conducting exams remotely even in part.

Certainly, helping a patient see better by prescribing corrective eyewear as early as possible is valuable, even if prior to a comprehensive eye exam. Patients who receive an eyewear prescription and are medically indicated for a comprehensive eye exam can be better educated about the benefits of such an exam when connecting with an ECP for an eyewear prescription. Similarly, the ECP who performs a remote comprehensive eye exam often can determine that an in-person exam is not medically indicated for the patient at that time.

Because ECPs can perform many eye examination elements remotely, they are better able to triage patients. Ocular telehealth allows ECPs to handle many patient questions, concerns, and health and vision issues remotely, saving both patient and practitioner the time, inconvenience, and cost of unnecessary travel for an in-person visit.

However, the Ocular SIG notes that several state legislatures and professional licensing boards have taken the position that ocular telehealth programs cannot meet all the elements of the eye examination that a patient may need and therefore all (or at least initial) patient encounters must be in person. This position does not account for technological advances that allow ECPs to use the same or similar equipment during a remote encounter to diagnose and treat patients as is used during an in-person encounter.

Legislators and regulators should take notice of the widespread adoption of telehealth and telemedicine by both patients and providers in eye care that has occurred with significant benefit and no meaningful evidence of patient harm. For example, the Food and Drug Administration is seeking public comment until August 30, 2023 on how it can facilitate access to medical technologies outside of traditional clinical settings, particularly in the home.⁴

Part two of this statement addresses why we believe that it is important for eye care professionals to be able to use professional judgment as to whether and when to use telehealth in ocular health assessments and prescribing corrective eyewear. In addition, this statement explains why legislators should enact laws that promote, rather than hinder, the

practice of ocular telehealth. Access to both primary and specialty eye care continues to be an issue in many communities and populations, and notably, the need (demand) for eye care is increasing faster than the supply of eye care providers.

Patients value convenience as well as quality, they care about costs, and they have demonstrated a high degree of satisfaction when telehealth is used appropriately. Providers are discovering that using telehealth offers both personal (e.g., lifestyle flexibility) and professional benefits, such as greater efficiency and the ability to see more patients, with the resulting financial rewards.

WHY ALLOWING ECPS TO USE OCULAR TELEHEALTH BENEFITS THE PUBLIC, EYE PROFESSIONS, AND SOCIETY AS A WHOLE.

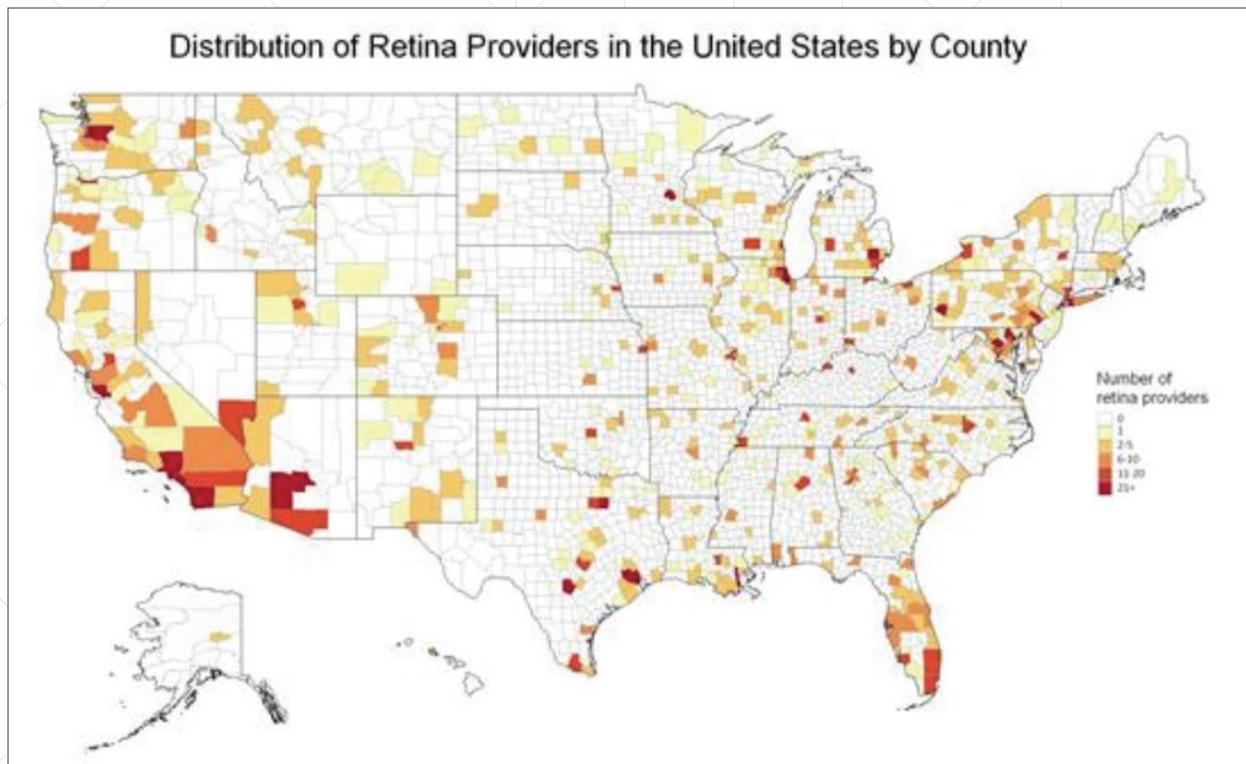
1. Telehealth expands eye care access and enhances health equity to vulnerable populations.

