



Optometry Scope of Practice

Revision to the 2019 Optometry Report

OCTOBER 31, 2023

VERMONT SECRETARY OF STATE
Office of Professional Regulation
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Summary of Recommendation

1. The Vermont Office of Professional Regulation (OPR) recommends expanding optometrists' scope of practice to include specific injection and laser and non-laser surgical procedures.
2. Only optometrists with a specialty endorsement license should be permitted to perform these advanced procedures.
3. To obtain the specialty endorsement license, optometrists should be required
 - a. To complete a post-degree preceptorship that includes experience in performing the advanced procedures on live, human patients; and
 - b. Pass examinations in the performance of optometric laser and non-laser surgeries and injection procedures.
4. Optometrists performing advanced procedures should be required to report the outcomes of all advanced procedures to OPR biennially, and to report adverse events to OPR immediately.

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I. Executive Summary

After hearing extensive testimony during the 2022 legislative session, the Senate Government Operations Committee (SGO) concluded that the 2019 Study of Optometric Advanced Procedures (2019 Study) issued by the Vermont Office of Professional Regulation (OPR) should be revised. SGO then sent a letter to OPR stating that “[i]t seems clear that some, if not all, of the requested [optometrist scope] expansion should be pursued.”¹ The letter then instructed OPR to review a list of sources and any other information deemed necessary, and to provide the committee with any legislative language OPR “would be willing to support moving forward based on [OPR’s] findings.”²

The policy and purpose behind professional licensing in Vermont are to regulate a profession “solely for the purpose of protecting the public.”³ Vermont law provides that any regulation of a profession should be the minimum necessary to protect the public.⁴ Based on this policy and purpose and the SGO’s conclusion that “some, if not all, of the requested expansion should be pursued,” OPR views the SGO’s request to submit “what legislative language OPR would be willing to support” as a request for legislative language that would allow optometrist to perform some or all of the expanded procedures in a manner that protects the public from harm.⁵

To determine what, if any, legislative language would achieve this goal, OPR thoroughly reviewed the sources listed in the SGO letter and additional materials submitted by stakeholders and the public, conducted additional research, and engaged in extensive discussions with stakeholders and the public.

Based on this review, OPR recommends that the optometric scope of practice be expanded to include specific injections and laser and non-laser surgeries. OPR further recommends that only optometrists with a specialty endorsement license be permitted to perform these advanced procedures and that, to be eligible for the specialty endorsement license, optometrists complete post-graduate coursework and a preceptorship including experience performing the procedures on live, human patients. Additional details of OPR’s recommendations, research, and the comments received follow.

¹ Letter from the Senate Government Operations Committee to Office of Professional Regulation Director S. Lauren Hibbert (April 21, 2022) (on file with author) (Appendix 1).

² *Id.*

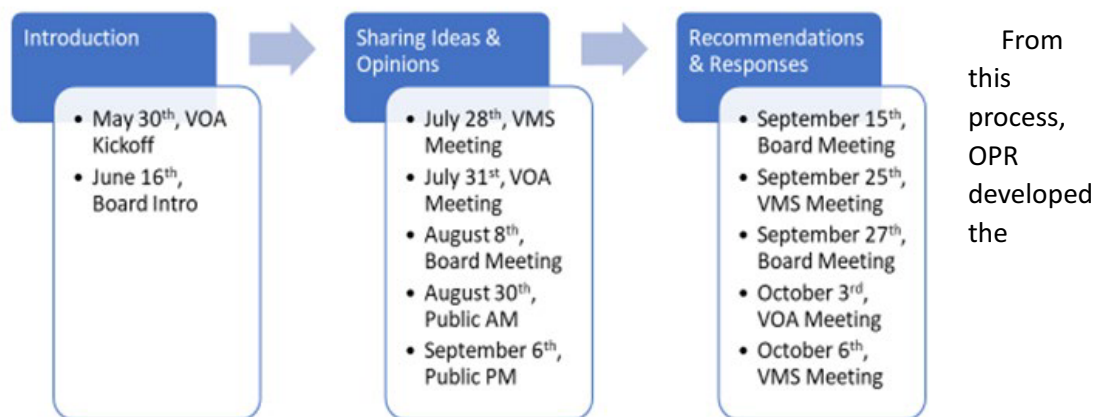
³ 26 V.S.A. § 3101

⁴ *Id.*

⁵ The legislative charge for this report is different from the one OPR that resulted in the January 2020 OPR report titled “Study of Optometric Advanced Procedures.” For that report, OPR was charged with evaluating “the safety and public health needs of enlarging the scope of practice of optometrists to include advanced procedures.” An act relating to professions and occupations regulated by the Office of Professional Regulation, Act 30, 2019-2020 Gen. Assem. Session (Vermont 2019) and Vermont Secretary of State, Office of Professional Regulation, Study of Optometric Advanced Procedures (2020).

II. Process

From June through October 2023, OPR met individually with the Vermont Optometric Association (VOA) and the Vermont Medical Society/Vermont Ophthalmological Society (VMS/VOS) several times. Materials submitted by both stakeholders were shared publicly and with each other to provide opportunities for response. OPR also met with the Vermont Board of Optometry four times during this period to understand their perspective on scope expansion and to garner feedback regarding OPR's proposed legislative language. OPR also held two public meetings, one in the morning and one in the evening, to provide a forum for members of the public to share their thoughts about the proposed scope expansion. 38 members of the public attended the first public hearing and 34 people attended the second public hearing. Public written comments were also submitted to and reviewed by OPR. The materials submitted by stakeholders, the stakeholders and Board's comments, and the public comments are detailed in this report.



recommended legislative language included herein. Stakeholders, members of the public, and the Board of Optometry were then given the opportunity to provide comments on the proposed legislative language. Those comments are detailed below.

III. Recommendation

OPR recommends expanding the optometric scope of practice to include specific advanced procedures. As discussed later in this report, OPR understands that there are courses taught in each of the 23 U.S. schools and colleges of optometry regarding the proposed advanced procedures. This coursework provides a strong foundation for optometrists to provide these advanced procedures. However, the majority of optometrists are not able to perform these advanced procedures on live, human patients during optometry school. OPR, thus, recommends legislative language creating an endorsement specialty license allowing optometrist to provide these advanced procedures, and requires that optometrists gain hands-on experience performing the procedures on live, human patients to be eligible to obtain the endorsement specialty license. More details describing OPR's recommended legislative language can be found in Section V, herein.

IV. Legislature's Request and Comments

A. Senate Government Operations Sources

OPR reviewed each of the five sources listed in the SGO letter. Below are our findings and evaluation of each source.

1) Testimony Provided to SGO during the 2022 Session

OPR reviewed the testimony provided to the SGO in 2022 regarding S. 158, an act relating to optometrists' scope of practice. Testimony and supporting documents are summarized in the following table.

Witness	Support/Oppose Scope Expansion	Testimony Summary
Vermont Optometric Association	Support	Testimony mirrors comments in support of scope expansion shared for this report. See section IV.B.
Vermont Medical Society/Vermont Ophthalmological Society	Oppose	Testimony mirrors comments in opposition to scope expansion shared for this report. See section IV.B.
Ophthalmic Mutual Insurance Company	Neutral	<p>Reasons malpractice insurance rates for optometrists are low are</p> <ul style="list-style-type: none">• Most optometrists in the U.S. do not manage complex patients or perform incisional or laser surgery so few incidents of malpractice.• Malpractice incidents take years to make it through the courts so there is no data is available on few cases. <p>Stating that every surgery has potential complications, including the loss of vision. The likelihood of complications can be decreased by having a trained and skilled surgeon provide the procedure.</p> <p>OMIC does not offer coverage to optometrists to perform surgical procedures.</p>
Dr. Brian Kim, MD	Oppose	<ul style="list-style-type: none">• Optometrist have the necessary training to perform primary eye care, but the training simply is not sufficient to perform surgery.• To perform "ophthalmic surgery", the providers have to be appropriately trained with stringent, standardized, careful oversight by surgeons with years of hands-on surgical experience in these fields. 4 years of medical school was just the foundation. Followed by 6 years of comprehensive, intense training, including didactic lectures, extensive literature and written study, and actual surgical experience with real patients under the direct supervision of a specialized eye surgeon who had also performed each of these surgeries thousands of times. Optometry training relies solely on didactic lectures, literature and written study, and simulated practice. There is no performance of these procedures on live human beings. There is no substitute from providing these services to live human patients.• Post-graduate work in different fields (e.g., emergency care, internal medicine, intensive care unit) and extensive surgical practice prepared him with medical knowledge about entire human body and prepared him to perform surgery• Emphasis on oversight by senior surgical mentor. This method is the national standard.• Even the most advanced AI models do not simulate real patients at this time. They can really only be used successfully in conjunction with, and to augment and not replace, real surgical patient experience.

Dr. Amy Gregory, MD	Oppose	<ul style="list-style-type: none"> • Patient eye needs are currently being met. No need for expanded scope. • Optometrist training in these procedures is non-standardized (varies between schools) and inadequate (simulated; no hands-on, real life experience except in two schools). • Post-graduate training is insufficient. A 32-hour course taught over a long weekend is wholly insufficient to prepare optometrists to be surgeons and involve no hands-on experience. • Human patients are much more challenging than simulations and unexpected complications arise. Experience with these variables is an integral part of ophthalmological training. • In ophthalmology school, surgical training is taught, assessed, and closely monitored over a three-year period, and then assessed for clinical judgment, competence, and proficiency. Optometry school courses rely on “observation” and “simulation”.
Dr. Jessica McNally, MD	Oppose	<ul style="list-style-type: none"> • Optometric education in advanced procedures is not standardized and not usually done. • Discussion of challenges with several procedures listed in the S. 158. • Eye lesions are varied and removing them is unpredictable. • There is no such thing as a surgery that is “straightforward, relatively painless, and typically lasting one to five minutes.” All surgery is complex. • Optometrists are not performing these procedures in the Veterans Health Administration.
Dr. Richard Castillo, OD, MD Oklahoma optometrist and ophthalmologist	Support	<ul style="list-style-type: none"> • Every class of advanced procedure included in the bill has been a part of the core optometric curriculum since the mid-1990s. Refers to the NSU Oklahoma College of Optometry curriculum, as well as an affidavit signed by other schools that they also provide this type of training. • He is founding faculty for the 32-hour, post-degree course. It is not the only surgical or laser training optometrists receive, and it does not replace 4-years of comprehensive professional education and clinical experience. To say that this is the only training optometrists receive in these procedures is simply incorrect. • While in school and residency, as physicians, we train to develop entry-level skills which transfer laterally to suit the host of circumstances we will encounter. The same applies to optometric physicians. Medical practitioners hold a plenary license. • I can provide plenary care even though I, like all ophthalmologists, have only residency-based experience in a limited number of procedures, and in none of the procedures outside of my specialty. The checks and balances in this system lie within my sense of ethics and duty to my patients, in recognizing my own limitations, in local credentialing committee's (hospitals, clinics, employers) which may not grant me privileges to do something they may deem I am not qualified to do, and in a ubiquitous medico-legal establishment which watches over us all.
Association of Schools and Colleges of Optometry (ASCO)	Support	<ul style="list-style-type: none"> • All 24 schools and colleges of optometry in the United States include advanced procedures in their curricula. • ASCO offers a position statement on Optometry Graduates' Clinical Competencies.
Dr. William Reynolds, OD Former President of the AOA and optometrist in KY	Support	<ul style="list-style-type: none"> • Kentucky expanded its scope of practice in 2011. Mississippi and Wyoming enacted expanded scope of practice legislation in 2021. • The WY law allows the state board to determine the scope of practice as dictated by education and the restrictions defined by law. • In Arkansas, legislative scope expansions initially won in the legislature, were taken to the courts and the political ballot, and ultimately, were successful.

<p>Dr. William Reynolds, OD</p> <p>Former President of the AOA and optometrist in KY (continued)</p>	<p>Support (continued)</p>	<ul style="list-style-type: none"> Optometrists have been providing contemporary optometric care, which includes the use of ophthalmic lasers, for over 20 years, without one negative outcome, complaint or formal action against an optometrist using these technologies. In Kentucky, the Board has credentialed over 440 optometrists to perform expanded therapeutic procedures and to date, 40,000 laser surgical procedures have been performed. The Board has yet to receive a complaint or negative outcome related to the performance of these expanded laser surgical procedures. This is true in Alaska, Louisiana, and Oklahoma, too, who've been performing these procedures for a long time. More competition among clinicians and fewer government regulations can lower the costs of health care.
<p>Vermont Office of Professional Regulation</p>	<p>Can implement policy chosen by legislature</p>	<p>See 2019 OPR Study of Optometric Advanced Procedures. Also submitted a list of procedures discussed with the VOA.</p>
<p>2021 Washington Sunrise Report on Optometry Scope of Practice</p>	<p>Support certain additional procedures in Washington</p>	<p>See discussion in Section IV.A.ii. below.</p>
<p>2021 Colorado Sunset Review on Optometric Scope of Practice</p>	<p>Support in Colorado</p>	<p>See discussion in Section IV.A.ii., below.</p>
<p>Veterans Health Administration Directive 1121(2) and Standardized Episode of Care for eye care comprehensive (current March 2022)</p>	<p>Neutral – Does not permit Optometrists to perform laser surgeries in the VHA; allows referrals to community optometrists licensed to provide laser surgery</p>	<p>See discussion in Section IV.A.iv., below.</p>
<p>American Society of Plastic Surgeons and the Plastic Surgery Foundation</p>	<p>Oppose</p>	<ul style="list-style-type: none"> Surgical procedures should be performed only by surgeons, who have a core medical and surgical education, including seven-to-ten years of training, increased responsibility and decision-making authority in the hospital setting, and at least three years of specialized surgical experience. It is through the depth and duration of residency training that physicians learn how to perform surgical procedures. A recent survey shows that 79 percent of U.S. voters oppose allowing optometrists without medical degrees to perform eye surgery. The proposed legislation would allow optometrists to administer all non-excluded injections. Allowing optometrists to inject potent pharmaceutical agents, like botox, into the eyelid and surrounding tissues puts patients at risk. The proposed legislation would allow a non-medical board to oversee procedures that fall firmly within the practice of medicine is a dangerous, and unprecedented proposal.

- 2) Colorado and Washington state reports as well as any others that may be released during the study period.

OPR reviewed the 2021 Washington Sunrise Report and the 2021 Colorado Sunset Report, as well as the 2022 Nebraska Report of Recommendations and Findings by the Optometry Technical Review Committee. A summary of each report follows.



2021 Washington Sunrise Report

Pursuant to a Washington state law, the Washington legislature referred a bill authorizing an expanded scope of practice for optometrists to the Washington State Department of Health for a sunrise review.⁶ Accompanying the legislative referral was an “applicant report,” or a report from the proponent of the scope expansion, explaining the problem the expansion would address, how the proposal ensures the competence of the practitioners, and how the expansion would be in the public interest.⁷ After review of the applicant report and public comments, the Department of Health recommended that the legislature expand the optometric scope of practice to include certain injections and minor surgical procedures.⁸ The Department of Health did not recommend the inclusion of laser procedures at this time but stated that such procedures should be considered in the future.⁹

In its review, the Department concluded that optometry educational programs offer coursework in advanced procedures, such as injections, laser treatments, and certain surgeries.¹⁰ The Report notes that all 25¹¹ U.S. optometry schools and colleges include didactic, laboratory, and simulated experience in advanced procedures in their curricula.¹² This advanced coursework builds on the clinical knowledge developed in optometry training through such coursework as anatomy and physiology. The Report also notes that only three optometry schools provide hands-on training with live human patients for all advanced procedures.¹³

The Department also concluded in its report that “there [were] sufficient means available to ensure public safety” if optometrists were authorized to perform advanced

⁶ Washington State Department of Health, *Sunrise Review: Optometry Scope of Practice* (Dec. 2021).

⁷ *Id.* at 3-7.

⁸ *Id.* at 39.

⁹ *Id.* at 37.

¹⁰ *Id.* at 7-14.

¹¹ ASCO referred to 23 schools in its testimony. Other sources have referred to 25 schools. The ASCO website states there are 24 schools and colleges of optometry in the United States and 2 in Canada.

<https://optometriceducation.org/#:~:text=There%20are%2024%20schools%20and,questions%20of%20faculty%20and%20students> (last visited on October 19, 2023).

¹² *Id.*

¹³ *Id.* at 10 and 40.

procedures.¹⁴ The Department cited as support for this conclusion the lack of reports of patient harm or complaints in other states with expanded scopes of practice.¹⁵

Based on this analysis, the Department recommended a limited expansion of the Washington optometric scope of practice to include the following procedures:

- Common complication of the lids, lashes, and lacrimal
- Chalazion management, including injection and excision
- Injections – including intramuscular injections of epinephrine and subconjunctival injections of antibiotics or steroids
- Management of lid lesions, including intralesional injection of steroids
- Pre- and post-operative care related to these procedures
- Use of topical and injectable anesthetics
- Suturing of the eyelid
- Eyelid surgery, excluding any cosmetic surgery or surgery requiring the use of general anesthesia.¹⁶

The Department also recommended that only optometrists with a specialty endorsement license, in addition to their optometrist license, be authorized to provide the advanced procedures.¹⁷ To obtain this specialty license, the Department recommended that optometrists be required to (a) demonstrate hands-on experience performing the procedures on live, human patients, and (b) take and pass the Lasers and Surgical Practice Examination and the Injection Skills Examination.¹⁸

Finally, the Department recommended including in the law authorizing the scope expansion both a list of included procedures and a list of excluded procedures, “to ensure clarity on what is and is not allowable within the scope of practice for optometry.”¹⁹



2021 Colorado Sunset Report

Under Colorado state law, some laws are set to be repealed after a specific date unless the legislature acts to extend the law. The Colorado Office of Policy, Research and Regulatory Reform (COPRRR) is charged with comprehensively reviewing these laws before the expiration date and recommending to the legislature whether to extend and/or amend law. This comprehensive review, called a Sunset Review, is based on criteria established in state law.

In 2021, laws establishing the state Board of Optometry (Colorado Board) were scheduled for a Sunset Review. COPRRR issued a report based on this review calling for the extension of the Colorado Board’s authority and calling for an amendment of the law to allow optometrists to practice according to their qualifications, as determined by the Colorado Board

¹⁴ *Id* at 37.

¹⁵ *Id.*

¹⁶ *Id* at 39.

¹⁷ *Id.*

¹⁸ *Id* at 40.

¹⁹ *Id.*

and national examinations.²⁰ COPRRR found that the Colorado optometry licensing laws were very prescriptive in establishing the optometry scope of practice while the practice of optometry, like many primary care professions, was ever evolving and innovating.²¹ The prescriptive nature of the scope of practice contained the law, COPRRR found, stifled innovation and prohibited optometrists from practicing to the full extent of their education and training.²²

COPRRR deferred to the determination of the Colorado legislature that vested trust in the Colorado Board and relied on the national examinations for verifying the qualifications and competence of optometrists.²³ Further, COPRRR noted that allowing optometrists to practice to the full extent of their education and training would improve access for rural Coloradans, and that forcing patients to seek duplicative or delayed treatment was unnecessary and costly.²⁴ Thus, COPRRR in its 2021 Sunset Review recommended the expansion of the optometric scope of practice to that established by the Colorado Board and national examinations.²⁵



2022 Nebraska Report

In Nebraska, when a profession applies for scope expansion, the state's Division of Public Health appoints a technical committee to make recommendations focused on public health, safety and welfare.²⁶ The committee's recommendations are then reviewed by the state Board of Health and the Division of Public Health.²⁷ These bodies' recommendations are then submitted to the Legislature.²⁸

In 2022, one such technical committee voted against recommending the expansion of the state's optometric scope of practice to include selective laser trabeculoplasty (SLT) for the treatment of glaucoma.²⁹ The technical committee found that optometrists lacked adequate education and training in surgical procedures, specifically SLTs, that there was not evidence of a lack of access to care, and that allowing optometrists to provide SLTs could increase costs.³⁰ Three members of the six-member committee voted against expansion.³¹ One abstained. Two voted in favor of expansion, noting the difficulty of accessing medical care in rural communities.

²⁰ Colorado Department of Regulatory Agencies, *2021 Sunset Review State Board of Optometry* (Oct. 15, 2021).

²¹ *Id.* at 26.

²² *Id.* at 26-27.

²³ *Id.* at 27.

²⁴ *Id.* at 28.

²⁵ *Id.*

²⁶ Nebraska Optometry Technical Review Committee, *Report of Recommendations and Findings*, at 3 (Sept. 9, 2022).

²⁷ *Id.*

²⁸ *Id.*

²⁹ *Id.* at 23.

³⁰ *Id.* at 21-23.

³¹ *Id.* at 23.

One of the two members to vote in favor of scope expansion suggested that proponents of expanding scope “‘beef-up’ the education and training components of their proposal.”³²

In the fall of 2022 and winter of 2023, the Nebraska State Board of Health then reviewed the proposal to expand the optometric scope of practice to include SLT procedures.³³ In contrast to the technical committee, the Board of health recommended the expansion of the scope of practice.³⁴ The Board made this recommendation following two meetings at which there were tie votes for and against the proposed expansion.³⁵ At the third meeting of the Board, the proposal passed by a vote of 7-6, with 3 members abstaining.³⁶ At each meeting, the Board heard similar arguments to those detailed in this report. Though the statutory criteria for credentialing review are discussed by the Board, no consensus was reached on most of them and the reasons the Board ultimately decided to support the proposal are not discussed.³⁷

Finally, in February 2023, the Division of Public Health recommended against the proposed scope expansion.³⁸ Based on the material reviewed, the Director could not find that the public was inadequately protected under the existing scope of optometric practice.³⁹ Further, the Director found that proponents of the scope expansion had not demonstrated that optometric education and training adequately prepared optometrists to perform SLT procedures.⁴⁰

The Nebraska legislature has received the above detailed reports. Legislation to expand scope is currently pending in that state.

3) States around the country that allow a higher level of scope than Vermont.

The scopes of optometric practice vary significantly from state to state.⁴¹ There are a number of different procedures authorized and states vary in which combination of procedures are permitted. In turn, it is difficult to determine whether a state has a broader or narrower scope of practice. States that permit optometrists to practice any of the proposed advanced procedures discussed herein (i.e., removal of lesions—“lumps and bumps”, injections, and laser surgeries) include the following:

- Eight states permit optometrists to provide all the advanced procedures requested herein: Wyoming, Arkansas, Kentucky, Oklahoma, Alaska, Colorado, Indiana, and Louisiana.

³² *Id.*

³³ Nebraska State Board of Health, *Report of Recommendations and Findings on the Proposal to Make Changes in Optometry Scope of Practice* (Jan. 17, 2023).

³⁴ *Id.* at 16.

³⁵ *Id.* at 11 and 15.

³⁶ *Id.* at 16.

³⁷ *Id.* at 9-16.

³⁸ Nebraska Department of Health and Human Services, *The Report of the Chief Medical Officer of the Division of Public Health on the Proposal to Make Changes in the Scope of Practice of Optometrists* (Feb. 17, 2023).

³⁹ *Id.* at 2.

⁴⁰ *Id.* at 3.

⁴¹ See American Optometric Association, *State-by-State Optometry Scope Chart* (submitted by the VOA, see Appendix 2).

- Virginia permits optometrists with certifications from the Board to offer laser procedures but does not permit optometrists to perform injection or surgical procedures (with the exception of injections to treat anaphylaxis).
- Mississippi allows optometrists to perform a number of injection and surgical procedures and YAG laser posterior capsulotomies, with certification from the Board.
- An additional 16 states allow optometrists to offer injections for purposes other than treating anaphylaxis. Appendix 2 to this report provides additional details regarding scopes of practice.
- Six states other than the eight that permit all advanced procedures expressly permit optometrists to perform surgical procedures for removal of lesions. Eight additional states defer to state boards of optometry to determine whether optometrists may engage in additional ophthalmic procedures.

For purposes of this report, OPR has included the relevant laws from the eight states that permit optometrists to perform all advanced procedures and from Mississippi, which allows most of those procedures. Also included are the laws in Washington, based on the review of the report, and Virginia, which allows laser procedures. Finally, OPR is including the recently vetoed California legislation because it is an apt example of how to structure optometric scopes of practice. Below are summaries of the laws in each of those states and the vetoed legislation from California:



Alaska's statutes authorize the state board of optometry to define licensed optometrists' scope of practice. However, licensees are authorized to perform only those services that are "within the scope of the licensee's education, training, and experience as established by regulations adopted by the board."⁴² The Alaska law expressly applies this obligation to the practice of ophthalmic surgery, which is defined as "an invasive procedure in which human tissue is cut, ablated, or otherwise penetrated by incision, laser, or other means to treat diseases of the human eye, alter or correct refractive error, or alter or enhance cosmetic appearance."⁴³

The Alaska Board of Optometry, through rules, limits the ophthalmic surgery procedures optometrists may perform to "expanded therapeutic procedures" authorized by the Board.⁴⁴ The Rules further provide that an "expanded therapeutic procedure" will be authorized only if the licensee holds an Alaska optometry license and takes a course in the procedure from an accredited and approved educational institution.⁴⁵ The Rules then detail what a course must contain to be approved by the Board.⁴⁶ The course requirements are similar to those required for the 32-hour post-degree course discussed elsewhere in this report. Finally, the Rules

⁴² Alaska Stat. § 08.72.278.

⁴³ *Id.*

⁴⁴ Alaska Admin. Code tit. 12 § 48.040.

⁴⁵ *Id.*

⁴⁶ *Id.*

expressly include lasers as “expanded therapeutic procedures” and provide a list of ophthalmic surgery procedures that licensees are prohibited from performing.⁴⁷



Arkansas

Arkansas’ statutes define the practice of optometry as “any method or means which the licensed optometrist is educationally qualified to provide, as established and determined by the State Board of Optometry” in rules.⁴⁸ The statute goes on to expressly prohibit optometrists from performing certain procedures, and to specifically include in the practice of optometry the following procedures:

- Injections, excluding intravenous or intraocular injections;
- Incision and curettage of a chalazion;
- Removal and biopsy of skin lesions with low risk of malignancy, excluding lesions involving the lid margin or nasal to the puncta;
- Laser capsulotomy; and
- Laser trabeculoplasty.⁴⁹

The statutes authorize the Board to establish qualifications for credentialing optometrists to provide these services. The Board is then obligated to require optometrists to report to the Board all outcomes of authorized laser procedures, which the Board must then send to the Department of Health.⁵⁰

The Arkansas State Board of Optometry establishes in rule that optometrists must obtain a optometric physician license and be credentialed to provide the additional authorized procedures set forth in statute.⁵¹ To obtain the credentials, licensed optometrists must fulfill one of the following credentialing requirements:

- *Applicants* seeking an optometric physician license with credentials to perform the advanced procedures must
 - Complete the first two parts of the optometric physician application by submitting three references and passing an entrance examination;

Arkansas

To be certified as an optometric physician in Arkansas, optometrists must complete a post-degree internship consisting of 100 hours of supervised clinical training in the examination, diagnosis, and treatment of conditions of the human eye, lid and adnexa, overseen by a licensed ophthalmologist.

⁴⁷ *Id.*

⁴⁸ Arkansas Code Annotated § 17-90-101.

⁴⁹ *Id.*

⁵⁰ Ark. Code Ann. § 17-90-206.

⁵¹ 007.02.1 Ark. Admin. Code § VIII-VI.

- Demonstrate that their optometry degree program is from 2019 or later and meets the requirements established in the rules; and
- Pass the clinical, written, and jurisprudence examinations administered or approved by the state board.
- *Existing* optometric physicians seeking credentials to perform the advanced procedures must:
 - Be in good standing as a certified optometric physician;
 - Within five years of application to provide advanced procedures, complete an accredited 32-hour that includes content specified in the rules.⁵²
 - Pass the clinical, written, and jurisprudence examinations administered or approved by the state board.⁵³

The Arkansas rules reiterate the requirement that certified optometrist must report to the Board annually all outcomes of the ophthalmic laser procedures.⁵⁴ Every two years, certified optometric physicians must complete two hours of continuing education specifically regarding the authorized procedures.⁵⁵



California – Vetoed

The California legislation expanding optometric scope of practice was passed by both chambers of the California legislature in 2022 but ultimately vetoed by the Governor. The bill reflected the “nation’s strictest standards for education and certification” for optometrists seeking to perform laser, surgical, and injection procedures and is, thus, instructive for the Vermont legislature as it considers this issue.

The California bill would have permitted certified optometrists to perform certain advanced procedures.⁵⁶ To become certified, optometrists would have needed to

- Complete a 32-hour course;
- Pass the ISE and the NBEO Laser and Surgical Procedure Examination (LSPE); and
- Complete a training program that included
 - i. Hands-on instruction in the *simulated* performance of 5 of each laser procedure; 5 excision, drainage, and injection procedures; and 5 procedures related to corneal crosslinking; and
 - ii. The performance on live, human patients of 43 complete surgical procedures, including 8 laser trabeculoplasties, 8 laser posterior capsulotomies, 5 laser peripheral iridotomies, 5 chalazion excisions, 4 chalazion intralesional injections, 7 excisions of an authorized lesion greater

⁵² 007.02.1 Ark. Admin. Code § III-V.

⁵³ 007.02.1 Ark. Admin. Code § VIII-IV,

⁵⁴ 007.02.1 Ark. Admin. Code § VIII-VII.

⁵⁵ 007.02.1 Ark. Admin. Code § VIII-VIII.

⁵⁶ AB 2236, 2021-2022 Assem., Reg. Sess., §§ 1-2 (California 2022).

than or equal to 2 mm, 5 excisions or drainages of other authorized lesions, and 1 surgical corneal crosslinking.⁵⁷

The program or the supervising qualified educator overseeing the optometrists' performance of the above procedures would then have needed to certify the competence of the optometrist to the State Board of Optometry.⁵⁸

Certified optometrists would have to report to the Board all procedures performed by the optometrist and any adverse treatment outcomes.⁵⁹



Colorado

Colorado statutes include laser, injection, and certain surgical procedures in the practice of optometry.⁶⁰ The statutes also exclude certain surgical and injection procedures.

Colorado requires “expanded scope of practice certification” for all optometrists seeking to practice advanced procedures must obtain an advanced therapeutic certification.⁶¹ Optometrists who graduated before 1993 must complete extensive coursework to obtain this certification.⁶² Post-1993 graduates are deemed to have completed this extensive coursework during their graduate degree program.⁶³



Indiana

Indiana statutes define the practice of optometry broadly and authorize the Board of Optometry to determine qualifications for licensure.⁶⁴ The Board, in turn, permits optometrists to “utilize the usual and normal clinical optometric procedures taught in the accredited schools and colleges of optometry ... and the clinical optometric procedures in which he or she demonstrated proficiency and mastery in order to obtain a certificate and license ... ”⁶⁵

Because there do not appear to be any statutory or regulatory limits placed on the practice of optometry in Indiana, optometrists are authorized to practice any procedures within their education and training.

⁵⁷ *Id.* at Section 2.

⁵⁸ *Id.*

⁵⁹ *Id.*

⁶⁰ Colo. Rev. Stat. § 12-275-103.

⁶¹ 4 Colo. Code Regs. 728-1:1.13.

⁶² *Id.*

⁶³ *Id.*

⁶⁴ Indiana Code §§ 25-24-1-1(c)-4.

⁶⁵ 852 Ind. Admin. Code 1-3-1(a).



Kentucky statutes define the practice of optometry to include “the correction and relief of ocular abnormalities” within an optometrist’s “education, training, and experience and in accordance with...the ethics of the profession, and applicable law.”⁶⁶ The statutes also exclude certain procedures from the optometric scope of practice.⁶⁷ The law authorizes the state Board of Optometry “to determine what constitutes the practice of optometry” and establish the education and competence criteria to perform “expanded therapeutic procedures.”⁶⁸ “Expanded therapeutic procedures” are never defined in statute or rule.

The Kentucky Board of Optometry, through its Rules, requires an optometrist be credentialed to provide expanded therapeutic procedures.⁶⁹ To obtain the credentials, an optometrist must

- Be therapeutically licensed in Kentucky, and complete a 32-hour board approved course, or
- demonstrate that the school from which the applicant graduated had a program with the same education, training, and examination requirements as the 32-hour course.⁷⁰

To be credentialed to provide expanded therapeutic laser procedures, an optometrist must have “performed the anterior segment laser procedure in the presence of the board approved qualified preceptor; and...[d]emonstrated clinical proficiency to the board approved preceptor in the performance of the procedure on a living human eye.”⁷¹ The Board preceptor must document their observations and state that the optometrist has satisfactorily demonstrated their knowledge and qualifications in the performance of the procedure.⁷²

Optometrists with expanded therapeutic credentials must obtain five extra credits of continuing education annually.⁷³



Louisiana statutes define the optometry to include ophthalmic surgeries, including laser procedures, except for those explicitly excluded in the statute.⁷⁴ Optometrists must meet credentialing requirements established by the board to perform ophthalmic surgery

⁶⁶ Ky. Rev. Stat. Ann. § 320.210(2).

⁶⁷ *Id.*

⁶⁸ Ky. Rev. Stat. Ann. §§ 320.240(5) and (7).

⁶⁹ 201 Ky. Admin. Regs. 5:110, § 5(1).

⁷⁰ 201 Ky. Admin. Regs. 5:110, §§ 1-5(1).

⁷¹ 201 Ky. Admin. Regs. 5:110, § 4.

⁷² 201 Ky. Admin. Regs. 5:110, § 3.

⁷³ 201 Ky. Admin. Regs. 5:110, § 6.

⁷⁴ La. Rev. Stat. Ann. §§ 37:1041(C)(4)-(5).

procedures.⁷⁵ To obtain ophthalmic surgery credentials, Louisiana-licensed therapeutic optometrists must provide proof of satisfactory completion of a 32-hour course with specific content and pass an examination.⁷⁶ Optometry-license applicants who graduated after 2015 and who can demonstrate that they graduated from an optometry school that included the training and testing requirements established by the Board may be deemed to have met the requirements to provide ophthalmic surgery procedures.⁷⁷

Optometrists credentialed to provide ophthalmic surgery must report the outcomes of such procedures to the Board.⁷⁸

The Board of Optometry rules require optometrists performing expanded therapeutic procedures to complete at least 12 hours of continuing education annually, or 16 hours annually if maintaining a certificate to treat ocular pathology, six more hours than optometrists not performing these procedures and prescribing therapeutic pharmaceuticals.⁷⁹



Mississippi statutes allow certified optometrists to perform primary eye care procedures that are not otherwise excluded by the statutes and that are rational to the treatment of conditions or diseases of the eye or eyelid.⁸⁰ The Rules expressly exclude the provision of certain procedures.⁸¹ Primary eye care procedures are further defined in Mississippi regulations as “procedures that employ incision, injection, laser, radiation, cautery, cryotherapy, vaporization, ultrasound, chelation, ionization, intense light, UV, radio frequency and other surgical methods, chemical reactions, or instruments, not otherwise excluded within this statute.”⁸² To obtain the certification, an optometrist must

- complete the 32-hour course including specified content, or have graduated within 5 years of 2021 and demonstrate completion of coursework within the degree with the content established in the rules;
- Pass a state clinical skills assessment;
- Pass a written examination, such as the NBEO, LSPE, or ISE; and
- Participate in eight (8) additional hours working under a preceptor.⁸³

Optometrists must report every ophthalmic surgery outcome to the Board.⁸⁴

⁷⁵ La. Rev. Stat. Ann. § 37:1048(15) and La. Admin Code. tit. 46, Pt LI, § 503(3).

⁷⁶ La. Admin Code. tit. 46, Pt LI, § 503(2).

⁷⁷ La. Admin Code. tit. 46, Pt LI, § 503(5).

⁷⁸ La. Admin Code. tit. 46, Pt LI, § 503(4).

⁷⁹ La. Admin Code. tit. 46, Pt LI, § 301.

⁸⁰ Miss. Code Ann. § 73-19-1.

⁸¹ 30 Miss. Admin. Code Pt. 2901, R. 1.1(h).

⁸² 30 Miss. Admin. Code Pt. 2901, R. 1.1-1.4.5.

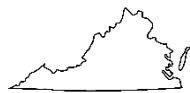
⁸³ 30 Miss. Admin. Code Pt. 2901, R. 1.4.5.

⁸⁴ Miss. Code Ann. § 73-19-195.



Oklahoma

Oklahoma statutes define the practice of optometry to include laser and non-laser surgery procedures for the correction and relief of ocular anomalies.⁸⁵ Certain procedures are excluded by statute and/or rule.⁸⁶ The statutes require certification before an optometrist is permitted to perform laser or non-laser surgery procedures.⁸⁷ Every person who has completed optometry school and passed the required examinations is certified by the Board.⁸⁸



Virginia

Virginia permits optometrists certified by the Board of Optometry to perform laser surgery, other than certain expressly excluded procedures.⁸⁹ To become certified, an optometrist must be licensed as therapeutic pharmaceutical agent (TPA) optometrist and have satisfactorily completed such accredited optometric coursework as required by the Board.⁹⁰ The Board has not adopted rules detailing these requirements.



Wyoming

Wyoming statutes define the practice of optometry to include any laser procedures authorized by Board of Optometry rules and not excluded by the law. The statute expressly excludes certain laser and non-laser procedures.⁹¹

Wyoming's Board of Optometry rules allow optometrists to use devices and treatments for which they are appropriately trained, and specifically authorizes optometrists to perform laser peripheral iridotomy, selective laser trabeculoplasty, and YAG capsulotomy. Licensees wishing to perform these laser surgeries must:

⁸⁵ Okla. Stat. tit. 59, § 581.

⁸⁶ Okla. Stat. tit. 59, § 581 *and* Okla. Admin. Code § 505:10-5-17.

⁸⁷ Okla. Stat. tit. 59, § 581.

⁸⁸ Okla. Stat. tit. 59, § 584.

⁸⁹ VA Code Ann. §§ 54.1-2400.01:1 through 3201(B).

⁹⁰ VA Code Ann. § 54.1-3225.

⁹¹ Wyo. Stat. Ann. § 33-23-101.

- Either
 - i. Demonstrate they graduated from an optometry school where the laser procedures listed above and the adnexa treatments were taught, and pass the NBEO LSPE; or
 - ii. Complete a board-approved training; AND
- Complete a proctored session with a trained optometrist or ophthalmologist.⁹²

All adverse outcomes must be reported to the Board.⁹³

4) Veterans Health Administration Scope

OPR reviewed the Veterans Health Administration (VHA) Directives on eye and vision care and read descriptions of the VHA's Standardized Episode of Care – Eye Care Comprehensive (SEOC) as it evolved between 2019 and 2023.⁹⁴

Directives

VHA Directives establish mandatory VHA policies.⁹⁵ Since 2004, VHA policy has prohibited optometrists from performing laser eye surgery in the VHA. This policy remains in place today, though the stated reason for the ban has been removed or amended over the years. In 2004, in response to the expansion of optometrist scope of practice in Oklahoma and “in the best interest of the public,” the VHA published a memorandum prohibiting optometrists from performing laser eye surgery within the VHA.⁹⁶ Over the course of the year, the VHA issued two more Directives reversing the position of the memorandum.⁹⁷ Both of these Directives were rescinded within a couple of months.⁹⁸ In December 2004, Directive 2004-070 was issued providing that laser eye procedures within the VHA could be performed only by ophthalmologists.⁹⁹ Per VHA Directive 1132 (May 27, 2020), Directive 2004-070 prohibited optometrists within the VHA from performing laser eye surgery “due to patient safety and programmatic risks.”¹⁰⁰

The 2004 policy was maintained until 2020. On May 27, 2020, the VHA issued Directive 1132, stating, “Today, VHA maintains this policy as the standard of care throughout VHA for

⁹² 056.0001.5 Wyo. Code R. § 3.

⁹³ *Id.*

⁹⁴ SEOCs are not publicly available. OPR reviewed descriptions and summaries of the SEOC - Eye Care Comprehensive provided by the VOA, VMS, and national organization descriptions available online.

⁹⁵ United States. Department of Veterans Affairs. Veterans Health Administration. VHA Publications, <https://www.va.gov/vhapublications/index.cfm> (last visited on 10/13/2023).

⁹⁶ United States. Department of Veterans Affairs. Veterans Health Administration. *VHA Directive 1132*, page 1 (May 27, 2020).

⁹⁷ *Id.*

⁹⁸ *Id.*

⁹⁹ United States. Department of Veterans Affairs. Veterans Health Administration. *VHA Directive 2004-070* (December 17, 2004).

¹⁰⁰ United States. Department of Veterans Affairs. Veterans Health Administration. *VHA Directive 1132*, page 1 (May 27, 2020).

performing laser eye surgery procedures. Therapeutic laser eye procedures must only be performed by properly trained and credentialed ophthalmologists.”¹⁰¹ Then, three months later on August 18, 2020, the VHA rescinded VHA Directive 1132 through VHA Directive 1121(2).¹⁰² VHA Directive 1121(2), which remains in place today, provides that therapeutic laser eye surgeries may be provided only by ophthalmologists and ophthalmology residents.¹⁰³ It is, thus, OPR’s understanding that Directive 1121(2) removes from VHA policy the reasons optometrists are prohibited from performing laser eye surgery (i.e., “patient safety and programmatic risks”)¹⁰⁴ but retains the prohibition against optometrists performing therapeutic laser eye surgeries in the VHA system.¹⁰⁵

Standardized Episodes of Care

The VHA issues standardized episodes of care (SEOCs) to bundle codes for consult services that clinicians can then add to patient consult records in a standardized fashion. In turn, clinicians do not have to add consult codes individually when referring patients for care elsewhere, and care is provided in a uniform way.¹⁰⁶ In 2023, the VHA Community Care program, which refers veterans to community providers for care unavailable within the VHA, modified the SEOC regarding referral to community providers for laser eye surgery.¹⁰⁷

Prior to the change, VHA providers could refer veterans only to community ophthalmologists for laser eye surgery.¹⁰⁸ After the modification to the SEOC, VHA providers may refer veterans needing invasive procedures such as injection, laser, and eye surgery to ophthalmologists *or* to optometrists who are licensed in the jurisdiction to perform those procedures.¹⁰⁹ This modification does not permit optometrists to perform these procedures within the VHA system. Nor does it authorize optometrists in general to provide this care to veterans. It does allow VHA clinicians to refer veterans to community optometrists who are already licensed in the jurisdiction to perform these procedures.

Experience and Interpretation

One optometrist who recently completed a VHA residency noted that the scope of practice was limited to what the state scope of practice was. However, he described observing ophthalmologists perform 5 lesion removals during residency and performing 2 of these

¹⁰¹ *Id.*

¹⁰² United States. Department of Veterans Affairs. Veterans Health Administration. *VHA Directive 1121(2)*, page G-1 (August 18, 2020) (amending Directive 1121 initially issued on October 2, 2019).

¹⁰³ *Id.*

¹⁰⁴ *Id.*

¹⁰⁵ *Id.*

¹⁰⁶ United States. Department of Veterans Affairs. *Care Coordination, Standard Episodes of Care, Software Version 1.20, Database User Guide*, page 1 (August 2023).

¹⁰⁷ United States. Department of Veterans Affairs. Veterans Health Administration. Community Care, <https://www.va.gov/COMMUNITYCARE/> (last visited on October 13, 2023) and Vermont Optometric Association, *VA Directive Understanding* (Appendix 2) and American Academy of Ophthalmology, *VA Drops Eye Surgery Safety Language for Care Vets Receive in the Community* (Sept. 28, 2022).

¹⁰⁸ Vermont Optometric Association, *VA Directive Understanding* (Appendix 2) and American Academy of Ophthalmology, *VA Drops Eye Surgery Safety Language for Care Vets Receive in the Community* (Sept. 28, 2022).

¹⁰⁹ *Id.*

procedures himself under the supervision of an ophthalmologist. He also observed 3 fluorescein angiography procedures and performed one himself.

Proponents of scope expansion have interpreted the amendment of the Directives and the SEOC to permit the practice of therapeutic laser surgeries and non-laser surgical procedures in VHA.¹¹⁰ OPR agrees that the language has been modified to remove language in the Directives that expressly exclude optometrists from performing injections and/or non-laser surgeries in the VHA. However, OPR is unable to find any language authorizing optometrists within the VHA (as opposed to community professionals) to perform these procedures. In addition, the express prohibition on laser surgeries by optometrists in Directive 1132 remains. The VHA has not offered any further clarification beyond the express language in the Directives and SEOC.

5) Information Provided by the VOA and the AOA

The VOA has submitted additional information which was reviewed by OPR and discussed with the VOA, the VMS, the Vermont Board of Optometry, and other stakeholders. The information includes the following documents and is attached to this report as Appendix 2.

- Introduction
- Scope Expansions U.S. Landscape
- ASCO: Framework for Developing Optometric Curriculum Guidelines and Educational Standards for Ophthalmic Surgery
- Access and Cost & Safety
- Education
- Accreditation
- The Doctor of Optometry Curriculum in Detail
- State by State Scope Comparison
- Association of Schools and College of Optometry (ASCO) Full Report
- Report by American Board of Optometry, Association of Schools and Colleges of Optometry (ASCO), American Optometric Association (AOA)
- Avalon Full Report
- Curriculums
- Veterans Affairs (VA)
- Definitions
- Colorado Law regarding Optometric Scope
- Comparison of Vermont's Scope of Practice to California's Vetoed Legislation Scope Language
- Links to Optometry Schools' and Colleges' Curricula
- VOA's Understanding of the VHA Directives and SEOC Changes
- Two Articles Regarding Ophthalmologist Education and Training

¹¹⁰ Vermont Optometric Association, *VA Directive Understanding* (Appendix 2).

B. Written Comments

OPR received 47 written comments regarding the expansion of the optometric scope of practice. 39 of these comments support scope expansion and 9 opposed scope expansion. The comments are detailed in the following tables.

Who Commented in Support of Scope Expansion	
Vermont Optometric Association	American Optometric Association
17 Members of the Public	15 of which identified as Patients.
7 Vermont Optometrists	6 of whom are currently in practice.
15 Optometrists from other states	13 of whom are optometrists in clinical education and 1 of whom serves on a state professional Board with expanded scope.

Who Commented Against Scope Expansion	
Vermont Medical Society and the Vermont Ophthalmological Society	
3 Members of the Public	2 of whom work in Ophthalmologist offices
1 Ophthalmologist practicing in Vermont	
3 State Ophthalmology Societies	Including the American Academy of Ophthalmology
Vermont Board of Medical Practice	

Ab accounting of the comments can be found attached to this report as Appendices 2 through 6.

V. Major Themes from Comments and Stakeholder Input

A. Education and Training

Education and Training- Support

Proponents of scope expansion noted that optometrist education is extensive, in-depth, and focused on primary eye care. Optometry school requires extensive reading, labs, lectures, didactic instruction, and practical examinations all regarding the eye and the adnexa.¹¹¹ The fourth year is devoted to clinical externships where students perform procedures on human

¹¹¹ See e.g., VOA Materials (Appendix 2).

patients.¹¹² This education teaches students how to become clinicians of the eyes, in assessment, judgment, and practice.

Unlike medical school, proponents stated, which provides guidance on all body systems, optometry school focuses solely on eyes. In turn, optometrists already have a comprehensive and in depth understanding of eye anatomy and function after graduating. Alternatively, medical students may have a strong knowledge of all human anatomy and physiology upon graduating from medical school but do not have the same depth of knowledge of the eyes as optometry school graduates do. Commenters stated that medical students may not do a rotation in ophthalmology during medical school before beginning a post-degree residency in ophthalmology, whereas optometry students have 4 years of experience in eye care upon graduation.

Curricula from the 23 schools and colleges of optometry in the United States show that each school offers coursework in advanced procedures. Proponents provided curricula from each of these schools showing the advanced procedure coursework.¹¹³ Students have extensive didactic and lab experience studying these procedures. In labs, they practice the advanced procedures through simulations and on models. In schools located in states where there is already an expanded scope of optometric practice, students gain experience performing these procedures on live, human patients. However, the majority of schools are not located in states with expanded scopes of practice and, therefore, students do not have an opportunity to perform these procedures on live, human patients. A professor from the Southern College of Optometry, located in Tennessee, which does not have expanded scopes of practice, shared that the school occasionally partners with surrounding states with expanded scopes of practice so students can perform the procedures on live, human patients. He related that he believed experience with human patients is best for students, which is why SCO seeks out this opportunity in surrounding states. However, he also emphasized that didactic and model work is essential to preparing to perform procedures on human patients.

Proponents of scope expansion also noted that the ASCO has a standard accreditation competency framework for all 23 accredited schools and colleges of optometry. The framework provides a list of core competencies and objectives that are an addition to the entry-level “competency and/or the competencies expected of students graduating from optometry degree programs in the United States.”¹¹⁴ While not mandatory for colleges and schools of optometry, the framework offers educational standardization by providing schools and colleges of optometry with a list of competencies students should meet upon graduation from a program.

Proponents noted that, unlike optometry school, ophthalmology residencies are more like apprenticeships and focused on the anterior segment of the eye. While residents may spend

¹¹² Students perform injections and laser and non-laser surgery during clinical externships only in schools located in states with expanded scopes of practice.

¹¹³ See VOA Materials (Appendix 2).

¹¹⁴ Association of Schools and Colleges of Optometry, *Attributes of Students Graduating from Schools and Colleges of Optometry* (Oct. 11, 2011).

three years performing surgical eye procedures, they have very little experience with the procedures optometrists are seeking the authority to perform here.

Optometrists also noted that many optometry students do residencies after graduation. An estimated 50% of students complete a residency at the Veterans Health Administration (VHA). A local optometrist shared his experience with advanced procedures during the VHA residency. During this residency, he was able to observe the performance of five laser procedures on human patients and get hands-on experience performing the procedure on human patients two times.

For those optometrists that graduated before advanced procedure coursework was part of the optometry school and college curricula, proponents of scope expansion highlight a 32-hour post-degree course with content specific to advanced procedures including injections and non-laser and laser surgeries.¹¹⁵ In response to concerns that 32 hours does not compare to the 8 years of medical training ophthalmologists receive, proponents of scope expansion stated that this 32-hour course is more of a refresher of skills that all optometrists learn in optometry school. The 32-hour course, thus, builds upon the extensive existing skill, knowledge, experience, and training of optometrist. Proponents of scope expansion stated that the lack of adverse events reported in states with expanded scopes of practice as evidence that the 32-hour course or a recent optometry degree is sufficient to prepare optometrists to perform these procedures.¹¹⁶ A professor of the 32-hour course claimed that performing one simulated procedure is sufficient for optometrists with 4-5 years of training to perform these procedures in their practices.¹¹⁷

Education and Training- Oppose

Opponents of scope expansion and the significant majority of ophthalmologists who provided comment for this report strongly disagreed that four years of optometry school was sufficient to teach and train students to perform eye surgery. Commenters noted that medical school begins to prepare students both for ophthalmology and surgery. Medical school provides a broad perspective on human anatomy and physiology. This is then followed by clinical rotations in the third and fourth year. These rotations impart knowledge and experience with surgery. The ophthalmologists who commented reported doing clinical rotations in their last two years of medical school in ophthalmology and some reported completing more than one rotation in ophthalmology.