The primary reasons that patients skip or delay eye examinations are cost (including lack of insurance), convenience (examinations take too long or are not easily accessed), and a belief that an eye exam is not needed. Ocular telemedicine can address all of those hurdles to obtaining care.

The most prevalent eye care need relates to refractive error. More than 150 million Americans use corrective eyewear to compensate for refractive errors. Americans spend more than \$15 billion each year on eyewear.⁵ Refractive errors are one of the most common—and correctable—causes of visual impairment in the United States. According to a recent study led by the National Eye Institute (NEI), approximately half of all American adults don't have the 20/20 vision considered optimal because of refractive error that is not properly corrected.⁶ Ocular telemedicine can identify refractive error and allow ECPs to adjust corrective eyewear prescriptions accurately and conveniently.

In addition to limiting access to refractive care that improves vision, if lawmakers and regulators do not permit the practice of telehealth they will also unnecessarily hinder access to vision preserving care across the United States. The ATA Ocular SIG notes that eye disease is more prevalent as people age. For example, the prevalence of age-related macular degeneration increases significantly as patients get older.⁷ As the baby boomer generation ages, potentially blinding eye disease will become more common. Telehealth methods are a safe and effective way to address the workforce shortage of ECPs (ophthalmologists, optometrists, and opticians) and reduce healthcare disparities, especially for rural and urban underserved and disadvantaged populations. Below we provide two examples from the subspecialty fields of Retina and Pediatric Ophthalmology.

- a. A recent Association of Vision Research and Ophthalmology (ARVO) abstract found that the majority of US ZIP codes did not have a retina specialist or even a comprehensive ophthalmologist providing standard treatment for common diseases such as diabetic retinopathy and macular degeneration. The figure below, taken from the abstract presented, illustrates this finding.⁸



Published medical literature has demonstrated the effectiveness of telehealth modalities to address these critical gaps in specialty eye care access, particularly in rural locations. In the case of retina, a study by Lee, et al demonstrated that virtual medical retina clinics, utilizing the same equipment as retina specialists would in their brick-and-mortar clinics, provided high quality care, equivalent to the traditional 'standard of care'. Most importantly, these virtual medical retina clinics alleviated the burden of in-person retina follow up and triaged the highest risk patients for a face-to-face exam in a shorter time frame.⁹

- b. A recently published paper in *Journal of Pediatric Ophthalmology and Strabismus* highlights the dire shortage of pediatric ophthalmologists, creating an access-to-care crisis. This paper reports that in 2020 there were fewer than 1,100 pediatric ophthalmologists available to meet the needs of 75 million United States children. These subspecialists also manage the strabismus and ocular motility needs of adult patients, and if lawmakers either deliberately or inadvertently limit telehealth, there will be hundreds of thousands of children and adults who will be unable to access this care. Poor access results in vision loss; consequences which are incredibly costly to society and to an individual's quality of life.¹⁰

2. Use of telehealth in eye care improves patient education about the importance of eye examinations to maintain eye health.