After this extensive, comprehensive and standardized education in medicine, opponents of scope expansion noted, medical school graduates are then required to complete 4-6 years of residency and fellowship in ophthalmology accredited by the Accreditation Council for Graduate Medical Education (ACGME). ACGME requires residencies to maintain specific supervision ratios

¹¹⁵ See e.g., *Southern College of Optometry*, Mississippi Advanced Procedure Licensing Training (rcvd. Sept. 15, 2023) (Appendix 8).

¹¹⁶ Letter from Gary Avallone, O.D., Secretary, Louisiana State Board of Optometry Examiners, to Vermont Office of Professional Regulation (Sept. 14, 2023) (on file with author) (Appendix 9).

¹¹⁷ Email from Nate Lighthizer, O.D., F.A.A.O., Associate Dean and Professor, Director of Continuing Education, Chief of Specialty Care Clinics, NSU Oklahoma College of Optometry, Immediate Past President, Intrepid Eye Society, to Vermont Office of Professional Regulation (Sept. 27, 2023, 1:55:05 EST) (on file with author) (Appendix 5).

and cohort sizes. The standards require medical residents to complete a specific number of procedures on live, human patients to successfully finish the residency.¹¹⁸ The medical judgment and performance of the procedures by medical residents are overseen by experienced, senior ophthalmologists who mentor residents as their training in systemic medicine and surgery progresses. The residency for every ophthalmologist is, thus, highly structured with lots of back up to ensure patient safety. Even then, opponents of scope expansion pointed out, the first few procedures an ophthalmologist performs after completing residency are overseen by a more experienced ophthalmologist.¹¹⁹

In contrast, opponents of scope expansion noted, optometry school does not provide such extensive, standardized experience in surgery, particularly surgery on live, human patients. Opponents highlighted the lack of education and training standardization, with some schools and colleges offering hands-on experience performing advanced procedures on live, human patients but most unable to do so, and with no accreditation body overseeing and certifying consistent residency requirements.¹²⁰ Opponents felt strongly that a 32-hour course in the proposed advanced procedures was wholly insufficient, particularly in comparison to a 3-4 year surgical residency. Opponents also noted that, while there are residencies for optometrists, these residencies are not standardized and students are not required to complete residencies for licensure.

Education and Training- OPR Analysis

In analyzing whether optometrists have sufficient education and training to perform the proposed advanced procedures, OPR reviewed and considered the comments and materials submitted by stakeholders and the public, the curricula from each U.S. school and college of optometry, the ASCO framework, and the ACGME ophthalmology residency standards. From this review, OPR concludes that current U.S. optometry school and college curricula include coursework in the performance of advanced procedures. In combination with the robust and comprehensive education provided by optometry schools and colleges in primary eye care, these advanced procedure courses provide students with sufficient didactic training in the performance of the advanced procedures. Similarly, the labs that accompany this coursework begin the training of optometrists to perform these procedures by allowing students to perform the procedures on models.

However, OPR is concerned that a significant majority of optometry students and optometrists gain no experience in performing the proposed advanced procedures and surgery in general on live, human patients. Only three optometry schools and colleges currently offer students experience performing the proposed advanced procedures on live, human patients. Surgeons, from ophthalmology and other fields, provided testimony noting that there is no

¹¹⁸ Accreditation Council for Graduate Medical Education, *ACGME Program Requirements for Graduate Medical Education in Ophthalmology*, Section IV.C.6, page 26 (2023).

¹¹⁹ Letter from David Herlihy, Executive Director, Vermont Board of Medical Practice, to Vermont Office of Professional Regulation (Oct. 13, 2023) (on file with author) (Appendix 10).

¹²⁰ Consideration of S. 158, an Act Related to Optometrists' Scope of Practice, *Jessica McNally Senate GovOps Testimony* (Feb. 18, 2022).

training substitute for performing surgery on live, human beings. No model or animal, commenters stated, can simulate the texture of human skin for suturing and laser surgeries.

With the extensive training and education optometrists already have in primary eye care and the proposed advanced procedures, however, OPR finds that minimal additional experience and training performing the procedures on live, human patients, under the oversight of experienced providers, are needed to train optometrists in these procedures. Most states that permit or have contemplated scope expansion have required or recommended post-degree educational experience for optometrists to gain such hands-on experience. Arkansas requires a 100-hour internship. Mississippi requires optometrists to complete an 8-hour preceptorship. Washington recommended that “clinical training on the advanced procedures include supervised hands-on experience with patients.”¹²¹ The California scope-expansion bill that passed both legislative chambers before being vetoed required a preceptorship with specific numbers of procedures that had to be performed.¹²²

B. Patient Safety

Patient Safety- Support

Proponents of scope expansion state that allowing optometrists to perform the proposed advanced procedures will improve patient safety. They point to data from states that have already expanded the optometric scopes of practice. These states report that no adverse events have been reported from the performance of advanced procedures by optometrists. Proponents also note that malpractice insurance rates for optometrists have not risen in these states. They argue malpractice insurance rates would have increased if there were greater risk to patients.¹²³

Proponents point out that opponents of scope expansion cite safety concerns every time optometrists have sought scope expansion, yet the potential harms never occurred (i.e., no adverse events have been reported in states with expanded scopes of practice). They highlight past scope expansions that permitted optometrists to dilate eyes for examinations and to provide therapeutic pharmaceuticals for glaucoma care.

Proponents further argue that optometrists are simply seeking the authority to perform the procedures optometrists are trained to do. Optometrists are not asking to do the full breadth of surgeries for which ophthalmologists spend 6-8 years training. Rather, optometrists seek to perform primary care procedures that are typically straightforward and simple. For example, the lesions optometrists seek authorization to remove (e.g., skin tags, chalazion) have a very low risk of malignancy.

Patients commenting in support of scope expansion also supported the conclusion that many of these procedures are not complex. One patient reported that, after seeing an

¹²¹ See *supra* note 6.

¹²² See *supra* note 56.

¹²³ Letter from William Reynolds, O.D., President, Kentucky Board of Optometric Examiners, to Vermont Office of Professional Regulation (Sept. 29, 2023) (on file with author).

ophthalmologist twice and waiting a long time for her surgery, the actual procedure took a couple of minutes and there was no pain.

Patients supporting scope expansion also argue that their trust in their optometrists, and those optometrists' accessibility, improves patient safety. Many patients reported preferring to receive treatment from their optometrists. They expressed that they had great trust and respect for their optometrists and their optometrists' skills. One patient reported challenges with both communication and timeliness when seeing an ophthalmologist. She felt rushed and that the information provided was unclear. She expressed a preference for seeing her optometrist, who explained her condition clearly and could see her when she needed care.

Another patient shared that it was helpful to know that her optometrist knew her eyes intimately from years of providing her with eye care. She trusts her optometrist to perform these procedures because of their knowledge and familiarity with her eyes and health.

Optometrists also noted that they are already authorized to provide pre- and post-operative care for patients whose ophthalmologists have performed the proposed advanced procedures. In turn, optometrists already see the complications from these procedures and are trusted and authorized to stabilize and treat patients experiencing these complications.

Proponents pointed to other regulatory oversight mechanisms that ensure patient safety, such as unprofessional conduct standards and requirements that optometrists report any adverse events. Many of the states that have an expanded scope of practice require optometrists to report all outcomes of procedures when renewing the underlying license, and to report adverse events within weeks of the event.¹²⁴ Also, like many health care professions in Vermont, optometrists are subject to unprofessional conduct standards, including the prohibition on providing "services that the licensee is not qualified to perform or that are beyond the scope of the licensee's education, training, capabilities, experience, or scope of practice." This standard acts as an extra safeguard to ensure optometrists perform only those procedures they are trained to perform and refer patients to other providers when needed.

Finally, proponents emphasize that optometrists are doctoral-level health care providers. They, too, have developed and possess excellent clinical judgment. This is demonstrated by the care they are already authorized under state law to provide and by the trust the medical community and patients place in them. Optometrists assert that they will continue to refer patients that need more complex care to ophthalmologists and other appropriate medical professionals.

Patient Safety- Oppose

Complexity of Procedures

Opponents to scope expansion emphasize that all surgeries are complex and never routine, particularly eye surgeries. Those opposed to scope expansion cited the complexity of every eye surgery and the narrow margin for error as reasons optometrists, with less experience and training, may pose an increased risk to patients. Ophthalmologists emphasized the thinness

¹²⁴ See e.g., 007.02.1 Ark. Admin. Code § VIII-VII, *supra* note 54.

of the skin on the eyelids (the thinnest on the body) and the unique musculature surrounding the eye. They noted the complex and rich network of blood vessels running around the eye resulting in a lot of bleeding. It was stated that even very experienced dermatologists will refer to an ophthalmologist to do procedures around the eyelids because of the excessive bleeding and the thinness of the skin, requiring tiny needles for suturing.

Ophthalmologists offered stories of lesions that, when removed, resulted in much larger wounds and more bleeding than was anticipated. Several ophthalmologists mentioned the times where they had thought that a lesion near an eye was benign only to find out it was malignant after beginning the procedure. They cautioned that optometrists would be sure to encounter such lesions and would not have the training or experience to remove the lesion appropriately.

Training and Oversight

Opponents also noted that ophthalmologists get exposed to so many procedures and surgeries during medical schools and residency that they are more comfortable performing careful, precise procedures on anxious patients. Optometrists do not have the same depth and breadth of education as ophthalmologists and may pose a greater risk of harm, such as blindness, to patients.

Opponents of scope expansion stated they were concerned optometrists may recommend and perform unnecessary surgeries because they don't have the experience and training to determine when surgery is appropriate. It was noted that ophthalmologists strive not to do surgery and to try every avenue possible before turning to surgery. Worries were shared that optometrists performing same-day procedures would not similarly work to avoid unnecessary surgeries.

The Vermont Board of Medical Practice (BMP) also noted that ophthalmology residents are licensed by the state and subject to oversight by the BMP, hospitals and expert physicians but there is no such oversight mechanism for optometry students.

Finally, commenters expressed concern that so few of these advanced procedures are regularly performed in Vermont that optometrists would not continually get the experience they need to remain competent in performing the procedures.

Informed Consent

Opponents also shared concern about patients being able to make informed decisions about care. They noted that patients are often confused about the difference between ophthalmologists and optometrists. Allowing optometrists to perform these procedures will further blur the distinction and confuse patients. In turn, patients may not be aware that they are choosing to receive care from an optometrist rather than an ophthalmologist.

Scope and Adverse Events

Opponents expressed concern about limitations on optometrists' scopes of practice and how to prevent optometrists from performing dangerous procedures and injections beyond what scope expansion would authorize.

Further, opponents noted that some states where scope has been expanded do not require optometrists to report adverse events from the performance of advanced procedures and, in some of these states, complaints and disciplinary action are not made public.

Patient Safety- OPR Analysis

In reviewing the issue of patient safety, OPR considered reports of adverse events from other states that permit optometrists to perform the proposed advanced procedures. OPR contacted the eight states that allow optometrists to perform injections and laser and non-laser surgeries. Five of these states responded that no adverse events had been reported.¹²⁵ OPR also considered a chart provided by the American Optometric Association showing the lack of adverse events by state.¹²⁶ OPR recognizes that this data comes from Boards of Optometry in states where reporting adverse events is not always mandatory, and that complaints do not always result in discipline. However, no data has been provided showing that there is an increased incidence of patient harm in states where optometrists are permitted to perform these procedures.

OPR also notes that optometrists already have extensive experience managing many of the complexities about which ophthalmologists expressed concern. Optometrists have a doctoral degree in the anatomy and physiology of the eye. They regularly perform delicate, complex procedures while managing patients' anxiety and discomfort. Optometrists also already provide pre- and post-operative care for patients, addressing complications in their daily work. OPR finds that patients do not face an added safety risk due to optometrists' inability to manage patient care while performing complex procedures.

OPR also recognizes that there are examinations to assess the didactic and clinical competency of optometrists. All 50 states currently require optometrists to complete Levels I, II, and III of the National Board of Optometric Examiners (NBEO) examinations. The NBEO also offers examinations assessing the competency of optometrists to perform injection procedures (the Injection Skill Examination or ISE) and laser and surgical procedures (the Laser and Surgical Procedures Examination or LSPE). These examinations provide additional assurance that an optometrist is competent to perform injection and non-laser and laser surgical procedures.

Given that optometrists have performed many of these procedures in states with expanded scopes of practice and that there is no data showing an increase in adverse events and given there are mechanisms for requiring additional training and assessing competencies of optometrists, OPR finds that the optometric scope of practice could be expanded in Vermont in a way that continues to protect patient safety. This is particularly true if optometrists receive standardized, hands-on training performing the procedures on human patients and must pass the ISE and LSPE.

¹²⁵ Letters from the state boards of optometry from Alaska, Arkansas, Kentucky, Louisiana, and Virginia (Appendix 9).

¹²⁶ American Optometric Association, *Optometric Laser Adverse Events by State*, email from Daniel Carey, Chief State Advocacy Officer, American Optometric Association, to Vermont Office of Professional Regulation (Sept. 29, 2023) (on file with author) (Appendix 11).

C. Access

Access- Support

Avalon White Paper

Proponents of scope expansion cite a 2019 white paper by Avalon Health Economics to argue that scope expansion will increase access and reduce costs for primary optometry care. The Avalon white paper is based on a literature review, “a simple cost-benefit analysis in the form of a simulation model to estimate the overall economic value of doctors of optometry,” and a survey of public perceptions.¹²⁷ The Avalon white paper concludes that there is and will be a greater demand for eye care services given the aging population and health trends. They further note that the supply of medical doctors is decreasing but that the number of optometrists is expected to remain “adequate.”¹²⁸ The report also finds that optometrists in 2019 had room in their schedules to accommodate an average of an additional 19.8 patients per day without increasing their work hours.¹²⁹ It also notes that optometrists are present in counties that cover 99% of the U.S. population.¹³⁰ The study also finds that expanding the optometric scope of practice reduces transaction costs of obtaining eye health care, such as wait times, travel time, time taken off work.¹³¹

Travel and Wait Times

OPR received many comments from patients expressing challenges in traveling to and waiting for ophthalmology appointments for the proposed advanced procedures. Commenters shared the difficulties of traveling to an ophthalmologist when they had poor eyesight and were unable to drive themselves. Many had to find a ride there and a ride home afterward. In these circumstances, even a 30-minute drive was a hardship.

Commenters also noted that they had to wait weeks to months to see an ophthalmologist. When they finally saw the ophthalmologist, the first visit was usually for a repeated examination which then resulted in another long wait before the procedure was performed. These commenters overwhelmingly supported allowing their optometrists to perform these procedures.

Proponents of scope expansion note that optometrists are located geographically closer to patients. They argue that, though an ophthalmologist may be located near a patient, many of those ophthalmologists are specialists and do not perform the proposed advanced procedures. In turn, many patients need to travel to distant locations, such as Burlington, Rutland, and Hanover to have these procedures performed.

Proponents of scope expansion claim that expanding the scope of optometrists will improve these access issues by allowing optometrists to perform the necessary procedures on

¹²⁷ Avalon Health Economics, *Optometry’s Essential and Expanding Role in Health Care: Assured Quality and Greater Access for Healthier Communities* (June 12, 2019).

¹²⁸ *Id.* at § 2.2, pg. 6.

¹²⁹ *Id.*

¹³⁰ *Id.* at § 2.7, pg. 9.

¹³¹ *Id.* at § 2.11, pp. 12-13.

the day the patient is diagnosed as needing it. For patients who could receive the treatment from their optometrists, this would mean fewer appointments and no additional travel time, as well as a reduced time on expensive medications experiencing life-altering vision impairment and discomfort. In turn, it would be much more efficient and better for the patient if optometrists could perform these procedures in their office at the time of the appointment.

Optometrists contributing to this report did not believe that expanding their scope of practice would further increase current wait times. The optometrists noted that they already triage patient appointments and build time into their schedules for urgent care. Proponents of scope expansion note that wait times for all eye procedures may actually decrease by allowing optometrists to perform these advanced procedures. Not only will the increased number of providers performing the procedures allow for more timely care, it is argued, but ophthalmologists will have the opportunity to use the time previously spent performing these proposed procedures performing more complex procedures.

Expanding the Optometrist Workforce

Finally, proponents of scope expansion claim that expanding scope will improve patient access because it will incentivize optometrists to practice in Vermont. Proponents claim that the number of professionals in optometry is growing much faster than the number of new ophthalmologists.¹³² In turn, optometry is going to have more ability to address increasing demand as patients age. By expanding scope, proponents assert these new graduates will be more likely to move to Vermont where they can practice to the full extent of their education and training.

Several optometrists shared stories about optometrists leaving or being dissuaded from moving to Vermont due to the current scope of practice. It was noted that a couple, who were both optometrists, recently moved away from Vermont to a state where they could practice the proposed advanced procedures. Several other optometrists who are just starting their practices in Vermont shared that it was a difficult sacrifice to come to Vermont, a state where they wanted to live, knowing they would not be able to practice to the full extent of their education and training. They said they had colleagues who had chosen not to come to Vermont because of the limited scope of practice. Other optometrists described the difficulty in hiring optometrists to come to Vermont because of the limited scope of practice. One board member shared that it took 2.5 to 3 years to hire a new optometrist.

Access- Oppose

JAMA Ophthalmology Article

Opponents of scope expansion cite a JAMA Ophthalmology article, published on August 1, 2023, to support the conclusion that optometrists and ophthalmologists are equally geographically accessible to patients. The article, titled “Evaluating Access to Laser Eye Surgery by Driving Times,” details a study examining whether expanding the scope of optometrists to

¹³² American Optometric Association, Richard C. Edlow, O.D., *Economic Overview of the Ophthalmic Industry: 2023* (Mar. 2, 2023).

include laser eye surgery privileges improved patient access to laser procedures.¹³³ The analysis, based on the review of 1,564,307 Medicare Part B claims data, considered estimated travel times for patients and whether patients were within a 30-mile proximity of optometrists or ophthalmologists.¹³⁴

The study found that, except for in Oklahoma, only 5% of the population had only an optometrist, not an ophthalmologist, within a 30-minute drive of them.¹³⁵ In Oklahoma, 7.6% of the population lived more than 30 minutes away from an ophthalmologist who performed YAG capsulotomies, and 9.4% of the population lived more than 30 minutes from an ophthalmologist who performed selective laser trabeculoplasty.¹³⁶ The study also found that, in Kentucky, patients had a longer travel time to receive laser eye surgery from an optometrist than from an ophthalmologist (for YAG, the shortest median drive time was 49 minutes to an optometrist and the longest median drive time to an ophthalmologist was 22.8 minutes).¹³⁷ Similarly, in Arkansas the median drive time for patients seeking laser surgery was shorter for ophthalmologists than for optometrists (for YAG, 26.5 minutes to an ophthalmologist and 90 minutes to an optometrist).¹³⁸ The median travel time for laser eye surgery was similar for optometrists and ophthalmologists in Oklahoma (for YAG, 26.6 minutes to an optometrist and 22 minutes for an ophthalmologist), and in Louisiana (for YAG, 18.5 minutes to an optometrist and 20.5 minutes to an ophthalmologist).¹³⁹ Based on this data, the study concluded that the expansion of the optometric scope of practice to include laser eye surgery did not lead to shorter travel times for patients.¹⁴⁰

Wait times

Those opposed to scope expansion noted that there is already a long wait time for primary care from optometrists and questioned how optometrists would be able to provide additional services without further increasing those wait times. Staff from ophthalmology offices commented stating that all medical professionals have wait times for care these days but that ophthalmologists prioritize patients referred from an optometrist knowing they had already waited a long time.

Opponents also noted that wait times between an initial examination and the performance of the procedure are not due to a lack of access or availability but rather are necessary elements of the standard of care. Patients need extra time between the examination and the procedure to assess the risks and benefits of the surgery, and to understand all the care options. One ophthalmologist noted that many of the requested procedures require prior authorization from insurance companies to be covered. In turn, performing the procedure on

¹³³ Jamie Shaffer, M.S., Anand Rajesh, B.S., Michael W. Stewart, M.D., Aaron Y. Yee, M.D., MSCI, Darby Miller, M.D., M.P.H., Cecilia S. Lee, M.D., M.S. & Courtney E. Francis, M.D., *Evaluating Access to Laser Eye Surgery by Driving Times Using Medicare Data and Geographical Mapping*, *JAMA Ophthalmol.* 2023;141(8):776-783 (July 20, 2023).

¹³⁴ *Id.*

¹³⁵ *Id.*

¹³⁶ *Id.*

¹³⁷ *Id.*

¹³⁸ *Id.*

¹³⁹ *Id.*

¹⁴⁰ *Id.*

the same day it is recommended is not possible or at least not beneficial to the patient. It was further noted that the additional examination by the ophthalmologist is needed to ensure that the patient needs the surgery.

Access- OPR Analysis

In analyzing the question of access, OPR reviewed comments from the public, the Avalon white paper, the JAMA Ophthalmology articles, and charts of optometrist and ophthalmologist geographic locations from 2019.

OPR cannot come to a conclusion regarding whether expansion of scope would improve patient access. The studies described in the JAMA Ophthalmology article and the Avalon white paper contradict one another about geographic access and OPR does not have adequate information to evaluate whether one is more accurate than the other.

OPR trusts the reports from patients that they are experiencing significant challenges both getting to and waiting for these procedures from ophthalmologists. However, OPR is unable to evaluate whether the additional wait times for repeated examinations by ophthalmologists are necessary. Opponents of scope expansion claim these repeated examinations are needed to assess the best course of care and to prevent unnecessary surgeries. Optometrists argue that their clinical judgment is sufficient to determine whether a patient needs a procedure and does not need to be reviewed by another provider. For support of their position, opponents point to a study from 2016 that claimed to show an increase in procedures performed by optometrists in Oklahoma, where there is a broad optometric scope of practice.¹⁴¹ However, this study has been called into question because it looks at a type of procedure that is intended to be repeated (laser trabeculoplasty). OPR is unable to conclude from the materials presented whether a repeated examination is a necessary component of care rather than an unnecessary delay.

After reviewing the provided comments and data, OPR is unable to determine whether expanding the optometric scope of practice would improve patient access to care.

D. Costs

Costs- Support

Proponents asserted that the proposed scope expansion for optometrists would result mostly in the costs remaining the same, as the cost of the procedures are reimbursed at the same rate by insurance, regardless of whether an optometrist or ophthalmologist is performing

¹⁴¹ Joshua D. Stein, Peter Y. Zhao, Chris Andrews, Gregory L. Skuta, *Comparison of Outcomes of Laser Trabeculoplasty Performed by Optometrists vs Ophthalmologists in Oklahoma*, JAMA Ophthalmol. 2016 Oct 1;134(10):1095-1101 (Oct. 1, 2016).

the surgery. It was further pointed out that the same number of procedures will be performed. The demand is not going to increase because optometrists can perform the procedure.

Proponents noted that optometrists already use their clinical judgement to determine whether to refer a patient to an ophthalmologist for care. This same clinical judgment will lead them only to perform these procedures when medically necessary. In turn, allowing optometrists to perform the proposed procedures will simply shift where the patient receives care and will not impact the cost of the procedures.

Proponents further noted that optometrists already have expensive equipment. One optometrist estimated optometrists have about \$250,000 worth of equipment in their offices. Relative to this large expense, the \$30,000 cost of a laser is nominal and is not going to change the economic status of a practice. Optometrists emphasized that their clinical decisions are based on medical necessity, not economic incentives, and that any implication that they are performing unnecessary procedures for the money is offensive.

Proponents stated that no evidence or data has shown that costs increase or that the number of procedures increase when scope is expanded. Rather, proponents point to studies that have found scope expansion will save the health care system and patients money. The Avalon white paper is one such study, concluding that increased competition for the performance of procedures between optometrists and ophthalmologists will reduce costs.¹⁴² The white paper further found that better access to eye care stemming from scope expansion will result in lower health care system costs due to better health outcomes and lower transaction costs (e.g., travel time, time off work, etc.).¹⁴³ Finally, the Avalon white paper concluded from its simple cost-benefit analysis that expanding the optometric scope of practice will result in total estimated savings of \$4.6 billion per year.¹⁴⁴

Proponents also note that patients may be saved the costs they incur while waiting for an ophthalmologist appointment. Proponents and ophthalmologists reported that, when optometrists refer patients to ophthalmologists for advanced procedures, the ophthalmologist will first repeat the examination already performed by the optometrist. This repeat examination is costly for patients because they have to go to multiple appointments, and it is costly for the health system, it is alleged, because the re-examination is unnecessary and duplicative. Commenters highlighted the costs patients incur every time they have to take time off work to go to a medical appointment, and the inconvenience and costs of having to find someone to drive them to these appointments.

Proponents and commenters also stated that patients incur additional costs while waiting for the multiple appointments with ophthalmologists. Patients often must pay for expensive eye drops to stabilize their condition. One patient reported that she had to take expensive eye drops to stabilize her glaucoma while waiting to be seen by an ophthalmologist. When she finally saw the ophthalmologist, the appointment was just a repeated examination. She then had to wait another month to get surgery on one eye and then wait another month to

¹⁴² See *supra* note 127 at § 2.6, pg. 9.

¹⁴³ See *supra* note 127 at § 3.2, pg. 14.

¹⁴⁴ See *supra* note 127 at § 3.6, pg. 16.

get surgery on the other eye. All this time, she had to purchase medications to continue to stabilize her condition. If her optometrist, who she trusts to make the decision whether he can perform the procedure himself, had been authorized to perform the procedure, she stated she would have been saved months of waiting and the cost of the eye drops.

Finally, proponents noted that, when ophthalmologists perform these procedures at a hospital, which many ophthalmologists do now that practices are associated with hospitals, patients are charged an additional facility fee for the procedure. Optometrists performing this procedure in their office would not bill for a facility fee.