Many patients lack knowledge about diabetic retinopathy and other diseases and conditions that can lead to vision loss, such as glaucoma and cataracts. These patients need expert, trusted advice about the utility of preventative eye care. New strategies for engaging high-risk populations are necessary.

Numerous studies have identified barriers related to receipt of eye care, including lack of insurance, communication with doctors, burden of systemic disease, absence of visual symptoms, challenges with transportation and no perceived need for examination. Access to telemedicine can address transportation issues, improve communication with doctors and help educate patients about the need for eye exams even when there are no visual symptoms.¹¹

Diabetic retinopathy, one of the leading causes of global blindness in working age adults, is frequently asymptomatic until advanced stages of the disease. "New, innovative approaches are necessary to increase awareness about [diabetic retinopathy], expand access to screening, and increase screening utilization. Telemedicine provides one such approach, in which digital retinal photographs are taken and sent to reading centers for interpretation. Telemedicine can provide high diagnostic accuracy, increase rates of DR screening, and can be an important tool in settings that serve minority patient populations."¹²

3. Use of telehealth in eye care improves the lives of eye care providers

Many workers including ECPs have discovered the benefits of remote (work from home) careers, including flexible schedules, being able to match childcare needs to work plans, avoiding the time and expense of commuting, minimizing in-person exposure when the patient or ECP may be sick, and the enhanced productivity inherent in the ability to see patients at multiple locations. Given that demand for eye care is widely outstripping the supply of ECPs, maximizing these benefits is important to help retain and grow the ECP workforce.

4. Use of telehealth in eye care improves the efficiency of eye care delivery, allowing providers to serve patients at multiple remote locations from one office.

The US faces an eye care provider shortage which is likely to worsen over the next decade as the population grows and ages and as the prevalence of myopia, diabetes, and age-related eye disease increases. Furthermore, as outlined above, telehealth will be one major modality by which ophthalmology subspecialists, who are very limited in number, will be able to extend their reach to the patients that need their expertise. If legislation hinders ophthalmology subspecialty telehealth care delivery, lawmakers are essentially actively withdrawing necessary care from patients as the cost and distance barriers to see a retinal or pediatric ophthalmologist, for example, may be too great for many patients to overcome.

5. Use of telehealth in eye care lowers the indirect costs to consumers of added time and travel to seek in-person care when a telemedicine encounter is adequate to meet the standard of care. When the ECP determines that a comprehensive eye exam is not indicated, the patient often will save money by having a lower cost refractive exam and vision evaluation. Remote comprehensive eye exams may be lower cost to the patient than in-person eye exams given decrease in transportation costs and potentially less time off work for travel. Additionally, telehealth can lower the environmental impact of travel to offices by both patients and providers.

Poor vision, whether from refractive error, ocular disease, or lack of access, can result in greater risk for falls, increased morbidity and mortality, and decreased quality of life for patients.¹³ Visual impairment/blindness is also incredibly costly to society, with sources estimating the cost ranging from \$40¹⁴ to as high as \$134.2¹⁵ billion. Therefore, lawmakers must be conscientious and deliberately act to reduce barriers to eye telehealth; actions that can be taken include:

- Instituting payment parity with in-person examinations
- Support/pass regulations that facilitate licensure and care across state lines
- Support provider autonomy to determine how and when it is safe to provide care to the patient via telehealth.

POLICY GUIDELINES

For patients to realize the full benefits of ocular telehealth, federal and state legislatures must act to mitigate barriers to widespread clinically appropriate ocular telehealth adoption across the country. The ATA Ocular SIG calls on lawmakers to follow the ATA Policy Principles in matters relating to ocular telehealth. Legislation and regulation should allow patients and providers the ability to use telehealth that meets the standard of care. Laws and regulations should avoid unnecessary restrictions and barriers that restrict access to care.

Ensure Patient Choice, Access, and Satisfaction

Enhance Provider Autonomy

Expand Reimbursement to Incentivize 21st Century Virtual Care

Enable Healthcare Delivery Across State Lines

Ensure Access to Non-Physician Providers

Expand Access for Underserved and At-risk Populations

Support Seniors and Expand "Aging in Place"

Protect Patient Privacy and Mitigate Cybersecurity Risks

Ensure Program Integrity

References:

1. <https://www.liebertpub.com/doi/10.1089/tmj.2020.0006>
2. <https://www.americantelemed.org/resources/telehealth-resources-for-eye-care-during-covid-19/>
3. <https://www.americantelemed.org/resources/refractive-ocular-telehealth-refraction-and-vision-acuity-testing/>
4. <https://www.fda.gov/about-fda/cdrh-strategic-priorities-and-updates/cdrh-seeks-public-comment-increasing-patient-access-home-use-medical-technologies> "Access to devices outside a clinical care setting may help bridge the gap by bringing health care directly to patients, wherever they are – at home, at work, in cities, in rural communities."
5. Vision Problems in the U.S.: Prevalence of Adult Vision Impairment and Age-Related Eye Disease in America. Prevent Blindness America and the National Eye Institute, 2008.
6. Vitale, S., Ellwein, L., Cotch, M. F., Ferris, L. F., & Sperduto, R. (2008). Prevalence of refractive error in the United States, 1999-2004. *Archives of Ophthalmology*, 126(8), 1111–1119.
7. In 2019, an estimated 19.8 million (12.6%) Americans aged 40 and older were living with age-related macular degeneration (AMD). Prevalence of AMD increased with age from 2% among people aged 40 to 44 to 46.6% among people aged ≥85. <https://www.cdc.gov/visionhealth/vehss/estimates/amd-prevalence.html>
8. <https://iovs.arvojournals.org/article.aspx?articleid=2746512>
9. <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC6247971/>
10. The Economic Downturn of Pediatric Ophthalmology and Its Impact on Access to Eye Care Karen E. Lee, MD, Jake A. Sussberg, Leonard B. Nelson, MD, MBA, and Tobin Thuma, DO *Journal of Pediatric Ophthalmology & Strabismus*, 2023;60(1):18–24
11. Elam AR, Lee PP. High-Risk Populations for Vision Loss and Eye Care Underutilization: A Review of the Literature and Ideas on Moving Forward. *Survey of Ophthalmology*. 2013;58:348–58. Elam AR, Lee PP. Barriers to and Suggestions on Improving Utilization of Eye Care in High-Risk Individuals: Focus Group Results. *Int Sch Res Notices [Internet]* 2014. [cited 2018 Apr 9];2014. Available from: <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC4897391/> Alexander RL, Miller NA, Cotch MF, Janiszewski R. Factors That Influence the Receipt of Eye Care. *Am J Health Behav*. 2008; 32:547–56.
12. <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC6880869/#R16>
13. Cummings SR, Nevitt MC, Browner WS, Stone K, Fox KM, Ensrud KE, et al. Risk factors for hip fracture in white women. Study of Osteoporotic Fractures Research Group. *New England Journal Medicine* 1995; 332(12): 767-773. <https://doi.org/10.1056/NEJM1995032333212022>. Klein BE, Klein R, Lee KE, Cruickshanks KJ. Performance-based and self-assessed measures of visual function as related to history of falls, hip fractures, and measured gait time. *The Beaver Dam Eye Study*. *Ophthalmology* 1998; 105(1): 160-164. [https://doi.org/10.1016/S0161-6420\(98\)91911-X](https://doi.org/10.1016/S0161-6420(98)91911-X)
14. Visual Impairments | Health Policy Institute | Georgetown University
15. Economic Studies|Vision Health Initiative (VHI)|cdc.gov Publications: Rein DB, Wittenborn JS, Zhang P, et al. The Economic Burden of Vision Loss and Blindness in the United States. *Ophthalmology*. Apr 2022;129(4):369-378. doi:10.1016/j.opthta.2021.09.010