Costs- Oppose

Opponents of scope expansion argue that the repeated examinations by ophthalmologists actually save costs. Ophthalmologists repeat examinations when patients are referred from optometrists because they want to ensure the surgical procedure is needed. One ophthalmologist noted that surgery is always the last resort and that ophthalmologists try to manage patient care through other means. Some ophthalmologists reported regularly finding that patients referred by optometrists for surgical procedures were actually better served by other means and that surgery was not necessary. In turn, opponents argue, the repeated examination actually saves the cost of an expensive, unnecessary surgery.

Opponents also note that these procedures are often done in their offices, thus avoiding facility fees associated with hospitals.

Further, many opponents point out that the number of people needing these procedures and the cost of each procedure will not decrease. In turn, expanding the scope of practice will not reduce costs.

Costs- OPR Analysis

In analyzing whether scope expansion will impact the costs of eye care, OPR considered comments and resources submitted to proponents and opponents of scope expansion, as well as the Avalon white paper and other states' sunrise and sunset reviews regarding optometric scope expansion.

After reviewing these sources and the provided comments, OPR is unable to determine whether scope expansion would have an impact on costs. Patients may save the cost of traveling and waiting for repeated care but this additional care may be necessary to prevent patients from incurring even more significant costs. Other states that have reviewed scope expansion have been silent on its costs or found no cost.¹⁴⁵

Based on the information provided, OPR cannot determine the impact expansion of the optometric scope of practice would have on costs.

¹⁴⁵ See supra notes 6 and 20 at pg. 38.

VI. Recommended Legislative Language

The SGO letter to OPR instructs the agency to submit “what legislative language, if any...OPR would be willing to support” based on our findings. After our review and analysis, OPR recommends the following legislative language expanding the scope of optometric practice:

A. Expanded Scope

1. Optometrists may perform the following additional advanced therapeutic procedures:
 - i. Surgery to remove lesions from the eye and adnexa and the accompanied restoration of tissue, including only the following:
 - A. Excision and repair of nonrecurrent chalazia;
 - B. Excision of nonrecurrent lesions of the adnexa evaluated by the optometrist to be non-malignant, excluding any lesion:
 - Involving the eyelid margin;
 - Involving the lacrimal supply or drainage systems;
 - Deeper than the orbicularis muscle; or
 - Larger than five millimeters in diameter.
 - C. Closure of wounds resulting from removal of a lesion;
 - D. Repair of an eyelid laceration no larger than two and one-half centimeters, no deeper than the orbicularis muscle and not involving the eyelid margin or lacrimal drainage structures; and
 - E. Corneal crosslinking procedure, or the use of medication and ultraviolet light to make the tissues of the cornea stronger.
 - ii. The following laser procedures:
 - A. Laser capsulotomy;
 - B. Laser peripheral iridotomy; and
 - C. Laser trabeculoplasty.
 - iii. The following injections:
 - A. Injections for the removal of chalazia;
 - B. Injections to administer local anesthesia;
 - C. Injections to perform fluorescein angiography;
 - D. Injections of therapeutic pharmaceuticals into the eyelid or its adnexa, including into the subconjunctival space;
 - E. Injections of epinephrine for the treatment of anaphylactic shock;
 - F. In a public health emergency, the state health officer may authorize therapeutically licensed optometrists to administer inoculations for systemic health reasons.

Notes:

- The above recommendations are based input from optometrists, laws in other states with expanded scopes of practice, and the education and training received by optometrists in schools and colleges of optometry. Also reflected are procedures of which the NBEO examinations assess competency. Because these recommendations are based on an evaluation and review of the education and training of optometrists, OPR recommends that the list of procedures allowed be exclusive and limited to these specified procedures.
2. Optometrists are prohibited from performing any other ophthalmic surgeries, with or without the use of lasers, or injection procedures. This prohibition includes but is not limited to performing the following procedures:
- i. Retinal laser procedures, laser-assisted in situ keratomileus, photorefractive keratectomy, laser epithelial keratomileusis, or any forms of refractive surgery;
 - ii. Penetrating keratoplasty, corneal transplant, or lamellar keratoplasty;
 - iii. The administration of general anesthesia;
 - iv. Surgery done with general anesthesia;
 - v. Laser or nonlaser injection into the posterior or vitreous chamber of the eye to treat any macular or retinal disease;
 - vi. Surgery related to removal of the eye or adnexa, including the eyeball, from a living human being;
 - vii. Surgery requiring full-thickness incision or excision of the cornea or sclera other than paracentesis in an emergency situation requiring immediate reduction of the pressure inside the eye;
 - viii. Surgery requiring incision of the iris and ciliary body, including iris diathermy or cryotherapy;
 - ix. Surgery requiring the incision or removal of the vitreous;
 - x. Surgery requiring incision of the retina;
 - xi. Surgical extraction of the crystalline lens;
 - xii. Surgical intraocular lens implants;
 - xiii. Incisional or excisional surgery of the extraocular muscles;
 - xiv. Surgery of the eyelid for suspect malignancies, for cosmetic purposes, or for cosmetic or mechanical repair of blepharochalasis, ptosis, and tarsorrhaphy;
 - xv. Surgery for the removal of lesions involving the eyelid margin, lacrimal supply, or drainage systems;
 - xvi. Repair of an eyelid laceration larger than two and one-half (2- ½) centimeters and deeper than the orbicularis muscle and involving the eyelid margin or lacrimal drainage structures;
 - xvii. Surgery of the bony orbit, including orbital implants;
 - xviii. Incisional or excisional surgery of the lacrimal system other than probing or related procedures;
 - xix. Surgery requiring full-thickness conjunctivoplasty with graft or flap;
 - xx. Pterygium surgery;
 - xxi. Ionizing radiation;

- xxii. Intraocular injections penetrating the globe;
- xxiii. Retrobulbar or intraorbital injections;
- xxiv. Any surgical, injection, or laser procedure that is not listed herein, and does not provide for the correction and relief of ocular abnormalities.

Notes:

- OPR developed this list based on the laws in other states with expanded scopes of practice. OPR recommends that all advanced procedures other than those listed above in part 1 be excluded from the optometric scope of practice. In turn, the list of exclusions is not a closed list but includes these procedures and any other procedure not expressly authorized by state statute.

B. Specialty Endorsement License

OPR recommends the creation of a specialty endorsement license for the performance of advanced procedures. Optometrists would first have to hold a Vermont optometrist license and then, if the optometrist wished to perform advanced procedures, they could apply for the specialty endorsement license. This would allow optometrists who do not wish to provide these advanced procedures to continue to practice primary eye care without having to demonstrate competency in performing the procedures.

The following are the qualifications OPR recommends requiring optometrists to demonstrate to obtain the specialty endorsement license:

1. Qualifications: Education

- i. For optometrists who graduated after 2019:
 - A. Hold an optometrist license in Vermont; and
 - B. Complete a post-graduate residency with at least simulated experience in the authorized advanced procedures; and
 - C. Complete a preceptorship
 - With hands-on experience performing the following procedures on live, human patients:
 - I. 8 laser trabeculoplasties
 - II. 8 laser posterior capsulotomies
 - III. 5 laser peripheral iridotomies
 - IV. 5 chalazion excisions
 - V. 4 chalazion intralesional injections
 - VI. 7 excisions of an authorized lesion of greater than or equal to two millimeters in size
 - VII. 5 excisions or drainages of other authorized lesions
 - VIII. 1 surgical corneal crosslinking involving removal of epithelium
 - A preceptors must be an optometrist who has been licensed to provide the advanced procedures for at least three years or a licensed ophthalmologist;
 - Supervision in the preceptorship shall be direct and in-person;

- The preceptorship shall occur within the state in which the preceptor is licensed to perform such procedures; and
 - The preceptor shall certify that the optometrist has competently completed the procedures required and shall provide a log of the procedures to the Board.
 - ii. For optometrists who graduated before 2019:
 - A. Hold an optometrist license in Vermont;
 - B. Complete a post-graduate course with a minimum of 32 hours and including content defined by the Board of Optometry by rule; and
 - C. Complete a preceptorship meeting the requirements listed above.
2. Qualifications: Examinations
- i. Optometrists shall successfully complete both the NBEO ISE and LPSE.

Notes:

- The recommended qualifications are intended to address the concern that most optometrists do not have experience performing the procedures on live, human patients. The residency and 32-hour course requirements offer a way to standardize optometrists' didactic and simulated training in performing the advanced procedures. OPR recommends that the Board be authorized to specify the content of the residency and 32-hour course through rulemaking. The preceptorship is intended to ensure that optometrists have standardized experience performing the procedures on live, human patients.
- Several other states with expanded scopes of practice, such as Arkansas and Mississippi, also require optometrists to participate in a proctorship or supervision relationship to qualify for a license to perform the advanced procedures. Washington, in its sunrise review of the optometric scope of practice, recommended clinical training for optometrists who sought to perform the advanced procedures. And the vetoed California bill would have required optometrists to complete a preceptorship with the number of procedures listed in OPR's proposal.
- The number of procedures OPR recommends be included in the preceptorship are based on other state's laws and proposals (see, e.g., California) and the ACGME procedural log requirements of ophthalmology residents. The numbers recommended for the preceptorship here approximate the number of the advanced procedures ophthalmology residents are required to perform before completing their residencies, though the requirements here are slightly higher. The slight increase in advanced procedure requirements for the optometrist preceptorship is to offer optometrists a greater breadth of general surgical experience (e.g., in suturing, laser use, complications, etc.). Additionally, the slightly higher numbers would afford optometrists more opportunities to practice the generally applicable skills that ophthalmology residents practice while performing a broader range of procedures.
- Requiring optometrists to successfully complete the ISE and LSPE confirms a providers competency before permitting them to offer these services to the public.

C. Additional Recommendations

1. Optometrists must report all outcomes of advanced procedures to OPR every two years and all adverse events to OPR within three weeks of the event.
2. OPR recommends that optometrists with the advanced procedure endorsement complete an additional 5 hours of continuing education in the advanced procedures every two years.
3. With regard to therapeutic pharmaceuticals, OPR recommends making the following amendments to current statutes:
 - a. Include definitions of therapeutic and diagnostic pharmaceuticals;
 - b. Clarify that optometrists may prescribe and administer therapeutic pharmaceuticals;
 - c. Prohibit optometrists from prescribing or administering schedule I or II controlled substances, except for hydrocodone in combination with analgesics.
 - i. For hydrocodone combined with analgesics, limit the prescribing authority to 72 hours' worth of medication and prohibit refills.

Notes:

- Most states with expanded scopes of practice require that optometrists report the outcome of procedures and any adverse events. This allows states to identify any concerning or beneficial trends, and to ensure safe practice.
- Continuing education will ensure the ongoing competency of optometrists in performing the proposed advanced procedures.
- The recommendations regarding diagnostic and therapeutic pharmaceuticals will bring some needed clarification to the existing statutes. These recommendations are consistent with other state statutes.

D. Responses to Recommendation

Vermont Medical Society and the Vermont Ophthalmological Society

The Vermont Medical Society (VMS) and the Vermont Ophthalmological Society (VOS) oppose the legislative language OPR is proposing herein. VMS's and VOS's "position is that safe eye surgery for Vermonters can only be provided by physicians who have completed medical school and an ACGME accredited ophthalmology residency program."¹⁴⁶

While maintaining their opposition to the proposed legislative language and scope expansion, VMS and VOS did provide comments to OPR in the interest of protecting the public. They commented that all optometrists seeking to provide advanced procedures should be required to complete an accredited, standardized post-degree residency, and to enter into a collaborative agreement with a qualified ophthalmologist or optometrist for the first two years of performing the advanced procedures. VMS and VOS also commented that optometrists should have to maintain malpractice insurance and provide disclosures to patients clarifying that

¹⁴⁶ Email from Stephanie Winters, Deputy Director, Vermont Medical Society, Executive Director, Vermont Ophthalmological Society, to Vermont Office of Professional Regulation (Oct. 7, 2023, 3:55:27) (on file with author) (Appendix 12).

the optometrist is not a physician or a surgeon. VMS and VOS made additional recommendations regarding amending or eliminating included or excluded procedures.

Generally, VMS and VOS expressed strong concern that proponents of scope expansion minimized the risks of the procedures they were proposing and did not understand the complexity of the surgeries. Comments they heard from proponents of scope expansion made VMS and VOS concerned about the clinical judgment of optometrists. They made clear that VMS and VOS oppose expanding the optometric scope of practice to permit optometrists to perform any of the procedures listed in OPR's recommended legislative language.

Vermont Board of Medical Practice

The Vermont Board of Medical Practice (BMP) did not officially adopt a statement in time for inclusion in this report. The BMP did discuss the proposal, however, and its Executive Director submitted comments for this report.¹⁴⁷ Further, the Board established its position on optometrist scope expansion during the previous regulatory review conducted in 2019.¹⁴⁸ The Executive Director of the BMP related that, at a recent meeting on October 4, 2023, members of the BMP “expressed strong concerns about expansion of the optometrist scope of practice” and that “[s]upport for the expansion was not expressed.”¹⁴⁹ The BMP's main concerns, as related by its Executive Director, were inadequate surgical training for optometrists, optometry practices no longer having time to provide primary care, and reliance on faulty or inaccurate reports regarding adverse outcomes from states with expanded scopes of practice.

American Academy of Ophthalmology

The American Academy of Ophthalmology (AAO) expressed similar concerns about OPR's qualifications for making recommendations regarding surgical training. They noted that the legislative language reflects similar requirements for preceptorship training that were included in the vetoed California scope expansion bill.¹⁵⁰ The AAO alleged that the Washington and Colorado reports regarding optometrist scope expansion were based on “misinformation and misrepresentations provided by those states' optometry lobbies.”¹⁵¹ AAO also provided summaries of two studies. One was the JAMA study regarding patient distance from optometrists and ophthalmologists providing therapeutic laser procedures.¹⁵² The other study demonstrated that adverse events happen in about 12% of the advanced procedures performed by ophthalmologists, so it was unlikely that optometrists in states with expanded scope have experienced no adverse events.¹⁵³ The AAO is firmly opposed to expanding the scope of practice of optometrists in Vermont.

¹⁴⁷ See *supra* note 119 (Appendix 10).

¹⁴⁸ *Id.*

¹⁴⁹ *Id.*

¹⁵⁰ Letter from Daniel Briceland, M.D., president, and John Peters, M.D., Secretary for State Affairs, American Academy of Ophthalmology, to Vermont Office of Professional Regulation (Sept. 29, 2023) (on file with author) (Appendix 7).

¹⁵¹ *Id.*

¹⁵² See *supra* note 133.

¹⁵³ See *supra* note 150.

Maine and New Hampshire Societies of Eye Physicians and Surgeons

The Maine and New Hampshire Societies of Eye Physicians and Surgeons each submitted similar letters to OPR opposing the recommended scope expansion. They questioned what had changed since OPR's 2020 report regarding this same scope expansion given that "optometric education has not changed."¹⁵⁴ The Societies noted several errors in the proposed legislative language that caused them concern about OPR's qualifications "to develop educational curricula for the training of non-physicians to perform surgical procedures."¹⁵⁵ Comments from the Societies also relayed concern about patient safety, including comparisons of optometrist and ophthalmologist education and training and concerns about optometrists' ability to handle complications arising during and after surgery.¹⁵⁶ The Societies claim that the inadequacy of optometric training has already "been shown in higher complication rates for optometrists in the states that do permit a limited number of procedures."¹⁵⁷ The Societies oppose the legislative language proposed by OPR.

Vermont Optometric Association

The Vermont Optometric Association (VOA) expressed general support for the expansion of scope for optometrists but is concerned that the residency and preceptorship procedure requirements are too high. The VOA stated that, at least initially when there are no trained and licensed optometrists in Vermont that can qualify to be preceptors, it would be impossible to find preceptorships that permitted Vermont optometrists to perform the number of procedures required in the legislative language proposal for the preceptorship. Such preceptorships or proctorships are usually provided by schools and colleges of optometry in states that have an expanded scope of practice. These educational programs typically prioritize current students' experience performing these advanced procedures and likely will not be able to accommodate the need of Vermont optometrists to perform this number of procedures. The VOA also stated that this proposal should be revisited again in the future to determine if optometry schools and colleges include experience in the advanced procedure on live, human patients. If this is the case, then a preceptorship may no longer be needed.

State Optometric Associations

Members of several state boards of optometry and optometry associations from states with expanded scopes of practice, as well as professors from optometry schools and colleges, commented on the proposed legislative language.¹⁵⁸ These comments expressed general support for the proposal but, similar to the VOA comments, expressed concern that the preceptorship procedure requirements were too high and would pose a barrier to licensure.

¹⁵⁴ Email from Linda Feero, M.D., Past President, Maine Society of Eye Physicians and Surgeons, to Vermont Office of Professional Regulation (Sept. 29, 2023, 2:20:56 EST) (on file with author) *and* Letter from Nancy Efferson-Bonachea, M.D., New Hampshire Councilor, American Academy of Ophthalmology, and Kim Licciardi, M.D., President, New Hampshire Society of Eye Physicians and Surgeons, to Vermont Office of Professional Regulation (Sept. 29, 2023) (on file with author) (Appendix 7).

¹⁵⁵ *Id.*

¹⁵⁶ *Id.*

¹⁵⁷ *Id.*

¹⁵⁸ See Appendices 4, 5, and 6.

Many professors of optometry, state optometric associations, and optometry board members cited the lack of reported adverse events from the performance of advanced procedures by optometrists as sufficient evidence that optometrists could perform these procedures safely without additional education or training.¹⁵⁹

Some state boards recommended that the Vermont state board of optometry be given the authority to define the optometric scope of practice.

Vermont Board of Optometry

The Vermont Board of Optometry approved a statement regarding its support for scope expansion.¹⁶⁰ The Board reviewed and provided comment on OPR's proposed legislative language. They did not support recommendations from opponents of scope expansion to limit optometrists' performance of advanced procedures to people 18 years or older. The Board also advised against requirements that optometrists inform patients that optometrists are not physicians and that optometrists perform procedures and not surgeries. The Board advised that these requirements would create more confusion among patients. Board members also did not support removing the term "adnexa" and replacing it with "eyelid," or prohibiting crosslinking and repair of eyelid lacerations. The Board also expressed disapproval of recommendations for limiting the performance of laser procedures to one time per eye and for limiting the types of lasers optometrists are permitted to use.

The Board also expressed concern that the proposed numbers of procedures required during the preceptorship are excessive and will be a barrier to licensure. One board member noted that a chalazion is typically removed only when alternative treatments do not work and on a more urgent basis. It will be difficult for an optometrist to travel to their preceptor's office with short notice to provide this urgent treatment. This will be particularly true initially when many of the preceptors will necessarily need to be in other states with expanded scopes of practice. Board members suggested allowing some of the preceptorship procedures to be simulated. This would allow optometrists to get the necessary experience performing the procedure and could even facilitate experience treating complications.

The Board also expressed concern that even recent graduates would be required to complete a preceptorship even if the optometrist went to a school where students were able to perform the procedures on live, human patients.

OPR Response

OPR does not recommend authorizing the Board of Optometry to define the optometric scope of practice. In all other professions, the legislature has defined the scope of practice, at least broadly, to ensure professionals and the public alike understand the qualifications, abilities, and limitations of the profession's practice. It would be unprecedented in Vermont to permit a professional board to define the profession's scope of practice.

¹⁵⁹ See Appendices 4, 5, 6, and 8.

¹⁶⁰ Vermont Board of Optometry, Special Minutes of the Board of Optometry, *Statement Regarding Expansion of Vermont's Optometric Scope of Practice* (Sept. 27, 2023) (Appendix 13).

OPR's recommended legislative language attempts to address concerns about education and training and patient safety while allowing optometrists to practice to the full extent of their education and training. The main concern OPR has after its review is that the majority of optometrists do not have hands-on experience performing the proposed advanced surgical procedures on live, human patients. OPR's proposal addresses this concern by recommending a preceptorship through which all optometrists wishing to perform these procedures will gain hands-on, real-world experience. Given that OPR's mission is to protect the public, it seems necessary that the agency propose policies that ensure those licensed to perform medical procedures on human beings have education and training in performing those procedures on human beings.

That said, OPR is also charged with recommending the minimum necessary regulation to prevent harm to the public. If the preceptorship OPR recommends is a barrier to entry for optometrists, perhaps it is beyond the minimum necessary regulation. If this is the case, the legislature may want to consider less burdensome policies that ensure optometrists gain experience performing the proposed advanced procedures on live human patients, such as a 100-hour proctorship like Arkansas requires or a collaborative practice agreement through which optometrists are supervised performing the proposed advanced procedures for a specified length of time.

OPR supports expanding the optometric scope of practice to include the proposed advanced procedures so long as optometrists have the training necessary to perform the procedures safely on human patients.

Appendix 1

**Letter to OPR from Senate Government
Operations Committee**



STATE OF VERMONT

SENATE CHAMBER
STATE HOUSE
TELEPHONE: (802) 828-2231

MAILING ADDRESS:
133 STATE ST
MONTPELIER VT 05633-5201

RECEIVED

MAY 20 2022

Secretary of State
Professional Regulation

4/21/2022

Lauron
Dear Director Hibbert,

As you are aware, the Senate Government Operations committee has taken extensive testimony during the 2022 legislative session regarding scope expansion for the profession of Optometry. It seems clear that some, if not all, of the requested expansion should be pursued.

The mission of the Office of Professional regulation is to ensure the safety of the public, and within the aforementioned safety, to seek to allow its licensed professions to practice at its highest level of training.

As we discussed in committee, we would ask OPR to prepare a revision to its 2019 report. In this revision we would specifically ask for the following criterion to be evaluated.

Review:

1. testimony provided to our committee, including any required follow up or clarification OPR may need.
2. Colorado and Washington State reports as well as any others that may be released during the study period.
3. states across the country that allow a higher level of scope than Vermont. Specifically, how their statute works for patient safety, and what procedures/scope is allowed.
4. both historical VA scope as well as current VA scope.
5. information that the Vermont Optometric Association and the American Optometric Association have committed to providing as laid out in 26 V.S.A § 3108.

Within the requested revision and using the information laid out above, and any other data that you feel you may need, please bring back to our committee what legislative language, if any, whether OPR would be willing to support moving forward based on your findings. We request that this report be completed by Monday October 16th, 2023 (~18 months), but would welcome it sooner if your staffing, research, and time allows.

Regards,

Jeanette White for Senate Government Operations

CC: Dr. Dean Barcelow; VT Optometric Association
Stephanie Winter; VT Ophthalmological Society
Heather Shouldice; William Shouldice & Associates LLC

Appendix 2

Vermont Optometric Association Materials



Expanded Scope of Practice supporting documentation

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Introduction

The Vermont Office of Professional Regulation (OPR) mission is to protect the public from incompetent or unethical practitioners through a system of licensure which VOA wholly supports. This includes statutory language stating, "Unprofessional conduct means: Performing treatments or providing services that a licensee is not qualified to perform or that are beyond the scope of the licensee's education, training, capabilities, experience, or scope of practice." **No scope expansion will change the obligation of the doctor to provide services that are within his or her capabilities.**

The Association of Schools and Colleges of Optometry (ASCO), American Board of Optometry (ABO) and American Optometric Association (AOA) have compiled a review of training in Ophthalmic surgery (See Appendix 2). This document provides the information that states have used to understand the U.S. landscape for the Optometry scope of practice and expansion.

We have pulled pieces from this document to provide a clear understanding of education, training, access, and highlight that Vermont scope of practice has fallen behind the education levels of Optometry. Vermont has much to offer newly graduated doctors. We strongly believe that the current scope of practice makes it hard to recruit new talent into our State compared to other states.

Doctor of Optometry Training in the U.S. Department of Veterans Affairs

The U.S. Department of Veterans Affairs (VA) is home to the largest optometric clinical education externship program in the U.S, as an adjunct to the education that takes place in clinics at optometry schools/colleges. Every year there are about 1,400 opportunities for Doctors of Optometry candidates to rotate at VA medical facilities for clinical education and training. Each year over 80 percent of the approximately 1,700 graduates of accredited schools and colleges of optometry have performed public health care services at the VA. All residents receive training in primary eye care and with VA's primarily geriatric patient population, the management of ocular disease is a significant portion of the training experience. In April 2020, the VA issued Directive 1899 affirming that Doctor of Optometry and others should practice to the full scope of their licensure and training. In August 2020, the VA rescinded Directive 1132, removing a previous ban that had prevented Doctor of Optometry from providing therapeutic laser eye procedures to veterans and opening a pathway for them to obtain the necessary credentialing and privileging to provide that care. In 2022, the VA removed language from its Community Care Program guidelines stating that "only ophthalmologists can perform invasive procedures, including injections, lasers and eye surgery" and replaced it with language allowing these services to be provided by "an ophthalmologist or optometrist based on the state licensure of the provider." As a result, optometric clinical education is expanding over time to ensure full scope training opportunities and better support the VA Optometry Service as it works to provide care for about 80% of veterans receiving eye care services annually, perform about 70 percent of the more than 3.4 million select ophthalmic procedures, and provide nearly 99 percent of vision rehabilitation services in low vision clinics and blind rehabilitation centers each year. *Please see Appendix 6 for VA supporting documentation.*

Scope Expansions U.S. Landscape

All states have updated their optometric practice acts over the years to some extent. States have begun to permit some, if not all the latest procedures being taught in optometry programs today. This has been allowed for years.

Scope of Optometric Practice in 2021

As scope of optometric practice in the U.S. continues to evolve, the term “ophthalmic surgery” is recommended as a description of skills that Doctors of Optometry should possess in order to meet the needs of their patient population adequately. These procedures may be routinely performed in the typical office of a Doctor of Optometry, as surgical procedures and the management of their possible complications fall within the established optometric curriculum, assessment tools, and documentation of ALL the Association of Schools and Colleges of Optometry institutions.

States currently have optometric practice acts which include in their scope the ability to perform ophthalmic surgery such as, but not limited to; injections of diagnostic and therapeutic pharmaceutical agents; drainage and/or removal of eyelid chalazia, cysts, abscesses, bullae and seroma; excision and biopsy of cutaneous lesions; repair of eyelid lacerations, and the use of radiofrequency and thermal cautery, use of lasers for limited treatment of Glaucoma and Narrow Angles.

States that allow Full Scope Ophthalmic Surgery:

Alaska, Arkansas, Kentucky, Louisiana, Mississippi, Oklahoma, Wyoming

States that allow Partial Scope Ophthalmic Surgical Procedures:

California, Colorado, Georgia, Idaho, Indiana, Iowa, Kansas, Montana, New Mexico, North Carolina, North Dakota, Oregon, Tennessee, Utah, Virginia, West Virginia

States that allow only injections:

Wisconsin

**Data is current as of January 2022*

ASCO: Framework for Developing Optometric Curriculum Guidelines and Educational Standards for Ophthalmic Surgery

ASCO has established general guidelines for all optometry schools/colleges to reflect the current state of ophthalmic surgery in 2021. For states that permit advanced procedures, optometry schools/colleges have submitted legal affidavits stating that their curriculums covered training these procedures. In some states, boards of optometry have required every school/college in the U.S. has been required to submit legal affidavits in order to license their graduates in these states.

See Appendix 2 to review the ASCO report.

Access and Cost

At first glance Ophthalmologists and Optometrists in Vermont appear to have a lot of overlapping geographical areas of coverage. The problem with this approach is that it does not take into consideration the sub specialization of Ophthalmology. Vermont has the following subspecialty surgeons: Cataract, Glaucoma, Retina, Pediatrics, Neuro-Ophthalmology, Oculoplastics. Depending on the subspecialty of each Ophthalmologist in the State, many will not perform some or all the ophthalmic scope procedures under consideration, this severely limits the pool of surgeons for a given procedure. A simple count does not represent the reality in Vermont due to how rural most of our state is. Patients tend to request certain providers, regardless of wait times due to familiarity. There is no way to know the untold harm that delay in treatment may or may not cause.

State laws mandate reimbursement parity between Optometry and Ophthalmology. A patient who is seen by a Doctor of Optometry will need to cover the additional cost of a surgical consult either through the patient's insurance, or out of pocket, often a combination of both. This fee could be avoided by allowing trained providers to perform the service in office, saving costs to the healthcare system and to our patients.

Reimbursement parity does not exist when a patient is seen at a hospital or within a hospital affiliated provider. Patient cost goes up both in allowable reimbursement for the same fee, and occasionally through facility fees. Patients pay higher rates at hospitals and, depending on where they end up going, large facility fees. Allowing trained Doctors of Optometry to perform the requested scope procedures allows savings to the healthcare system and to patients.

Savings Associated with Scope Expansion

The American Optometric Association received a report from Avalon Health Economics which explores the main benefits of state optometric scope of practice expansion and provide a logical framework through which to assess the value of scope of practice expansion. The Cost-Benefit section provides a simple model to derive the monetary value of scope of practice expansion. It was determined that scope of practice expansion adds \$600 million per year in transaction costs savings and another \$4 billion per year in savings attributable to access-related improvements in health outcomes.

Safety

Currently, there are 24 states that have a higher scope of practice than Vermont. In these states there is no reliable data showing increased risk to patients from expanding optometric scope. The Vermont Optometric Association has argued that readily available statutorily mandated adverse event reporting data, as well as third party malpractice insurer rates are an effective argument on the safety of these procedures for the up to 20+ years they have been allowed in other states. We have provided in testimony, as well as to OPR, data from large malpractice insurers demonstrating no change in costs for States with higher levels of scope.

Education

About Doctor of Optometry Training and Education

Over a four-year period, professional post-baccalaureate education of students pursuing a Doctor of Optometry (O.D.) degree consists of classroom, laboratory, and clinical education, including a progressive clinical experience. This is similar to students pursuing an allopathic (M.D.) or osteopathic (D.O.) medical degree or Dental Medical Degree (DMD).

In the final two years, during rotation, M.D./D.O. students determine their specialty selection D.M.D./O.D. Students begin an immersive training period of doctorate-level health care professional clinical study focused on their pre-chosen specialty. Optometry students focus on the eye, visual system, and associated systemic disease through classroom learning, laboratory exercises, and direct clinical care as like oral. At the end of the four years, optometry and dental students have the option of choosing a residency.

In addition to concentrations on the eye, visual system, and systemic health, optometry students, progress through basic medical sciences in educational and hands-on learning that includes:

- Histology, genetics, and biochemistry
- Human anatomy and physiology including whole body, head/neck, and eye
- Cell and molecular, biology, biochemistry, immunology, and pathology
- Microbiology, pharmacology, therapeutics, and pathology
- Neuroscience, with a concentration on the visual system
- Cardiovascular, respiratory, musculoskeletal, renal, gastrointestinal, and endocrine system anatomy, physiology, and cell biology
- Clinical medicine of systemic diseases and disorders
- Principles of evidence-based medicine.

Doctoral education also includes clinical education unique and specific to Doctor of Optometry in supporting their clinical care role and comprehensive approach to assessment. The curriculum includes demonstrated competency in the knowledge of:

- Geometric, physical, and ophthalmic optics
- Ocular anatomy, physiology, and biochemistry
- Pharmacology
- Ocular diseases and disorders; anterior, posterior, and other structural diseases and their evaluation, management, and treatment
- Neuroanatomy and neuro-ophthalmic disease
- Ocular manifestations of systemic diseases and disorders and their treatment
- Visual neurophysiology and perception
- Binocular/developmental vision, and pediatrics
- Geriatrics; chronic visual impairment; vision loss
- Contact lenses, including therapeutic, refractive, and diagnostic applications
- Ophthalmic Surgery and ocular disease co-management
- Injections, lasers, and advanced ocular techniques.

Doctor of Optometry Program Admission Requirements

Admission requirements for optometric education remain consistent with U.S. pre-medical school requirements. Pre-optometry students are included in undergraduate pre-medical and health professional advising and counseling programs to ensure successful completion of college requirements and planning for successful candidate matriculation into optometry schools and colleges while achieving their undergraduate bachelor's degree.

To successfully gain admission, required pre-optometry undergraduate didactic and laboratory coursework is extensive and covers a wide variety of advanced health, science, and mathematics courses, including general biology, general chemistry, organic chemistry, and physics. Additionally, optometry programs often require a host of associated coursework.

- Human Anatomy and Physiology
- Biochemistry
- Microbiology
- Genetics
- Calculus
- Psychology
- Biostatistics/statistics
- English
- Social science and other humanities.

Optometry Admission Test (OAT) and Other Standardized Exams

All schools and colleges of optometry accept the OAT. Many schools and colleges also accept the GRE, MCAT, DAT, or PCAT in lieu of the OAT. The OAT is a standardized examination designed to measure general academic ability and comprehension of scientific information. It consists of four subtests: Survey of the Natural Sciences (Biology, General Chemistry, and Organic Chemistry), Reading Comprehension, Physics, and Quantitative Reasoning. The OAT is scored on a 200- to 400-point scale in increments of 10. At least one year of college education is required prior to taking the OAT, but most students elect to complete two or more years of college-level coursework prior to taking the exam.

Accreditation

All optometry programs must meet extensive accreditation standards. As with other U.S. health care doctoral training programs, no person may be licensed to practice optometry in the United States unless they have graduated from an accredited school/college of optometry.

The Accreditation Council on Optometric Education (ACOE) is the only accrediting body for professional optometric degree (O.D.) programs, optometric residency programs and optometric technician programs in the United States and Canada.

ACOE is recognized as an accrediting body by two external agencies - the U.S. Department of Education (USDE) and the Council on Higher Education Accreditation (CHEA). Through periodic reviews by both USDE and CHEA, the ACOE demonstrates compliance with their respective criteria.

ACOE serves the public and the profession of optometry by establishing, maintaining, and applying standards to ensure the academic quality and continuous improvement of optometric education that reflect the contemporary practice of optometry. The scope of the ACOE encompasses professional optometric degree programs, optometric residency programs, and optometric technician programs. *In addition, schools/colleges are accredited by one of six regional organizations recognized by the United States Department of Education and the Council for Higher Education Accreditation.*

There are currently 23 U.S. optometry programs and two in Canada accredited by ACOE.

National Boards

All 50 states require successful completion of parts of the National Board of Examiners in Optometry prior to applying for state licensure to practice as a Doctor of Optometry in the U.S. The National Board of Examiners in Optometry (N.B.E.O.) is the independent, not for profit testing organization that oversees and administers board testing for doctor of optometry in the continental U.S. and Puerto Rico.

Established in 1951, N.B.E.O.'s mission is "to serve the public and the profession of optometry by developing, administering, scoring, and reporting results of valid examinations that assess competence."

Part I (Applied Basic Science) is taken the spring of the third year, Part II (Patient Assessment and Management) is taken in December of the fourth year, and Part III (Clinical Skills) is taken any time during your fourth year.

Special National Examinations

Additional opportunities for examinations are accessible to Doctor of Optometry and include both laser and surgical procedures. These have been developed and administered based on evolving individual state licensure and advancing scope of practice requirements, and include:

- Treatment and Management of Ocular Disease (TMOD®)
- Advanced Competency in Medical Optometry (ACMO®)
- The Laser and Surgical Procedures Examination (LSPE™)
- Injections Skill Examination (ISE®)

Ophthalmic Procedures Endorsement - American Optometric Association Model Language

- (a) Upon application, the board shall certify eligible licensees to perform advanced procedures as defined in this Subchapter if the applicant meets requirements set forth by the board, and
 - (i) The licensee shall demonstrate proof of licensure in good standing in the State of Vermont.
 - (ii) The licensee shall demonstrate proof of passage of the (1) Injections Skills and the (2) Laser and Surgical Procedures Examination administered by the National Board of Examiners or other accredited testing body/agency in Optometry, or a similarly rigorous examination administered by a school or college of optometry and approved by the Board of Optometry.

(iii) The licensee shall demonstrate satisfactory completion of a course of instruction approved by the board that may include:

(1) the following didactic classroom instructions:

- (a) laser physics, hazards, and safety;
- (b) biophysics of lasers;
- (c) laser application on clinical optometry;
- (d) laser tissue interactions;
- (e) laser indications, contraindications, and potential complications;
- (f) gonioscopy;
- (g) laser therapy for open angle glaucoma;
- (h) laser therapy for angle closure glaucoma;
- (i) posterior capsulotomy;
- (j) common complications: lids, lashes, lacrimal system;
- (k) medicolegal aspects of anterior segment procedures;
- (l) peripheral iridotomy;
- (m) laser trabeculoplasty;
- (n) minor surgical procedures;
- (o) overview of surgical instruments, asepsis, and O.S.H.A.;
- (p) surgical anatomy of the eyelids;
- (q) emergency surgical procedures;
- (r) chalazion management;
- (s) epiluminescence microscopy;
- (t) local anesthesia: techniques and complications;
- (u) anaphylaxis and other office emergencies;
- (v) radiofrequency surgery;
- (w) post-operative wound care;

(2) The following in laboratory instruction

(a) Lab based Laser instruction on the following;

- (i) Selective Laser Trabeculoplasty
- (ii) Peripheral Laser Iridotomy
- (iii) YAG capsulotomy

(b) Lab based Injection instruction on the following;

- (i) Injections into the eyelid
- (ii) Injections of the subconjunctival space
- (iii) Intramuscular injection
- (iv) Subcutaneous injections
- (v) Intravenous injections
- (vi) Intralesional injections

(c) Lab based surgical instruction on the following;

- (i) Management of lid lesions.

- (3) In vivo instruction for each procedure by an Ophthalmologist or Optometrist who is currently licensed to perform these procedures.
 - (4) A board approved course of instruction shall be:
 - (a) provided by an accredited optometry, osteopathy or medical school;
 - (b) a minimum of 32 clock hours in length;
 - (iv) Beginning with the graduating class of 2020 any optometrist who provides proof that he/she graduated from an optometry school whose program includes all of the training and testing requirements established by the board may be deemed to have met the requirements for certification outlined in section (III) to perform authorized ophthalmic surgery procedures.
 - (v) The board may waive any of the above requirements for an applicant optometrist who is licensed and currently in good standing in a United States jurisdiction having license requirements that are substantially equivalent to the requirements of this chapter.
- (b) An Optometrist licensed under this chapter who possesses the endorsement shall be able to perform the following advanced procedures.
- (i) Anterior segment laser procedures
 - (1) Selective Laser Trabeculoplasty
 - (2) Peripheral Laser Iridotomy
 - (3) Peripheral Laser Iridoplasty
 - (4) YAG capsulotomy
 - (ii) Injections
 - (1) Injections applicable to the diagnostic care or treatment of the eye and its adnexa.
 - (iii) Eyelid Surgical Procedures
 - (1) Removal of benign eyelid and eye growths
 - (2) Chalazion Excision
 - (iv) Other procedures as defined by the Board provided that they are
 - (1) not on the prohibited list of procedures
 - (2) taught at a recognized school or college of optometry.
- (c) The following ophthalmic surgery procedures are excluded from the practice of optometry, except for the preoperative and postoperative care of these procedures: (i) The following procedures:
- (a) Retina laser procedures.
 - (b) Penetrating keratoplasty or corneal transplant.
 - (c) The administration of general anesthesia
 - (d) Surgery done with general anesthesia

(ii) The following non-laser surgical procedures:

- (a) Surgery related to removal of the eye from a living human being.
- (b) Surgery requiring full thickness incision or excision of the cornea or sclera, excluding anterior chamber paracentesis to reduce intraocular pressure in patients with acute closed-angle glaucoma.
- (c) Surgery requiring incision of the iris and ciliary body, including diathermy or cryotherapy
- (d) Surgery requiring incision of the vitreous.
- (e) Surgery requiring incision of the retina.
- (f) Surgical extraction of the crystalline lens.
- (g) Surgical intraocular implants.
- (h) Incisional or excisional surgery of the extraocular muscles.
- (i) Surgery of the eyelid for suspect malignancies or for incisional cosmetic or mechanical repair of blepharochalasis, ptosis, and tarsorrhaphy.
- (j) Surgery of the bony orbit, including orbital implants.
- (k) Incisional or excisional surgery of the lacrimal system other than probing or related procedures.
- (l) Surgery requiring full thickness conjunctivoplasty with graft or flap.
- (m) Pterygium surgery.

(d) Prohibitions

- (1) Performing authorized ophthalmic surgery procedures without endorsement based upon the education requirements outlined in this subchapter shall be grounds for suspension or revocation of an optometry license and/or credentialing to perform authorized advanced procedures.
- (2) Performance of authorized ophthalmic surgery procedures by any person without a valid and current endorsement issued by the board to perform such procedures shall be considered a violation of Subchapter 4.

Doctor of Optometry Degree

Upon successful completion of optometry program requirements, candidates graduate from their accredited schools/colleges of optometry having earned and granted the degree, Doctor of Optometry (O.D.). Doctor of Optometry are then eligible to apply for and take state licensure examinations. Individual state boards of optometry, as independent public agencies, determine requirements for licensure to meet state scope of practice guidelines.

Doctor of Optometry can choose to participate in additional one-year post-graduate residency training programs following graduation from optometry school/college. This experience offers Doctor of Optometry focused training in a clinical area of optometric care such as pediatric optometry, primary care, cornea and contact lens, vision rehabilitation, and ocular disease.

The Doctor of Optometry Curriculum in Detail

While the sequence of course work varies from one program to another, some general characteristics are shared by all.

In the first and second year of the professional program, course work is concentrated in the basic and biomedical sciences (anatomy, physiology, pathology, biochemistry, pharmacology, and public

health, optics, and vision science). These serve as the foundational underpinnings for clinical knowledge and application in the patient care setting. For example, the courses for anatomy and physiology are provided because they provide the required foundations necessary for surgical procedures. Furthermore, the course for physical optics is provided because this course provides the foundational knowledge to understand the properties of lasers. Patient care experience is incorporated with an increasing level of responsibility and increasing student learning expectations, culminating in a 12-month final year comprised entirely of direct patient care in a variety of clinical settings.

Typically, direct patient care experiences begin early in the curriculum. Students begin their clinical experience in pre-clinical skills laboratories with virtual reality simulators and classmates serving as patients in the first year, and then proceed to clinical training with real patients. This training includes obtaining full medical case histories, performing examinations, learning diagnostic and surgical techniques, and discussing treatment options and plans. As the curriculum progresses, students spend part of their time in the classroom and part of their time in the clinic examining, diagnosing, and treating patients with acute and chronic eye diseases. The final year is entirely clinical training where clinicians are supervised one-on-one with an attending optometric physician, which includes off-campus clinical externship rotations. Sites for external rotations are available in the United States and abroad. Clinic settings include military facilities, Veteran's Affairs (VA) hospitals, public health service hospitals, community health centers, and various specialty and private practices. The lengths of the external rotations vary from eight to sixteen weeks.

Sample Curriculum

Please see Appendix 5 for some sample course descriptions, these particularly focus on courses relating to advanced procedures or ophthalmic surgery. Full information on every institution's curriculum and course descriptions are available to the public on the individual schools/colleges' websites. Additional information is available via ASCO website at optometriceducation.org.



Expanded Scope of Practice supporting documentation

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Appendix 4: Avalon Full Report

Appendix 5: Curriculums

Appendix 6: Veterans Affairs (VA)

Appendix 7: Definitions

State	Ophthalmic Surgery	Lumps and Bumps	State Authorized Procedures	Rx Controlled Substances	Rx Hydrocodone	Oral Steroids	Oral Immunosuppressives	Oral Anti-fungals	Glaucoma Authority	Injectable Authority	Diagnostic Testing	In-office Blood Testing	Vision Rehab/Therapy	Punctal Plug and Foreign Body Removal
Alabama				3-5		X	X	X	T&O	A	X	X	R&T	X
Alaska	X	X	P	2!, 3-5	X	X	X	X	T&O	X	X	X	R&T	X
Arizona				2!,3	X	X			T&O	A	X		R&T	X
Arkansas	X	X	P	2!, 3-5	X	X	X	X	T&O	X	X	X	R&T	X
California			P	2!,3	X	X	X	X	T&O	X	X	X	R&T	X
Colorado	X	X	P	2!, 3-5	X	X	X	X	T&O	A	X		R&T	X
Connecticut				2-5	X	X	X	X	T&O	A	X	X		X
D.C.							X		T&O	A	P		R	X
Delaware				2!, 3-5	X	X	X		T&O	A	P	P		X
Florida				3-4 ⁱ					T	A	P		T	X
Georgia		X		2!,3-5	X	X	X	X	T&O	X	P	P	R&T	X
Hawaii						X	X	X	T&O	A	X	X	R&T	X
Idaho		X		2-5	X	X	X	X	T&O	X	X	X	R&T	X
Illinois				2!, 3-5	X	X	X	X	T&O	A	P		R&T	X
Indiana	X	X	P	4 ⁱⁱ		X	X	X	T&O	X	X	X	R&T	X
Iowa			P	2-5	X	X	X	X	T&O	X	X	X	R&T	X
Kansas			P	2-5	X	X	X	X	T&O		X	X	R	X
Kentucky	X	X	X	2!, 3-5	X	X	X	X	T&O	X	X	X	R&T	X
Louisiana	X	X	X	2-5	X	X	X	X	T&O	X	X	X	R&T	X
Maine				3-5				X	T&O	A	X		R&T	X
Maryland						X	X		T	A	X			X
Massachusetts				3-5		X	X	X	T&O		X	X	R&T	X
Michigan				2!, 3-5	X		X	X	T&O		P		R&T	X
Minnesota				4-5			X	X	T&O	A	X	X	R	X
Mississippi	X	X		2!,3-5	X	X	X	X	T&O	X	X	X	R&T	X
Missouri				2-5	X	X	X	X	T&O		X	X	R&T	X
Montana			P	2-5	X	X	X	X	T&O	X	X	X	R&T	X
Nebraska				2-5	X	X	X	X	T&O	A	X	X	R&T	X
Nevada				3-5		X	X	X	T&O		X		R&T	X
New Hampshire				3-4		X	X	X	T&O	A	X			X
New Jersey				2!, 3-5	X	X	X	X	T&O	A	P			X
New Mexico		X		2!, 3-5	X	X	X	X	T&O	X	X	X	R&T	X
New York									T					X
North Carolina			P	2-5	X	X	X	X	T&O	X	X	X	R&T	X
North Dakota			P	3		X	X	X	T&O	X	X	X	R&T	X
Ohio				2-4	X	X	X	X	T&O	A	X			X
Oklahoma	X	X	X	2!, 3-5	X	X	X	X	T&O	X	X	X	R&T	X
Oregon		X		2!, 3-5	X	X	X	X	T&O	X	X	X	R&T	X

State	Ophthalmic Surgery	Lumps and Bumps	State Authorized Procedures	Rx Controlled Substances	Rx Hydrocodone	Oral Steroids	Oral Immunosuppressives	Oral Anti-fungals	Glaucoma Authority	Injectable Authority	Diagnostic Testing	In-office Blood Testing	Vision Rehab/Therapy	Punctal Plug and Foreign Body Removal
Pennsylvania				2!,3-5	X	X	X	X	T&O	A			R&T	X
Rhode Island				2!, 3-5	X	X	X	X	T&O		X	X	R&T	X
South Carolina				2!, 3-5	X		X	X	T&O		X	X	R&T	X
South Dakota				2-5	X	X	X	X	T&O		X	X	R&T	X
Tennessee		X		2-5	X	X	X	X	T&O	X	X	X	R&T	X
Texas				3-5		X	X	X	T&O	A	X	X	R&T	X
Utah		X	P	2!, 3-5	X	X	X	X	T&O	X	X		R&T	X
Vermont				3-5		X	X	X	T&O	A	P		R&T	X
Virginia	X	X	P	2!,3-4	X	X	X	X	T&O	X	X	P	R&T	X
Washington		X		2!, 3-5	X	X	X	X	T&O	X	X	X	R&T	X
West Virginia			P	2!, 3-5	X	X	X	X	T&O	X	X	X	R&T	X
Wisconsin				2!, 3-5	X	X	X	X	T&O	X	X	X	R&T	X
Wyoming	X	X	X	2!,3-5	X	X	X	X	T&O	X	X	X		X

A - anaphylaxis only

P – Performance of Additional Surgical Procedures as Authorized by State Board of Optometry

T&O - topicals and orals

2! - Hydrocodone products only

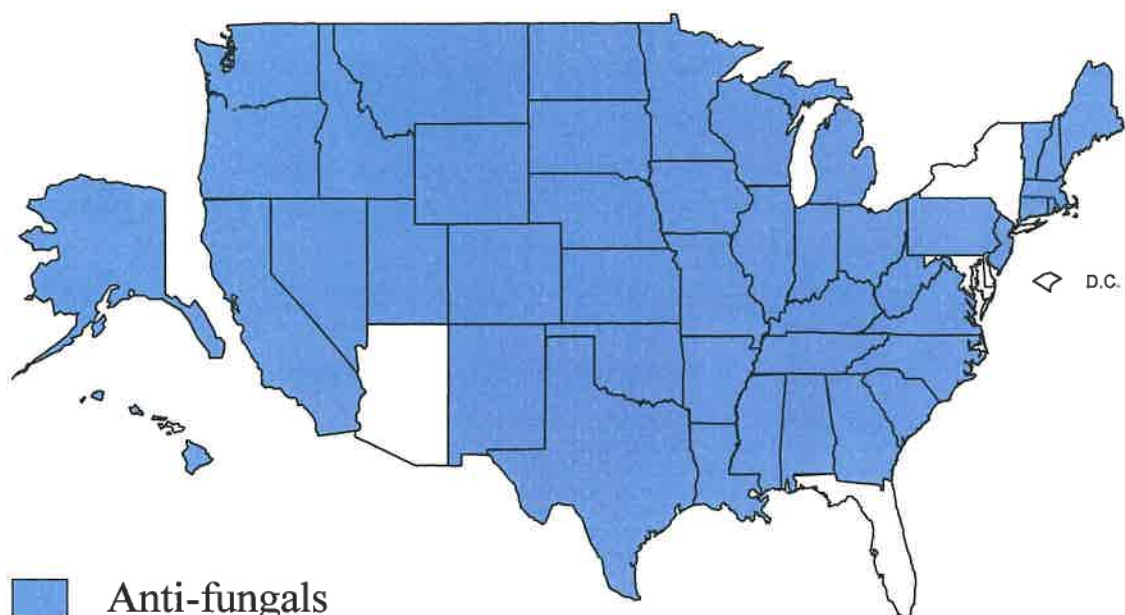
ⁱ APAP w/codeine & Tramadol

ⁱⁱ Tramadol

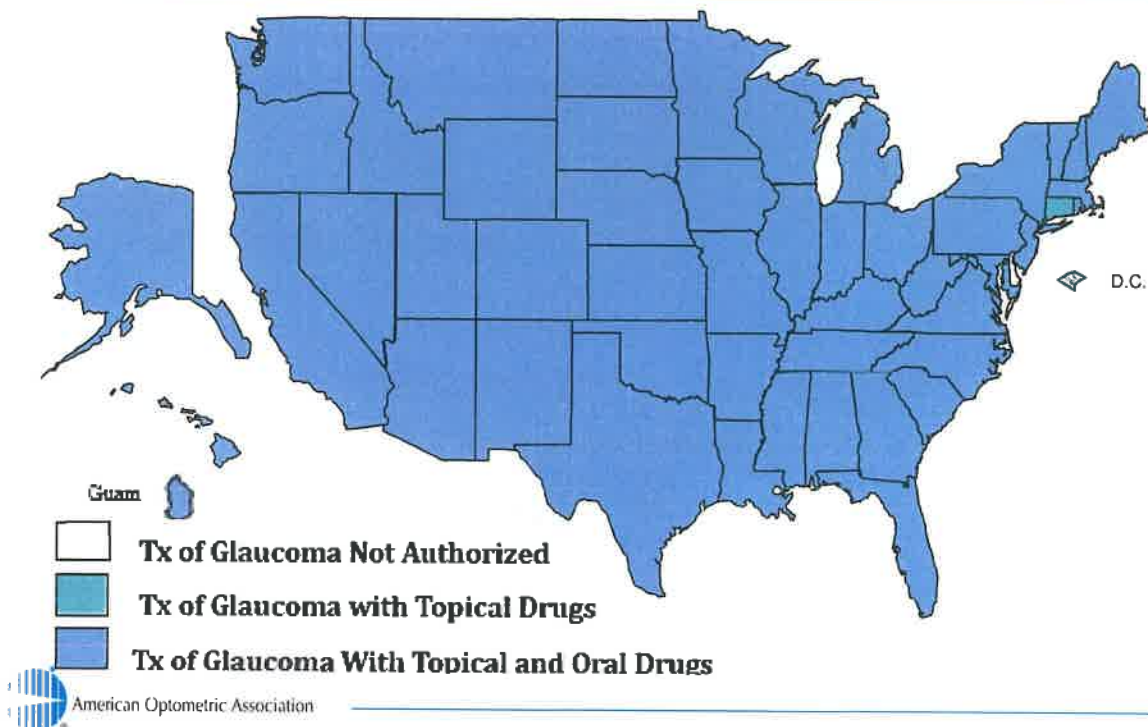
Oral Steroids



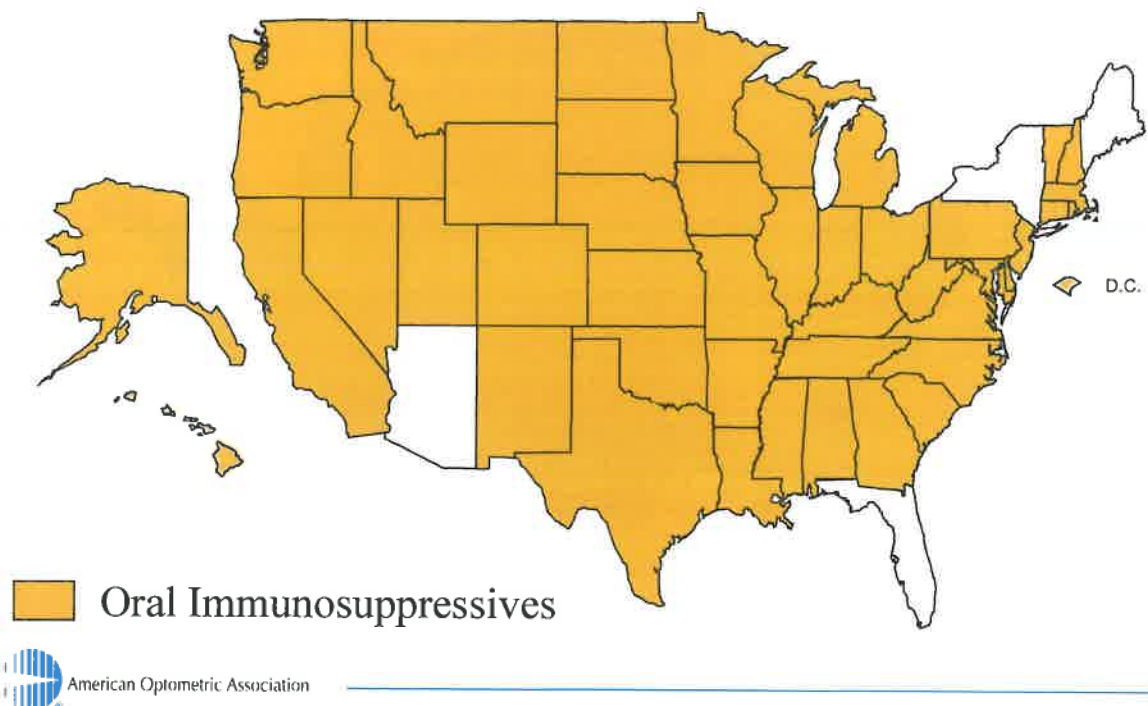
Oral Anti-fungal Medications



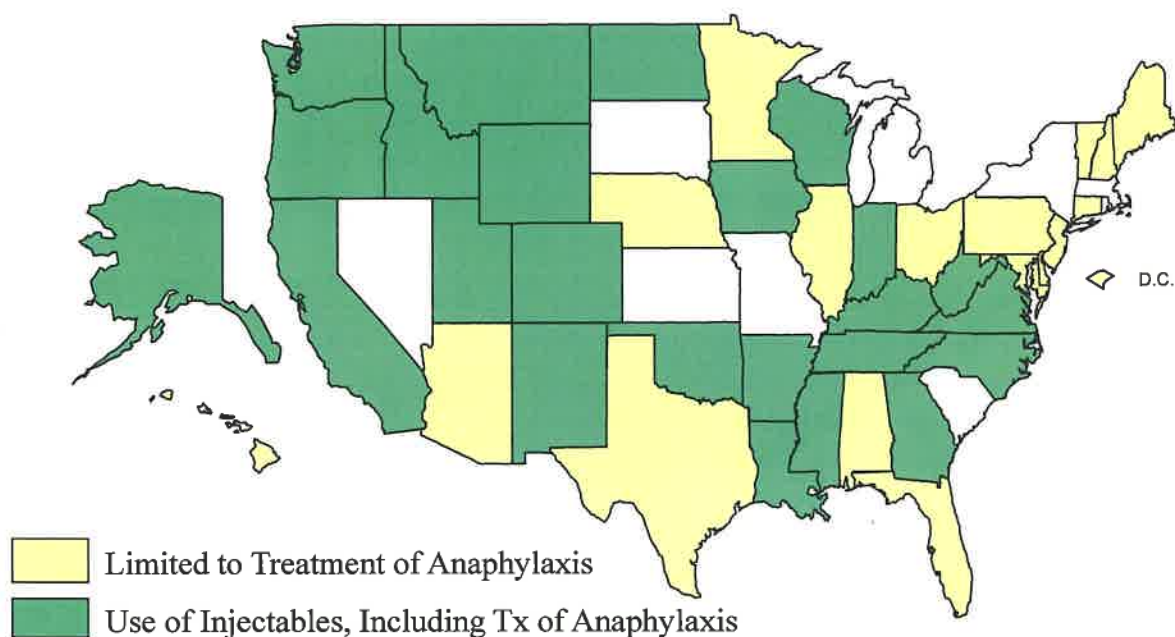
Glaucoma Prescriptive Authority



Oral Immunosuppressives

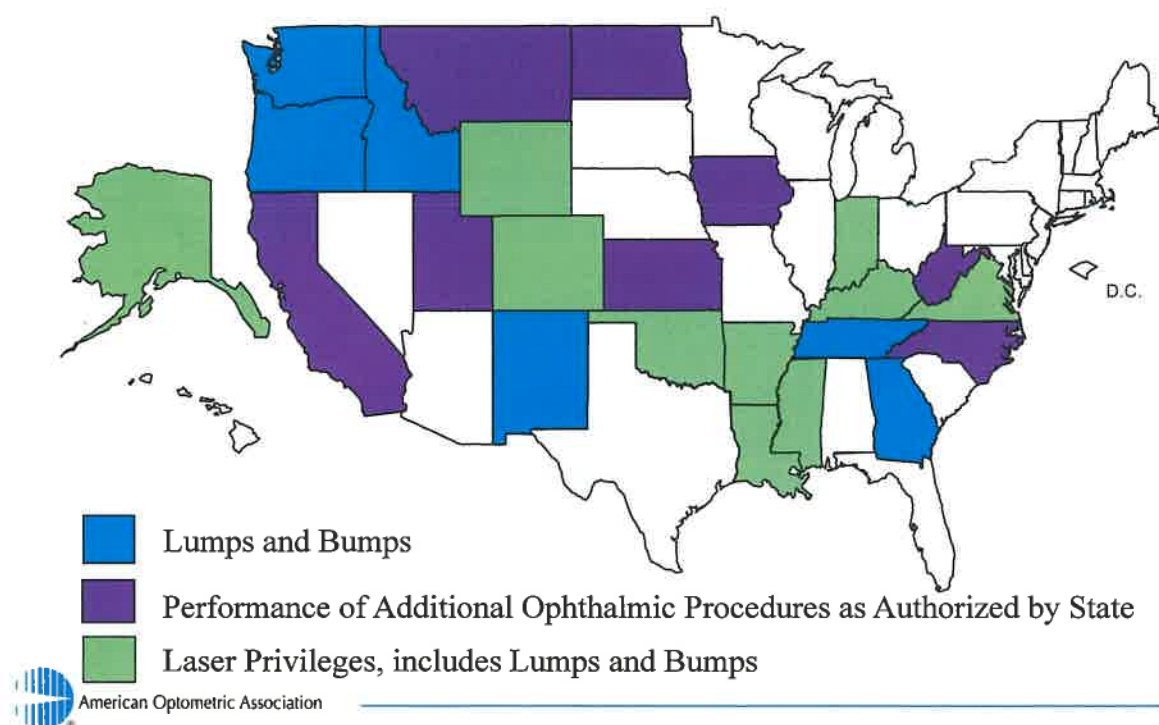


Injectable Authority



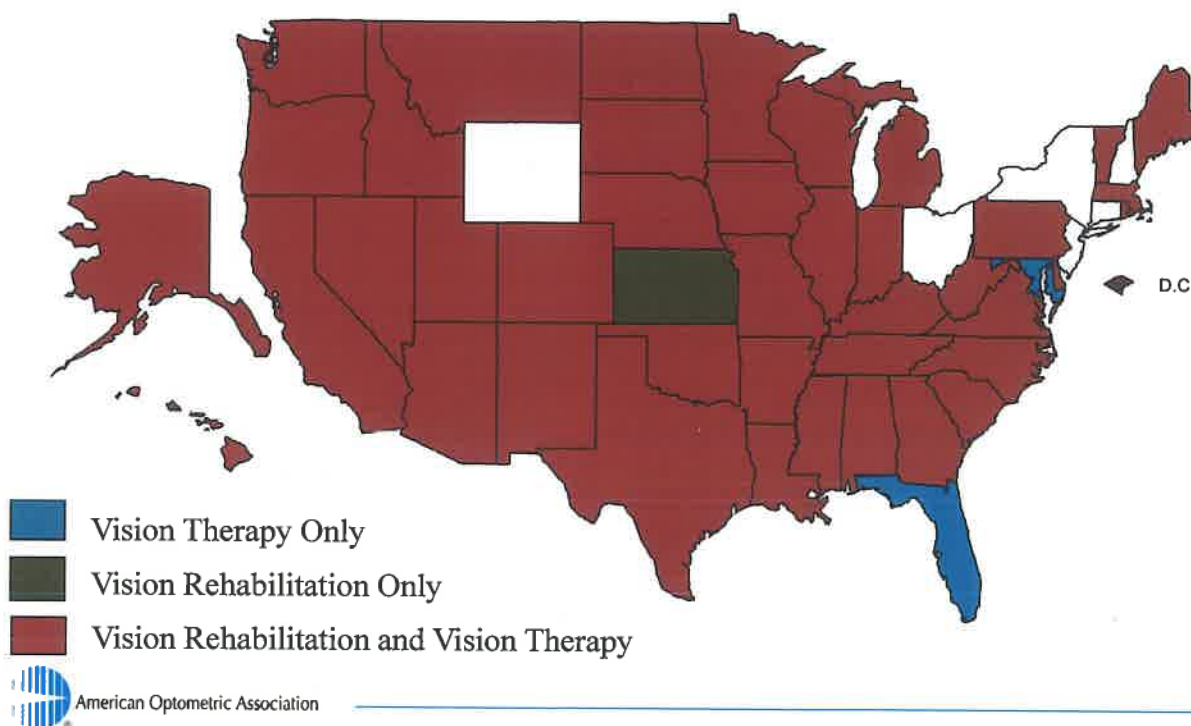
American Optometric Association

Ophthalmic Procedures Beyond Foreign Body Removal and Treatment of the Lacrimal System

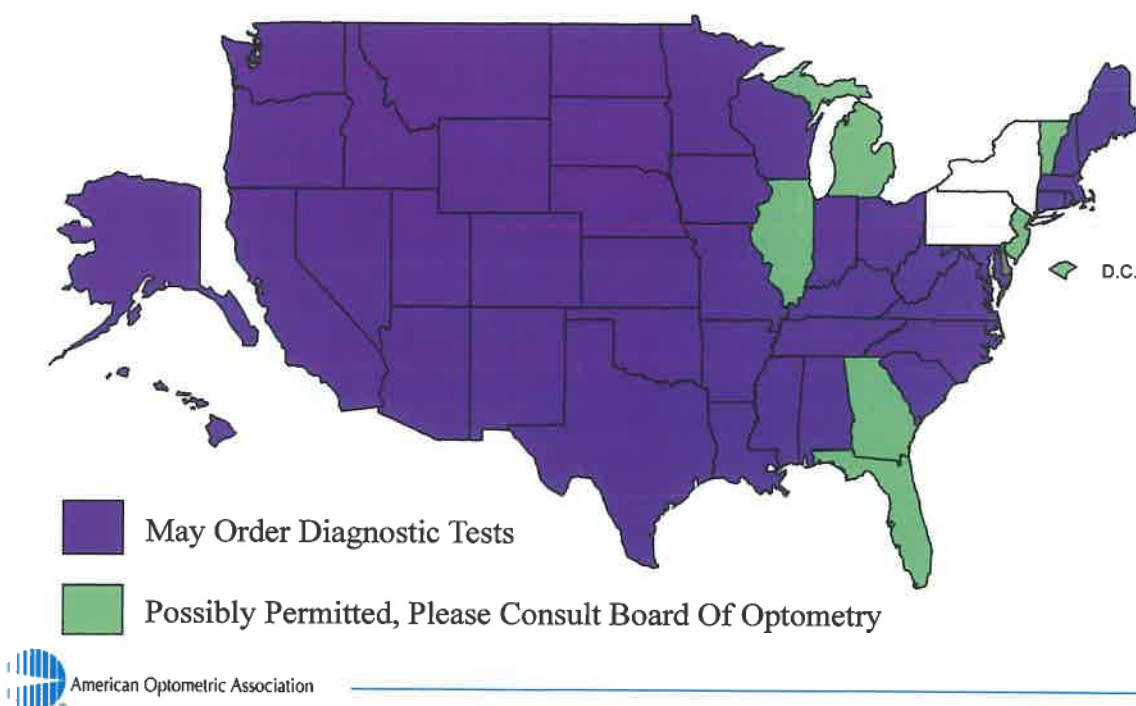


American Optometric Association

Vision Rehabilitation or Vision Therapy



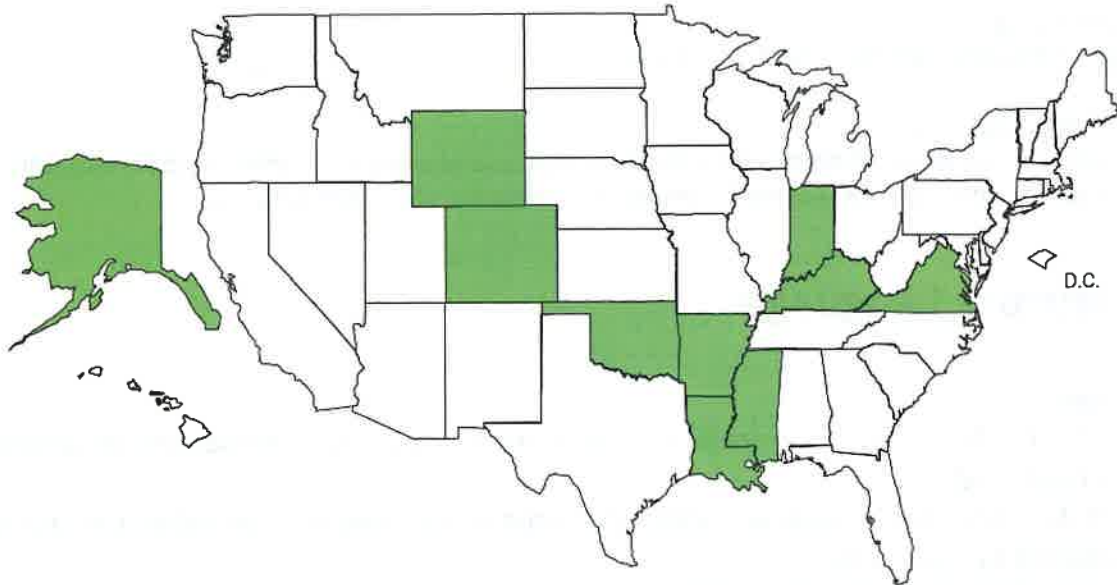
Permitted to Order Diagnostic Testing







States with Laser Surgical Privileges



Alaska (2017)

True board authority scope that allows for the state optometry board to determine what is within scope. Currently performing injections, YAG, SLT and LPI.

Arkansas (passed in 2019, codified in 2020)

Inclusive listing which includes YAG, SLT, injections, lumps and bumps.

Colorado (2022)

Inclusive listing which includes YAG, SLT and LPI. Also allows for corneal cross-linking and injections with sutures.

Indiana (AG Opinion 2019)

Open ended statute allowed for state board interpretation that OD's can perform laser surgical procedures. Law has been upheld by an AG opinion.

Kentucky (2011)

Exclusive law which lists those procedures not allowed, and also gives the state board the authority to determine future procedures as well. Can perform laser procedures and injections.

Louisiana (2013)

Inclusive law which allows for YAG, SLT and LPI.

Mississippi (2021)

Inclusive law which allows for YAG.



POSITION PAPER

Optometry Graduates' Clinical Competencies

Approved, ASCO Board of Directors, 11/15/21

Optometric education is the foundation upon which clinical practice skills and competencies are learned, practiced and evaluated, with rigor, to meet the highest possible levels for eye health and vision care. ASCO's position is that:

- Life-long learning builds on this educational foundation.
- The advancement of optometric education constantly evolves to meet the demands of the patient population, in order to best serve its primary eye health and vision care needs.
- Optometry is a legislated profession, and each state's scope of practice is dictated by the laws within that state, which are enacted by that state's legislative body according to the available evidence which supports the contemporary practice of optometry. This evidence represents a valuable resource for well-informed scope of practice.
- The Schools and Colleges of Optometry are upheld by elected officials at the state and federal levels as the definitive leaders on curricula that teach all aspects of comprehensive optometric education.

All optometry schools and colleges within the United States are members of the Association of Schools and Colleges of Optometry (ASCO) that follow the standards of the Accreditation Council on Optometric Education (ACOE), thus ensuring their graduates have attained the clinical competencies necessary for the independent practice of contemporary optometry. Furthermore, all ASCO member institutions regularly ensure ongoing curricular review and evaluation with guidance from appropriate stakeholders. All accredited schools and colleges of optometry teach to the highest levels of optometric practice, so as to best prepare future Doctors of Optometry and future leaders of the profession.



Framework for Developing Optometric Curriculum Guidelines and Educational Standards for Ophthalmic Surgery

Statement of Purpose

Patients benefit from increased choice, access, and competition for services provided by qualified health care professionals. Fragmentation of standards in optometry, scope of practice, and expectations across the United States create uncertainty and confusion for the public, profession, regulators, students, and educators.

As the result of an iterative process that began with a project team appointed by the American Optometric Association, and with input from the Association of Schools and Colleges of Optometry (ASCO), a preliminary list of core competencies and objectives are provided as a framework for a clear, concise plan for stakeholders to encourage discussion and action for increasing patient access to ophthalmic surgery. These proposed competencies are a need-based addition to the entry-level student learning outcomes endorsed by ASCO, which are defined in the *2011 Attributes of Students Graduating from the Schools and Colleges of Optometry*.

Similar to the standards developed for dental laser education in 1999, this document describing competencies in ophthalmic surgery is “intended to provide guidance to Doctors of Optometry and educators, and to assure the public on the issues of education, competency, and quality of care.”¹ The responsibility of demonstrating competency in ophthalmic surgery is profession-wide and achieved through entry-level education in the schools and colleges of optometry and may be supplemented with post-graduate education in residency. For existing Doctors of Optometry without entry-level preparation in ophthalmic surgery, post-graduate continuing education workshops utilizing blended learning technologies would be appropriate.⁹

Several states currently have optometric practice acts which include in their scope the ability to perform ophthalmic surgery such as but not limited to: injections of diagnostic and therapeutic pharmaceutical agents; drainage of eyelid chalazia, cysts, abscesses, bullae and seroma; excision and biopsy of cutaneous lesions; repair of eyelid lacerations, removal of foreign bodies of the cornea and conjunctiva; probing/irrigation of the lacrimal drainage structures; the use of ultraviolet, visible, and infrared radiation for treatment of specific ocular conditions; and the use of radiofrequency and thermal cautery.

The term “ophthalmic surgery” is recommended as a description of skills Doctors of Optometry should possess in order to meet the needs of the patient population adequately. These procedures may be routinely performed in the typical office of a Doctor of Optometry, as surgical procedures and the management of their possible complications, fall well within the established optometric curriculum, assessment tools, and documentation of the ASCO institutions.¹⁰

These curriculum guidelines support the major tenets of health care reform by broadening access to care, providing clarity of the standards for practicing at the highest level of licensure, potential cost savings by reducing duplicate testing inherent in a referral-only based system, and the opportunity to increase patient satisfaction.

Process

The framework draws substantially from the Accreditation Council for Graduate Medical Education (ACGME) core competencies, the previously mentioned ASCO 2011 “Attributes” Report, the ASCO Functional Standards for Optometric Education referenced during the admissions process at all schools and colleges of optometry, Accreditation Council on Optometric Education (ACOE) standards for the professional optometric degree, Northeastern State University Oklahoma College of Optometry (NSUOCO) Surgical Anatomy and Introduction to Office-based Surgery (OPT 7042) Course, and coursework of Southern College of Optometry, and the Illinois College of Optometry.

The framework does not specify an exact number of credit hours, contact hours, observations or performed procedures. Educational research over the past two decades has advanced our knowledge of learning and techniques best suited to facilitate learning. The strategies and methods recommended today are not limited to the strategies of the past. Thanks to the emergence of new technology-based educational tools, we can now offer today’s learner a more valuable experience based on interaction and experimentation.⁹ Studies have demonstrated that authentic learning activities support the acquisition of knowledge that cultivates the kinds of skills that are lasting and more portable.¹³

Per the 2011 *Attributes of Students Graduating from the Schools and Colleges of Optometry Report*:

“Health care education programs and their accreditors must focus on the student’s (provider’s) demonstration of competency for which attitudes, knowledge and skills are pre-requisite.”

The important and valuable task of managing and/or evaluating the achievement of educational outcomes certifying that graduates of Schools and Colleges of Optometry possess appropriate attributes to allow them to serve the needs of the public is an ongoing and significant task.”⁴

The three pillars for the core competencies for entry-level ophthalmic surgery include: **1) Professional Values and Ethics; 2) Knowledge; and 3) Skill**. Each core competency is accompanied by a list of suggested objectives which provide examples of activities to measure knowledge, skill, and outcomes. **The framework is a starting point and is not meant as a prescriptive list of activities to restrict, limit, or regulate.** In fact, the project team looks forward to broad engagement and discussion with stakeholders to facilitate implementation. The “skills” competencies expand upon the entry-level student learning outcomes in the 2011 ASCO Attributes Report, which include: “...the ability to prescribe or use ophthalmic materials, contact lenses, vision therapy, low vision devices, pharmaceuticals, and certain surgical

procedures, to treat and otherwise manage common vision disorders and disease,⁴ “and specific procedures utilizing injections, biopsy, excision, curettage, irrigation, ultraviolet radiation, radiofrequency and thermal cautery, to treat and manage vision disorders and disease.

Educational Structure

The process we used to develop the framework for core competencies and objectives was modeled after the work of the ASCO Low Vision Educator Special Interest Group (SIG). An iterative process using the Delphi Survey Technique and Nominal Group Technique led to consensus and has been used in other health outcomes research.

While the project team sponsor has been the American Optometric Association (AOA), with further input from ASCO, the intent is to have broad stakeholder engagement from other professional associations (e.g., AOA, AAO, ASCO); state associations; regulatory boards (e.g., ARBO and individual states); assessment/testing organizations, (NBEO, ABO, ACOE); and interested optometrists.

This initial draft report is submitted in fulfillment of the charge from the 2017 AOA House of Delegates to investigate a process to bring together stakeholders across the profession, accreditation, and regulatory agencies to develop a way forward for increasing patient access to ophthalmic surgery.

Project Team Members

The project team consists of five optometrists with varied volunteer and practice experience spanning multiple optometric organizations. The team includes Christopher Wolfe, OD, FAAO;; Richard Castillo, OD, DO;; Gregory Moore, OD;; Stanley Woo, OD, MS, MBA, FAAO;; Chris Wroten, OD;; and AOA staff member Catherine Hendricks.

The Government Affairs Committee of the Association of Schools and Colleges of Optometry (ASCO) has facilitated feedback from the schools and colleges of optometry through review by the ASCO Academic Affairs Committee, ASCO Clinical Affairs Committee, ASCO Chief Academic Officers, and the ASCO Board of Directors.

A. Professional Values and Ethics^{3,4}

- A.1. Expected to provide patient care that is compassionate, appropriate, and effective for the promotion of health and the treatment of health problems.
 - A.1.1 Be respectful and responsive to individual patients' preferences and needs, and ensure their values guide all clinical decisions¹
 - A.1.2 Be mindful and apply varying dimensions of compassion including attentiveness, active listening, helping, and understanding²
- A.2. Expected to demonstrate the ability to investigate and critically evaluate their care of patients, to appraise and assimilate scientific evidence, and to continuously improve patient care based on perpetual self-evaluation and life-long learning.^{3,4}
 - A.2.1 Identify strengths, deficiencies, and limits in one's knowledge and expertise
 - A.2.2 Systematically analyze practice using quality improvement methods and implement changes with the goal of practice improvement

- A.2.3 Incorporate formative evaluation feedback into daily practice
- A.2.4 Employ evidence-based practice and participate in learning and research activities to the extent possible⁷
- A.2.5 Working knowledge of applicable Clinical Practice Guidelines (AOA) and Preferred Practice Patterns (AAOphthalmology)
- A.2.6 Set learning and improvement goals
- A.3. Demonstrate a commitment to fulfilling professional responsibilities and an adherence to ethical principles.
 - A.3.1 Responsiveness to patients needs that supersede self-interest
 - A.3.2 Compassion, integrity, and respect for others
 - A.3.3 Demonstrate commitment to continuity of surgical care
 - A.3.4 Accountability to patients, society and the optometric profession
 - A.3.5 Refer to and make visible the Optometric Oath as a resource guiding clinical practice philosophy
 - A.3.6 Adherence to patient privacy and protection policies
- A.4. Participate in identifying system errors and implementing potential systems solutions, including participation in disease and clinical registries and government reporting programs as appropriate.
 - A.4.1 Apply quality improvement to identify hazards in patient care with the objective to improve outcomes⁷
 - A.4.2 Participate in a qualified clinical data registry, like AOA MORE
 - A.4.3 Participate in prescription monitoring programs (PMP)
 - A.4.4 Awareness of reporting options and requirements to state, regional, or national authorities
 - A.4.5 Maintenance of procedure logs in various practice settings
 - A.4.6 Report adverse outcomes in ophthalmic surgery as part of quality assurance

B. Knowledge^{3,4}

- B.1. Expected to demonstrate knowledge and application of established and evolving biomedical, clinical, epidemiological, and social-behavioral sciences to patient care.
 - B.1.1 Must demonstrate competence in their knowledge of basic and clinical sciences specific to optometry and ophthalmic surgery
 - B.1.2 Evidence-based medicine
 - B.1.3 Outcomes-based registries
- B.2. Able to implement appropriate infection control, cleaning, and sterilization protocols, as well as biohazardous waste disposal procedures.
 - B.2.1 Aseptic technique
 - B.2.2 Awareness, implementation, and documentation of applicable OSHA requirements
 - B.2.3 Personal protective equipment/barriers for patient and provider
- B.3. Expected to demonstrate an understanding of Applied Basic Sciences.
 - B.3.1 Integration and clinical application of anatomy, physiology, hemostasis, histopathology,

- and pathophysiology. Describe actions, mechanisms, and applications of relevant pharmacological and anesthetic effects on organ systems and adverse reactions
- B.3.2 Familiarity with the principles of energy-tissue interactions including laser, visible ultraviolet and infrared light, electrocautery and radiofrequency sources
- B.4. Demonstrate knowledge of intra and postoperative complications and how to manage them.
 - B.4.1 Hemorrhaging
 - B.4.2 Infection
 - B.4.3 Intraocular hypertension
 - B.4.4 Inflammation
 - B.4.5 Anesthesia and anesthesia-related adverse events
 - B.4.6 Adverse pharmaceutical reactions including anaphylaxis
 - B.4.7 Wound healing complications
 - B.4.8 Other potential complications, relevant to the procedure
- B.5. Expected to understand ophthalmic surgical instrumentation, including its purpose, design, intended use, and related equipment and supplies.
 - B.5.1 Equipment for injection
 - B.5.2 Wound closure
 - B.5.3 Surgical instrumentation
 - B.5.4 Ophthalmic lasers
 - B.5.5 Radiosurgical technology
 - B.5.6 Personal protective equipment for providers and patients
 - B.5.7 Sterilization of surgical equipment
 - B.5.8 Asepsis and sterile field creation
 - B.5.9 Ancillary equipment and supplies
- B.6. Working knowledge of the laws and regulations relating to ophthalmic surgery.
 - B.6.1 Occupational Safety and Health Administration (OSHA)
 - B.6.2 State scopes of practice
 - B.6.3 Centers for Medicare and Medicaid Services (CMS)
 - B.6.4 Appropriate coding and billing practices
 - B.6.5 Accreditation and credentialing – e.g., Accreditation Council on Optometric Education (ACOE), American Board of Optometry (ABO), Joint Commission (surgery centers, and hospitals)
 - B.6.6 Stark and anti-kickback statutes
- B.7. Demonstrates an awareness of and responsiveness to the larger context and system of health care, as well as the ability to call effectively on other resources in the system to provide optimal health care.¹⁴
 - B.7.1 Work effectively in various health care delivery settings and systems relevant to their clinical discipline
 - B.7.2 Coordinate patient care within the health care system relevant to their clinical discipline
 - B.7.3 Advocate for quality patient care and optimal patient care outcomes
 - B.7.4 Incorporate considerations of cost awareness and risk-benefit analysis inpatient and/or

- population-based care as appropriate
- B.7.5 Work in inter-professional teams to enhance patient safety, care and improve quality
 - B.7.6 Participate in identifying system errors and implementing potential systems solutions

C. Skills^{3,4,8}

- C.1. Ability to obtain an appropriate case history and proper informed consent
- C.2. Be able to properly document an optometric surgical procedure report following the standards set by the JCAHO and AAAHC for sufficient information to:
 - C.2.1 Identify the patient
 - C.2.2 Support the diagnosis
 - C.2.3 Justify the treatment
 - C.2.4 Document the postoperative course and results
 - C.2.5 Promote continuity of care
- C.3. Appropriately evaluate and assess the ophthalmic and general medical indications and contraindications for ophthalmic surgery in order to obtain a valid informed consent, including alternatives, risks, benefits, and limitations or contraindications.
- C.4. Provide acute and long-term post-procedure care for ophthalmic surgery.
 - C.4.1 Management and/or treatment of adverse events
 - C.4.2 Maximizing procedural outcomes and systematic assessment for quality improvement
 - C.4.3 Sequelae of procedure complications
 - C.4.4 Wound healing
 - C.4.5 Medications
 - C.4.6 Necessity for further or ongoing intervention or consultation
- C.5. Manage acute and chronic complications which may be associated with ophthalmic surgery and anesthesia.
 - C.5.1 Supportive training (e.g., CPR, Basic Life Support)
 - C.5.2 Ability to manage early and late stage wound complications
 - C.5.3 Ability to identify and respond to intra and postoperative systemic complications.
 - C.5.4 Ability to utilize resuscitative equipment
- C.6. Expected to demonstrate the psychomotor skills and ASCO Functional Standards necessary to safely and effectively perform procedures.
 - C.6.1 Coordination and control of activity in free space and/or through magnification and illumination (e.g., manual dexterity, eye-hand coordination, and kinesthetic sense)
- C.7. Expected to demonstrate appropriate use, indication, and action of ophthalmic ultraviolet, visible, and infrared radiation LASER procedures
 - C.7.1 Trabeculoplasty
 - C.7.2 Post-cataract capsulotomy
 - C.7.3 Peripheral iridotomy
 - C.7.4 C.6.4 Refractive corneal modification for purposes of refractive changes

- C.8. Expected to demonstrate appropriate use, indication, and action of ophthalmic radiofrequency and thermal cautery procedures
 - C.8.1 Procedural hemostasis
 - C.8.2 Lesion removal
- C.9. Expected to demonstrate the psychomotor and cognitive skills necessary to perform nasolacrimal procedures
 - C.9.1 Punctal dilation and irrigation
 - C.9.2 Lacrimal probing
 - C.9.3 Punctal occlusion
 - C.9.4 Punctoplasty
- C.10. Expected to demonstrate the psychomotor and cognitive skills necessary to perform corneal procedures
 - C.10.1 Foreign body (FB) removal
 - C.10.2 Epithelial debridement
 - C.10.3 Emergent paracentesis
 - C.10.4 Cornea/Photorefractive Keratectomy
 - C.10.5 Cornea/Collagen cross-linking
 - C.10.6 Microstromal puncture
- C.11. Expected to demonstrate the psychomotor and cognitive skills necessary to perform conjunctival procedures
 - C.11.1 FB removal
 - C.11.2 Lymphatic cyst removal
 - C.11.3 Granuloma removal
 - C.11.4 Biopsy
- C.12. Expected to demonstrate the psychomotor and cognitive skills necessary to administer local and topical anesthesia effectively
 - C.12.1 Local anesthesia toxicity and management
 - C.12.2 Allergic reaction and anaphylaxis
 - C.12.3 Infiltrative local anesthesia
 - C.12.4 Regional anesthesia
- C.13. Expected to demonstrate the psychomotor and cognitive skills necessary to perform injection techniques effectively
 - C.13.1 Intradermal
 - C.13.2 Subcutaneous
 - C.13.3 Subconjunctival
 - C.13.4 Intralesional
 - C.13.5 Intramuscular
 - C.13.6 Venipuncture
 - C.13.7 Intraocular

- C.14. Expected to demonstrate the psychomotor and cognitive skills necessary to perform procedures on the lids and adnexa effectively
 - C.14.1 Suture techniques, including suture removal
 - C.14.2 Lesion excision, scalpel, scissors, dermablade, curette
 - C.14.3 Lesion incision and curettage
 - C.14.4 Cutaneous lesion biopsy
 - C.14.5 Intralesional injection
 - C.14.6 Lesion radiosurgical destruction
 - C.14.7 Laceration repair
 - C.14.8 Everting lid sutures for involutional entropion
- C.15. Expected to demonstrate effective, culturally competent, interpersonal communication skills, oral and written, that result in a clear understanding of health information by patients, their families, and health professionals which result in meaningful outcomes for the patient
 - C.15.1 Communicate effectively with patients, families, and the public, as appropriate, across a broad range of socioeconomic and cultural backgrounds
 - C.15.2 Communicate effectively with physicians, other health professionals, and health related agencies
 - C.15.3 Maintain comprehensive, timely, and legible electronic, or paper, health records, where applicable
 - C.15.4 Act in a consultative role to other physicians and health professionals
 - C.15.5 Work effectively as a member or leader of a health care team or other professional groups

References

1. *Committee on Quality Health Care in America, Institute of Medicine. Crossing the Quality Chasm: a New Health System for the 21st Century. Washington, D.C.: National Academy Press, 2001. Print.*
2. van der Cingel M. Compassion in care: A qualitative study of older people with a chronic disease and nurses. *Nurse Ethics*. 2011;18(5):672-85.
3. Accreditation Council for Graduate Medical Education (ACGME) [Program Requirements for Graduate Medical Education in Ophthalmology](#). Section IV. Educational Program. February 8, 2016:12-15.
4. American Schools and Colleges of Optometry. [Attributes of Students Graduating from Schools and Colleges of Optometry](#). A 2011 Report.
5. [Shane Sinclair](#), [Jill M. Norris](#), [Shelagh J. McConnell](#), [Harvey Max Chochinov](#), [Thomas F. Hack](#), [Neil A. Hagen](#), [Susan McClement](#), and [Shelley Raffin Bouchal](#). Compassion: a scoping review of the healthcare literature. [BMC Palliative Care](#). 2016; 15: 6.
6. Lown BA, Rosen J and Martitila J. An Agenda for improving compassionate care. *Health Affairs* 2011;30(9):1772-1778.
7. Committee on the Health Professions Education Summit, Institute of Medicine. [Health Professions Education: A bridge to quality](#). Washington, D.C.: National Academies Press, 2003.
8. American Schools and Colleges of Optometry. [Optometry: A Career Guide](#). Functional Standards for Optometric Education. Spring 2016:12-15.

9. Venable J., Support for Online CPR/AED Recertification of Optometric Physicians Practicing in the State of Tennessee – A Position Paper. Tennessee State Board of Optometry. 2015.
10. Venable J., Curricular Components of Training for Optometric Physicians in the diagnosis, Treatment, and Management of Eyelid Lesions and Injections – A Position Paper, Tennessee Association of Optometric Physicians, 2013.
11. Dental & Oral Surgical Procedures, United HealthCare Oxford Administrative Policy, 2017.
12. Lievens C., Venable, J. The Use of Local Anesthesia by Optometric Physicians in conjunction with the treatment of eyelid lesion – A Position Paper. Tennessee Association of Optometric Physicians. 2013
13. Herrington J., Oliver R. & Reeves, TC. An Instructional Design Framework for Authentic Learning Environments. Educational Technology Research & Development. 2007; 48(3) 23-48
14. Bierwas D., Rogers O., Taubman B., et. al. Developing Clinical Faculty Understanding of Interprofessional Education: An Inter-Institutional, Interprofessional Approach. Internet Journal of Allied Health Sciences and Practice. 2017. 15(4) Article 9
15. Kumar S., Venable J. Model Approach for Incorporating Informatics in Optometric Curriculum. Journal of Optometric Education. Vol 39, No 2. 2014

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Doctor of Optometry Professional Education: A Review of Training in Ophthalmic Surgery

As with the exponential growth of medical knowledge in today's evolving health care arena, the profession of Optometry continues to incorporate the latest clinical technologies and advances in patient care. Optometric education in 21st century eye health and vision care continues to combine cutting-edge, expanded didactic and clinical curricula. For the U.S. to achieve optimum population health outcomes, this knowledge and expertise must be made adaptable to augmented community wide access. Doctors of optometry require modernization of state practice acts that incorporate today's educational and clinical advances into contemporary scope of practice.

Scope of practice of health care professions are defined by state legislatures. To address questions regarding what today's Doctor of Optometry graduates are learning and how they are trained in preparation to deliver comprehensive eye care, this document provides an overview of today's professional Doctor of Optometry programs.

Definition of Optometry

Doctors of optometry take a leading role in patient care with respect to eye health and vision care. Doctors of optometry examine, diagnose, treat, and manage diseases, injuries, and disorders of the visual system, the eye, and associated structures as well as identify, diagnose and coordinate care of related systemic conditions affecting the eye. As primary health care providers, Doctors of optometry have extensive, ongoing training to examine, diagnose, treat and manage ocular disorders, diseases and injuries, and ocular complications and manifestations of systemic diseases. Doctors of optometry are the nation's front-

line primary eye care providers; doctors of optometry provide more than two-thirds of primary eye health and vision care in the U.S. Trend analysis of Medicare Physician/Supplier data show an increase of more than 740,000 patients for optometry and a decrease of more than 450,000 patients for ophthalmology, as measured over the last six years. This represents a 12.3% increase in total persons with optometry utilization and a 4.2% decrease in total persons with ophthalmology utilization, consistent with a growth of primary care.ⁱ

About Doctor of Optometry Training and Education

Professional post-baccalaureate education of students pursuing a Doctor of Optometry (O.D.) degree consists of classroom, laboratory, and clinical education, including a progressive clinical experience over four years, similar to students pursuing an allopathic (M.D.) or osteopathic (D.O.) medical degree or Dental Medical Degree (DMD). In the final two years when M.D./D.O. students are doing rotations to determine their specialty selection D.M.D./O.D. students begin a immersive training period of doctorate-level health care professional clinical study focused on their pre-chosen specialty. Optometry students focus on the eye, visual system, and associated systemic disease through classroom learning, laboratory exercises, and direct clinical care and dental students do likewise for oral systems. At the end of the four years optometry and dental students have the option of choosing a residency, whereas medical and osteopathic students must select and fulfill a residency requirement to practice their speciality.

In addition to concentrations on the eye, visual system, and systemic health, optometry students, progress through basic medical sciences in didactic and hands-on learning that includes:

- Histology, genetics, and biochemistry
- Human anatomy and physiology including whole body, head/neck, and eye
- Cell and molecular, biology, biochemistry, immunology, and pathology
- Microbiology, pharmacology, therapeutics, and pathology
- Neuroscience, with a concentration on the visual system
- Cardiovascular, respiratory, musculoskeletal, renal, gastrointestinal, and endocrine system anatomy, physiology and cell biology
- Clinical medicine of systemic diseases and disorders
- Principles of evidence based medicine.

Doctoral education also includes didactic and clinical education unique and specific to doctors of optometry in supporting their clinical care role and

comprehensive approach to assessment. The curriculum includes demonstrated competency in the knowledge of:

- Geometric, physical, and ophthalmic optics
- Ocular anatomy, physiology, and biochemistry
- Pharmacology
- Ocular diseases and disorders; anterior, posterior, and other structural diseases and their evaluation, management, and treatment
- Neuroanatomy and neuro-ophthalmic disease
- Ocular manifestations of systemic diseases and disorders and their treatment
- Visual neurophysiology and perception
- Binocular/developmental vision, and pediatrics
- Geriatrics; chronic visual impairment; vision loss
- Contact lenses; including therapeutic, refractive, and diagnostic applications
- Ophthalmic Surgery and ocular disease co-management
- Injections, lasers, and advanced ocular techniques.

Doctor of Optometry Training in the U.S. Department of Veterans Affairs

The U.S. Department of Veterans Affairs (VA) is home to the largest optometric clinical education externship program in the U.S, as an adjunct to the education that takes place in clinics at optometry schools/colleges. Every year there are about 1,400 opportunities for Doctor of Optometry candidates to rotate at VA medical facilities for clinical education and training. Each year over 80 percent of the approximately 1,700 graduates of accredited schools and colleges of optometry have performed public health care services at VA. All residents receive training in primary eye care and with VA's primarily geriatric patient population, the management of ocular disease is a significant portion of the training experience. In April 2020, the Veterans Health Administration (VA) issued Directive 1899 affirming that doctors of optometry and others should practice to the full scope of their licensure and training. In August 2020, VA rescinded Directive 1132, removing a previous ban that had prevented doctors of optometry from providing therapeutic laser eye procedures to veterans. As a result, optometric clinical education is expanding over time to ensure full scope training opportunities and better support the VA Optometry Service as it works to: provide care for about 80% of veterans receiving eye care services annually, perform about 70 percent of the more than 3.4 million select ophthalmic procedures, and provide nearly 99 percent of vision rehabilitation services in low vision clinics and blind rehabilitation centers each year.

Doctor of Optometry Program Admission Requirements

Admission requirements for optometric education remain consistent with U.S. pre-medical school requirements. Pre-optometry students are included in undergraduate pre-medical and health professional advising and counseling programs to ensure successful completion of college requirements and planning for successful candidate matriculation into optometry schools and colleges while achieving their undergraduate bachelor's degree.

To successfully gain admission, required pre-optometry undergraduate didactic and laboratory coursework is extensive and covers a wide variety of advanced health, science, and mathematics courses, including general biology, general chemistry, organic chemistry, and physics. Additionally, optometry programs often require a host of associated coursework some of which is beyond that required for M.D./D.O. applicants:

- Human Anatomy and Physiology
- Biochemistry
- Microbiology
- Genetics
- Calculus
- Psychology
- Biostatistics/statistics
- English
- Social science and other humanities.

Optometry Admission Test (OAT) and Other Standardized Exams

All schools and colleges of optometry accept the OAT. Many schools and colleges also accept the GRE, MCAT, DAT, or PCAT in lieu of the OAT. The OAT is a standardized examination designed to measure general academic ability and comprehension of scientific information. It consists of four subtests: Survey of the Natural Sciences (Biology, General Chemistry, and Organic Chemistry), Reading Comprehension, Physics, and Quantitative Reasoning. The OAT is scored on a 200- to 400-point scale in increments of 10. At least one year of college education is required prior to taking the OAT, but most students elect to complete two or more years of college-level coursework prior to taking the exam.

Optometry Schools and Colleges

Optometry schools and colleges function either as private institutions, or as institutions within public universities as a component of a greater health care

medical and health sciences educational complex that includes medical, nursing, dental, and other health care professional programs. Ultimately, each accredited doctorate-level professional program must teach all necessary content for their graduates to pass professional national boards and meet state licensure requirements.

Accreditation

All optometry programs must meet extensive accreditation standards. As with other U.S. health care doctoral training programs, no person may be licensed to practice optometry in the United States unless they have graduated from an accredited school/college of optometry.

The Accreditation Council on Optometric Education (ACOE) is the only accrediting body for professional optometric degree (O.D.) programs, optometric residency programs and optometric technician programs in the United States and Canada.

ACOE is recognized as an accrediting body by two external agencies - the U.S. Department of Education (USDE) and the Council on Higher Education Accreditation (CHEA). Through periodic reviews by both USDE and CHEA, the ACOE demonstrates compliance with their respective criteria.

ACOE serves the public and the profession of optometry by establishing, maintaining, and applying standards to ensure the academic quality and continuous improvement of optometric education that reflect the contemporary practice of optometry. The scope of the ACOE encompasses professional optometric degree programs, optometric residency programs, and optometric technician programs. *In addition, schools/colleges are accredited by one of six regional organizations recognized by the United States Department of Education and the Council for Higher Education Accreditation.*

There are currently 23 U.S. optometry programs and two in Canada accredited by ACOE.

National Boards

All 50 states require successful completion of parts of the National Board of Examiners in Optometry prior to applying for state licensure to practice as a doctor of optometry in the U.S.

The National Board of Examiners in Optometry (N.B.E.O.) is the independent, not for profit testing organization that oversees and administers board testing for doctors of optometry in the continental U.S. and Puerto Rico. Established in 1951, the mission of the NBEO is “to serve the public and the profession of optometry by developing, administering, scoring, and reporting results of valid examinations that assess competence.” Part I (Applied Basic Science) is taken the spring of the third year, Part II (Patient Assessment and Management) is taken in December of the fourth year, and Part III (Clinical Skills) is taken any time during your fourth year.

Special National Examinations

Additional voluntary examinations, including a national board certification exam and a laser and surgical procedures examination, have also been developed and are administered based on practice standards or evolving individual state licensure and advancing scope of practice requirements, and include:

- [American Board of Optometry Board Certification](#)
- [Treatment and Management of Ocular Disease \(TMOD®\)](#)
- [Advanced Competency in Medical Optometry \(ACMO®\)](#)
- [Laser and Surgical Procedures Examination \(LSPE™\)](#).

Doctor of Optometry Degree

Upon successful completion of optometry program requirements, candidates graduate from their accredited schools/colleges of optometry having earned and granted the degree, Doctor of Optometry (O.D.). Doctors of optometry are then eligible to apply for and take state licensure examinations. Individual U.S. state boards of optometry, as independent public agencies, determine requirements for licensure to meet state scope of practice guidelines.

Doctors of optometry can choose to participate in additional one-year post-graduate residency training programs following graduation from optometry school/college. This experience offers doctors of optometry focused training in a clinical area of optometric care such as pediatric optometry, primary care, cornea and contact lens, vision rehabilitation, and ocular disease.

The Doctor of Optometry Curriculum in Detail

While the sequence of course work varies from one program to another, some general characteristics are shared by all. In the first and second year of the

professional program, course work is concentrated in the basic and biomedical sciences (anatomy, physiology, pathology, biochemistry, pharmacology, and public health, optics, and vision science). These serve as the foundational underpinnings for clinical knowledge and application in the patient care setting. For example, the courses for anatomy and physiology are provided because they provide the required foundations necessary for surgical procedures. Furthermore, the course for physical optics is provided because this course provides the foundational knowledge to understand the properties of lasers. Patient care experience is incorporated with an increasing level of responsibility and increasing student learning expectations, culminating in a 12-month final year comprised entirely of direct patient care in a variety of clinical settings.

Typically, direct patient care experiences begin early in the curriculum. Students begin their clinical experience in pre-clinical skills laboratories with virtual reality simulators and classmates serving as patients in the first year, and then proceed to clinical training with real patients. This training includes obtaining full medical case histories, performing examinations, learning diagnostic and surgical techniques, and discussing treatment options and plans. As the curriculum progresses, students spend part of their time in the classroom and part of their time in the clinic examining, diagnosing and treating patients with acute and chronic eye diseases. The final year is entirely clinical training where clinicians are supervised one-on-one with an attending optometric physician, which includes off-campus clinical externship rotations. Sites for external rotations are available in the United States and abroad. Clinic settings include military facilities, Veteran's Affairs (VA) hospitals, public health service hospitals, community health centers, and various specialty and private practices. The lengths of the external rotations vary from eight to 16 weeks.

While it is not possible to include all curriculum outlines and course descriptions for every school/college of optometry, some sample course descriptions are included. These particularly focus on courses relating to advanced procedures or ophthalmic surgery. Full information on every institution's curriculum and course descriptions are available to the public on the individual schools/colleges' websites. Additional information is available via ASCO website at optometriceducation.org.

Example A: Western University of Health Sciences College of Optometry.

A composite listing of topics from various courses throughout the curriculum relevant to expanded scope of practice.

In the following section, a composite list of relevant topics is summarized. Because relevant content may be introduced in one course in the curriculum, may be reinforced in another course in the curriculum, may reach a higher level in another course in the curriculum, and may be applied in a subsequent course in the curriculum, it may not be readily evident that all of the important content is embedded within our curriculum simply upon review of the course descriptions provided. Here is the composite list of topics that span our curriculum:

- laser physics, hazards, and safety
- biophysics of lasers
- laser application on clinical optometry
- laser tissue interactions;
- laser indications, contraindications, and potential complications
- gonioscopy
- laser therapy for open angle glaucoma
- laser therapy for angle closure glaucoma
- posterior capsulotomy
- common complications: lids, lashes, lacrimal system
- medicolegal aspects of anterior segment procedures
- peripheral iridotomy
- laser trabeculoplasty
- minor surgical procedures
- overview of surgical instruments, asepsis
- surgical anatomy of the eyelids
- emergency surgical procedures
- chalazion management
- local anesthesia: techniques and complications.

OPTM 8120 Principles and Practices of Optometry VI: Laser Eye Procedures and Minor Surgical Eye Care (2.0 credit hours)

This course covers the uses of lasers to perform certain surgical eye procedures, including laser therapies for open angle glaucoma, for angle closure glaucoma, and for posterior capsulotomy. The course will include a review of laser biophysics, laser-tissue interactions, as well as contraindications and complications associated with laser procedures on ocular tissues. This course will also cover surgical preparation and management of lid and adnexal lesions with an emphasis on benign neoplasms and chalazion. Additional topics include medicolegal aspects of surgical eye care and postoperative wound care. The lab portion of the course will provide hands on experience in suturing techniques and ophthalmic laser operations.

OPTM 8021 Principles and Practice of Optometry V: Special Procedures (2.0 credit hours)

This course will cover the theory and methods of clinical techniques that build upon basic examination skills acquired during the courses Principles and Practice of Optometry I through IV. Clinical techniques including scleral depression, A- and B-scan ultrasonography, punctal occlusion, punctal dilation and irrigation, removal of foreign bodies from the cornea and conjunctiva, and the injection techniques of IM, SubQ and IV will be presented in a hands-on format. The course will include non-glaucoma visual fields and applications of significant optometric thought processing.

OPTM 6175 Ocular Disease: Diagnosis and Treatment of the Posterior Segment (4.0 credit hours)

This course builds upon the framework presented in the Principles and Practice of Optometry curricular track to present advanced concepts in ocular disease management. The anatomical, physiological, histological, and pathological processes of ocular disease will be emphasized. Topics include in-depth discussion of diseases and abnormalities of the vitreous and retina as well as vitreo-retinal pathology associated with systemic diseases.

OPTM 6073 Ocular Disease: Diagnosis and Treatment of Glaucoma (2.5 credit hours)

This course covers the pathophysiology, diagnosis, treatment, and management of patients with all forms of glaucoma, with an emphasis on evidence-based therapeutic interventions. The course includes technique and interpretation of visual fields for glaucoma diagnosis and management. Topical and systemic medical therapies will be emphasized. The course will also discuss current surgical management of various forms of glaucoma.

OPTM 6053 Optical Science: Physical Optics (3.0 credit hours)

This course presents the physics of light, including the wave and particle behavior of light. In particular, the course will include the characteristics of electromagnetic radiation, wave motion, total and partial coherence of light, interference, diffraction (single slit, double slit, gratings, circular apertures), zone plates, polarization, birefringence, anti-reflective lens coatings, lasers, emission and absorption spectra. Examples of applications in vision science and ocular diagnostic instruments will be provided.

OPTM 5133 Systemic Pharmacology (2.0 credit hours)

This course will cover medications commonly prescribed for systemic conditions, their indications and mode of action, as well as their ocular and visual side effects and toxicities. Topics include pharmacodynamics, pharmacokinetic aspects of drug formulations, routes of administration, and dosing & elimination, with an emphasis on drug indications, mechanisms of action, adverse effects, drug interactions, and contraindications. Additionally, a review of the pathophysiology of systemic diseases as it relates to current drug treatment paradigms will reinforce the connection between the medications and their corresponding indications.

OPTM 5130 Ocular Physiology (3.0 credit hours)

This course presents in depth coverage of the physiology of the eye, adnexa and visual systems. Topics include the physiology of the eyelids, lacrimal gland and its apparatus, tear production, cornea and lens, ocular fluid dynamics, vitreous body, retina, choroid and optic nerve. Topics of visual function and nutrition related to development and normal ocular function will be covered. When possible, relevant comparisons to disease states will be discussed to show the clinical relevance of the physiological concepts. The topics related to visual function includes, visual acuity, color vision, contrast sensitivity function, in health and disease states, accommodation function and decline in accommodation function with aging and presbyopic changes.

OPTM 5041 Anatomy for the Optometrist (4.0 credit hours)

This course covers all aspects of anatomy relevant to the practice of Optometry. Course content covers broad aspects of gross anatomy. Ocular anatomy is covered in detail including adnexa, orbit, orbital content, structure, and functional relationship of various ocular structures and their clinical importance. Through lectures and laboratory exercises students are introduced to the anatomy of the head and neck and neuroanatomy. Particular attention is paid to the cranial nerves, both their normal function and the numerous clinical syndromes that affect them as they pertain to optometric practice.

Sample topical outlines for selected content areas relevant to expanded scope of practice [selected courses only] In the following section, some samples of topical outlines are provided. These outlines go beyond the course descriptions to provide another layer of detail to more fully elaborate on the curricular content. The samples do not represent the entirety of the course content, and merely provide a portion of the content that is particularly relevant to demonstrating the education and training in support of expanded scope of practice.

OPTM 8120 Sample Topics

- Cataract surgery in Review
- IOL calculations and IOL types (premium IOLs)
- Femtosecond Laser-Assisted Cataract Surgery (FLACS)
- Post-op cataract complications
- LASIK in Review
- Post-op LASIK complications
- Innovations in corneal refractive procedures SMILE procedure
- Safety overview for minor surgical procedures: indications, surgical procedures. Instrumentation, anesthesia, asepsis & OSHA, medicolegal aspects, management of anaphylaxis & other complications
- Laser glaucoma procedures
- Gonioscopy review & ALT/SLT procedures
- YAG posterior capsulotomy
- Peripheral Iridectomy (PI)
- YAG cap, PI, ALT laser procedures (3-hr lab with proficiency)
- Minor corneal procedures: FB removal, amniotic membranes
- Corneal FB removal, lid speculum, pressure patch, amniotic membrane (2-hr lab with proficiency)
- Basic lid procedures e.g. chalazion, benign lesions
- Oculoplastic Procedures
- Glaucoma surgeries e.g. MIGS, trabs, tubes Retinal laser procedures e.g. PRP, macular grid Surgical Retinal Procedures
- Suturing and subdermal injections (2-hr lab with proficiency)

OPTM 8021 Sample Topics

Revised January 2021

- Injections
- Reclined BIO
- Scleral Depression BIO 3-Mirror Fundus Ocular Foreign Bodies Punctal Plugs
- Dilation & Irrigation
- Cataract Surgical Procedures
- Anterior Segment OCT Refractive Surgeries
- Fundus Auto Fluorescence Sample Assessments
- Demonstrate ability to perform the complete process of injections for IM
- Demonstrate ability to perform the complete process of injections for IV
- Perform complete process of specialty testing suite including Interpretation and Report
- Integrate specialty fundus exam techniques (scleral depression BIO and 3-Mirror fundus lens) suitably into ocular health evaluation
- Examine angles with four mirror lens
- Discuss the processes and procedures of ocular cataract surgeries
- Discuss the processes and procedures of corneal refractive surgeries
- Demonstrate ability to perform Anterior Segment OCT
- Examine the retina using FAF
- Perform the sequence of managing corneal foreign bodies
- Complete process of ultrasonography
- Safely implement punctal health procedures of dilation/irrigation and plugs

OPTM 6053 Sample Topics

- Laser Theory and Clinical Laser Applications
- Spontaneous emission
- Stimulated emission
- Three-level ruby laser
- Brewster windows
- Laser types
- Helium Neon laser
- Pulsed laser
- Mode locking
- Q-switching
- Lasers in eye care
- Laser tissue interaction
- Photocoagulation
- Photoablation
- Photodisruption

OPTM 6073 Sample Topics

- Surgical management
- Laser options
- Types of surgeries
- MIGS
- Consideration in selection of procedures

- Transitioning from medical to surgical options
- Future developments
- Anaphylaxis and other office emergencies
- Post-operative wound care

Example B: The Ohio State University School of Optometry

At The Ohio State University College of Optometry, in addition to basic systemic anatomy, physiology, pathology, and pharmacology coursework, our students also extensively study the structure, function, and pathology of the eye and orbit. This coursework is not taken by any medical student. Relevant highlights of our curriculum include (course outlines enclosed):

1. A detailed course in ocular anatomy with both didactic and hands-on laboratory inspection and dissection of the globe, histological examination of all ocular tissue, and examination of all nervous and vascular supply to the orbit. This course covers a complete tissue study of every layer and tissue of the lids, conjunctiva, and globe in addition to the anatomy of the orbit. This course comprises 50 hours of didactic lecture and 30 hours of hands-on laboratory work.
2. A detailed course in the physiology of the eye and orbit. This course covers all fluid dynamics of the globe, detail on all immunological and inflammatory mechanisms of ocular trauma, and a discussion of blood flow, lymphatic drainage, neural control, etc. This course comprises 50 hours of didactic coursework.
3. An extensive course in the optical structures of the eye discussing in detail the exact thicknesses, curvatures, changes of these structures over lifetime, measurements of these structures using instrumentation and interpretation of these images. This course is comprised 50 hours of didactic lecture and 30 hours of laboratory hands-on work.
4. A 28-hour course in the understanding of lasers and ionizing radiation and its interaction with human tissue. A 50-hour course in the clinical use of optical instruments such as slit lamp biomicroscopes, funduscopy lenses, etc. with extensive training and practice in the precise use of these instruments and practical examinations ensuring that every student is proficient in the precise visualization and clinical interpretation of the health/pathology of each layer of the eye.
5. An extensive clinical rotation in which our students conduct complete vision examinations on patients under the direct supervision of licensed attending optometrists. These examinations typically include complete slit lamp biomicroscopic examinations of the eye and adnexa of each patient, thereby ensuring excellent skills in these procedures, e.g., examination and clinical interpretation of ocular tissues and treatment and management of inflammation and infection of any part of the visual system. At Ohio State each student currently completes approximately 1700 full eye examinations before graduation.
6. A 30-hour course in direct training (didactic and hands-on laboratory) in the area of lasers,

injections, and advanced procedures that has been approved by all states with advanced optometric scope as meeting the needed didactic and hand on procedures for licensure in those states.

7. A 17-week (40 hours per week) rotation in their fourth year in an ophthalmology office or surgical co-management site where students work directly with ophthalmologists in pre- and post-surgical care, thereby learning the diagnosis and treatment of complications of ophthalmic surgery, surgical candidate selection and observation of surgical procedures.

Example C: University of Alabama at Birmingham School of Optometry

The fundamental curricular contents required for advanced procedures, including ophthalmic laser surgical procedures, injections, and minor surgical procedures, are woven into the UAB School of Optometry curriculum from the 1st year of school and into the 4th, and include systemic and ocular anatomy, physiology, microbiology, pathology, biochemistry, pharmacology, management for conditions in eye care – with over 1000 hours of didactic and laboratory contact time for each student not including clinical encounters through clinical/patient care. In the first and second year of the program, optometry students take the same systemic curriculum as the dental students and medical students (Fundamentals in Health Sciences, Neuroscience, Gross Anatomy, Cardiovascular, Respiratory, Gastrointestinal, Musculoskeletal/Skin, Hematology, Endocrine, and Renal Systems) which was the design of the medical optometry curriculum from its inception in 1969.

2019-20	CONTACT HOURS
FUNDAMENTALS I	92
CLINICAL OPTICS	96
OCULAR ANATOMY	64
PHYSIOLOGY	64
BIOCHEM	24
FUNDAMENTALS II	92
SYSTEMS	290
OCULAR MICRO	16
VISUAL OPTICS	96
CEVS III (SLE, BIO, GONIO)	152
PHARM	64
ANT SEG	96
POST SEG	56
GLAUCOMA	24
NEURO	32
CLINICAL MANAGEMENT	48

TOTAL RELATED	1306
INJECTIONS MSP	48
LASERS	16.5
TOTAL RELATED	64.5

In order to ensure that students are able to apply fundamental concepts clinically, and perform surgical procedures, there are two required, stand-alone courses for injections/minor surgical procedures and ophthalmic lasers (OPT 326 and OPT 323), and have been since 2008 and 2012 respectively. These two courses account for an additional 46 contact hours. OPT 326 and OPT 323 were designed based on the broadest scope of optometric practice and utilize standardized high fidelity model-based practices to ensure safety and essential skills. The courses do not simply teach technical skills, but cover anatomy, pharmacology, clinical application, indications, contraindications and management of potential complications. Furthermore, faculty for the OPT326 and OPT 323 courses are only those who are certified in the surgical procedures.

**Example D: Northeastern State University Oklahoma College of Optometry
Select Course Descriptions – NSU Courses with Surgical and Laser Correlates**

5103 General Pharmacology

General principles of drug action and specific systemic treatment. Mechanisms of action and therapeutic guidelines for: autonomic drugs, anti-infective agents including those used for prophylaxis pre- and post-operatively, anti-inflammatory agents, agents used in the treatment of allergy, major drugs acting on the CNS, cardiovascular, kidney, and endocrine systems, agents used for local or infiltrative anesthesia and analgesia relevant to office-based procedures, antiseptic agents and common over-the-counter drugs. Adverse side effects and drug interaction of commonly prescribed pharmaceuticals.

4126 Geometric and Physical Optics

Imaging of light: ray tracing through optical systems; aberrations and optical systems design. Physics of light: sources, spectra, scatter, polarization, refraction, reflection, absorption, interference, diffraction. Theory behind diagnostic and therapeutic ophthalmic lasers. Lecture and laboratory.

4271 Interpersonal Communications

Interpersonal and interprofessional relationships. Creating and enhancing a professional image; communicating with patients; interpreting patient complaints and concerns; enhancement of patient understanding and compliance; interviewing and history taking techniques; referrals; surgical co-management; dealing with difficult patients.

5203 Ocular Pharmacology

Principles of ocular pharmacology and medical treatment, clinical administration of oral, topical, and injectable drugs and utilization of diagnostic agents in the clinical/surgical care of the eye and adnexa. Principles and specific management and treatment of ocular disease, trauma, anterior segment surgery, and laser treatment/surgery by systemic, local, and topical therapy, including antisepsis. Clinician responsibility in the treatment and management of ocular and systemic complications of pharmaceutical use.

4133 Clinical Immunology and Microbiology

A study of the cellular and biochemical aspects of the human immune system and the immune response to infectious disease. Abnormal immune responses will be discussed. Lectures will also cover microbial aspects of infectious diseases (including postoperative infections) caused by bacteria, viruses, fungi and parasites, with emphasis on pathogenic mechanisms, host-pathogen interaction and antimicrobial therapy.

7101 Systemic Therapy in Ocular Disease and Trauma

Basic systemic therapy in ocular disease. Clinical indications, dosage, drug interactions, and common complications of enteral and parenteral medications utilized in ocular disease. Management of surgical post-operative complications with systemic medications.

7132 Differential Diagnosis of Ocular Disease and Trauma

A review of ocular disease, including eyelid lesions, and trauma with emphasis on clinical presentation, adjunctive testing, differential diagnosis as well as treatment with oral agents, topical agents, office-based surgical procedures and therapeutic lasers.

6223 Strabismus and Amblyopia

Basic principles of strabismus and amblyopia. This will include the symptoms, signs, diagnosis, test administration, test data analysis and therapy with lenses/prisms, vision therapy, and surgical options including procedures, referral criteria and outcomes. Lecture and laboratory.

5183 Optometric Clinical Methods III

This course emphasizes instrumentation and procedures for the detection, diagnosis, and management of pathological conditions. Includes introduction to office-based surgical procedures. Credit will not be awarded for Optometry 5183 until the pre-clinical examination has been completed successfully. Lecture and laboratory.

4213 The Human Nervous System

Structure and function of the central, peripheral, and autonomic nervous systems including anatomic correlates to periocular sensory anesthesia. Particular emphasis is placed on the anatomy and physiology of the visual system as it applies to the processing of visual information. Lecture and laboratory.

6081 Optometric Case Studies I

Case presentation and a discussion of selected topics in optometric clinical care including optometric surgical and laser procedures by faculty, students, and invited speakers. Current literature will be explored which applies to the subjects under discussion.

6251 Optometric Case Studies II

Case presentation and a discussion of selected topics including optometric surgical and laser procedures in optometric clinical care by faculty, students, and invited speakers. Current literature will be explored which applies to the subjects under discussion.

7081 Optometric Case Studies III

Case presentation and a discussion of selected topics in optometric clinical care including optometric surgical and laser procedures by faculty, students, and invited speakers. Current literature will be explored which applies to the subjects under discussion.

7171 Optometric Case Studies IV

Case presentations and discussions of selected topics in optometric clinical care including optometric surgical and laser procedures by faculty, students, and invited speakers. Current literature will be explored which applies to the subjects under discussion.

5273 Ocular Disease I:

Cataracts, Corneal, and External Ocular Disease Epidemiology, pathophysiology, differential diagnosis, management, and treatment of cataract, corneal and external ocular diseases, including disorders of the crystalline lens, eyelids, lacrimal

system, conjunctiva, cornea, sclera and episclera. Includes cataract pre-operative and post-operative care as well as indications for treatment of posterior capsular haze with the Nd:YAG laser. Also includes instruction of office-based surgical procedures for the treatment and relief of ocular abnormalities.

5291 Clinical Practice I

Performance of clinical procedures and observation with case discussion. Optometric examinations conducted under the supervision of clinical faculty within clinical and hospital settings. Includes observing and assisting faculty, residents and upper-class students with office-based minor surgical procedures, including anterior segment laser procedures.

6093 Clinical Practice II

Clinical practice under supervision of clinical faculty in the screening, examination, diagnosis, treatment and management of vision conditions and other health problems. Optometric examinations conducted under the supervision of clinical faculty within clinical and hospital settings. Includes performance of office based surgical procedures, including anterior segment laser procedures.

6195 Clinical Practice III

Clinical practice under supervision of clinical faculty in the screening, examination, diagnosis, treatment, and management of vision conditions and other health problems. Optometric examinations conducted under the supervision of clinical faculty within clinical and hospital settings. Includes performance of office based surgical procedures, including anterior segment laser procedures.

6295 Clinical Practice IV

Clinical practice under supervision of clinical faculty in the screening, examination, diagnosis, treatment and management of vision conditions and other health problems. Optometric examinations conducted under the supervision of clinical faculty within clinical and hospital settings. Includes performance of office-based surgical procedures, including anterior segment laser procedures.

7095 Clinical Practice V

Clinical practice under supervision of clinical faculty in the screening, examination, diagnosis, treatment and management of vision conditions and other health problems. Optometric examinations conducted under the supervision of clinical faculty within clinical and hospital settings. Includes performance of office-based surgical procedures, biopsy and anterior segment laser procedures.

7196 Clinical Practice VI

Clinical practice under supervision of clinical faculty in the screening, examination, diagnosis, treatment, and management of vision conditions and other health problems. Optometric examinations conducted under the supervision of clinical faculty within clinical and hospital settings. Includes performance of office-based surgical procedures, biopsy and anterior segment laser procedures.

7293 Clinical Practice VII

Clinical practice under supervision of clinical faculty in the screening, examination, diagnosis, treatment, and management of vision conditions and other health problems in on- and off-campus clinics. Optometric examinations conducted under the supervision of clinical and adjunct faculty within clinical, private practice and hospital settings. Includes performance of office-based surgical procedures, biopsy and anterior segment laser procedures.

6231 Optometric Clinical Methods IV

Course topics covered include instrumentation and technical skills necessary for surgical procedures performed in the primary eye care setting. Includes OSHA regulations pertaining to blood borne pathogens. Included techniques are: asepsis, iv injections, fluorescein angiography, management of anaphylaxis, wound management, basic suturing, and in-office minor surgical procedures. The course discusses the indications for, alternatives to, and risk/benefits of all techniques, as well as the management of complications. The course includes lecture and hands on participation.

4264 Ocular Anatomy and Physiology

Gross and microscopic anatomy of the orbit and its contents including the globe, muscles, bone structure, blood and nerve supplies; embryology, histology, anatomy and physiology of the eye including the chemical composition, metabolic activities; physiological functions of the various tissues of the eye and related structures including sensory and motor innervation of the face and biomechanics of the eyelid as relevant to office-based eyelid surgical procedures. Lecture and laboratory.

7042 Office-Based Surgery

The role of office-based surgical practice within the comprehensive scope of current optometric practice. Application of evidence-based medicine and basic science human anatomy to office-based surgical patient selection, planning, instrumentation, procedures, anesthesia, and pre- and post-operative care.

7031 Ophthalmic Applications of Lasers

Laser biophysics, hazards, safety precautions, indications and contraindications for specific procedures, performance of the procedures, and follow-up care including management of complications are reviewed.

Example E: University of Pikeville, Kentucky College of Optometry

OPT 715 Advanced Topics in Ocular Disease Management

This course is a continuation of OPT 628. It includes discussion of advanced procedures and recent discoveries pertaining to the detection, diagnosis and management of posterior segment disorders.

OPT 716 Glaucoma Diagnosis & Management

This course is a comprehensive presentation of primary and secondary glaucomas, including etiology, mechanisms, prevalence and classification. The course emphasizes diagnostic testing including the use of advanced technologies, imaging procedures, photographic techniques and management options including medical, surgical and laser procedures.

OPT 717 Inter-Professional Clinical Case Analysis & Management

Clinical cases involving multi-disciplinary involvement will be presented. Participation will include discussion by physicians, nurses, pharmacists, social workers, public health personnel, and other professional personnel as well as optometrists to exemplify and provide proper sequential and/or parallel management and arrive at an integrated approach in solving the patient's issues.

OPT 722 Epidemiology and Research Methodology Epidemiology

Discusses the factors that concern the frequency of occurrence of certain eye diseases or conditions among a defined population, particularly rural areas of Appalachia and other rural areas in America, and their effect on the health and well-being of their patients. It discusses screening, standards of care and reviews major epidemiological eye studies together with those determinants that contribute to ocular diseases and conditions in aging and poverty. Other topics include those factors that contribute to or worsen the effect of visual impairment such as pharmacological factors or cognitive impairment in the aged population or psychological factors in the young. There is also a detailed analysis of health care policy. Research Methodology covers development of a research question, experimental design, specific aims and statistical analysis, writing of the research proposal, grant applications, regulatory requirements related to human subject and

animal research, CITI and other mandatory training for carrying out research and clinical trials, presentation of papers and posters and publication in refereed journals.

OPT 723 Clinical Internship IV

The student continues supervised clinical patient care with emphasis on the intern delivering care in the role of the provider. As in Clinical Internship III, care is supervised by KYCO clinical faculty and will take place mainly in the KYCO primary care clinics within the College and at one or more KYCO network clinics. Case conferences and Grand Rounds experiences will be assigned. Emphasis is upon correct interpretation and management of refractive and disease cases that have moderate complexity.

OPT 725 Neuro-Ophthalmic Disease, Neurological Disorders & Acquired Brain Injury

This course provides an in-depth discussion of the diagnosis of and management strategies for various neurological disorders that can affect vision and visual perception. Other systemic conditions such as some of vascular or cardiac etiologies or space-occupying lesions of the brain may also contribute to visual abnormalities or loss. Testing and neurological evaluation is discussed in depth and is accompanied by various radiological and other technologies that help the diagnostic process. The diagnostic strategies for the confirmation of acquired brain injuries are also covered in detail.

OPT 726 Clinical Medicine & Systemic Disease: Management & Co-Management

This course covers the major systemic diseases that have ocular and visual implications and reviews their etiology as discussed in pathology, the patient's signs and symptoms and other clinical assessments in order to not only reach a definitive diagnosis but also develop effective management plans. Since many systemic diseases have ocular correlates or implications, management often takes the form of co-management. The course will emphasize certain diseases such as diabetes, cardiovascular disorders, infectious and other conditions prevalent in the general and Appalachian populations.

OPT 727 Ophthalmic Surgery I: Laser Procedures

This course provides instruction and laboratory experience in advanced ocular therapeutic laser procedures. Topics will include a review of laser physics, tissue interaction, laser hazards and safety, and laser treatment protocol. As part of this

course, students will perform simulated laser treatments as well as receive instruction for providing pre and post-operative patient care in preparation for the clinical application of these procedures.

OPT 728 Optometry Review I

This course will review basic concepts focusing on the content presented in past and ongoing courses coordinated with the matrix outlined by the National Board of Optometry and the Accreditation Committee on Optometric Education. Targeted topics include principles of optics, general and ocular pharmacology and pharmacogenetics, and systemic and ocular disease. The goal of the course is to help participants prepare for their national board and state licensure exams, driving the course content.

OPT 731 Pre & Post-Operative Management of Ophthalmic Surgery Patients

This course presents the evaluation and management, including surgical decision-making in the care of the pre-operative candidate patient for ophthalmic surgery. All pre-surgical testing, counselling and preparation of the patient is presented as are the post-operative procedures, medications, and device management.

OPT 732 Advances in Optometry & Ocular Imaging

This seminar course is intended for presentations on contemporary and future innovations in the practice of optometry from the development of new technologies and instrumentation, to better management strategies, research in pharmacogenetics, detection of markers predictive of disease, pharmaceutical discoveries and better optical solutions to current refractive disorders. A wide array of advanced corneal and refractive imaging systems devices will also be introduced.

OPT 733 Clinical Internship V

Continuing supervised clinical patients care with emphasis upon the intern delivering care in the role of the provider. Care will be supervised by KYCO clinical faculty and will take place mainly in the KYCO primary eye care clinics within the College and at one or more KYCO network clinics. Case conferences and grand round experiences will be assigned. Emphasis is upon correct interpretation and management of refractive and disease cases that have high complexity.

OPT 735 Ophthalmic Surgery II: Injections & Periocular Surgery

This course provides an introduction to minor periocular surgical procedures including informed consent, OSHA guidelines and asepsis, sterile techniques, lesion removal, and post-operative wound care. Various techniques, including

radiofrequency surgery will be discussed. Injection topics include indications and techniques for periocular injections, venipuncture, local anesthesia, and emergency procedures for anaphylaxis.

OPT 811, 812, 813, 821, 822, 823, 831, 832, & 833 Clinical Externships

The fourth year rotations occur within the KYCO clinical network and include direct supervised patients care in the Primary Eye Care clinics with rotations to appropriate clinical facilities for direct and observed supervised clinical experience in specialty eye diseases, contact lenses, pediatrics, low vision, ophthalmic dispensing services as well as observational participation in other medical specialty clinics. Clinical management by interns during the fourth year is expected to reflect an ability to evaluate and manage a complex case load including surgical care.

Recent scope expansions

All states have updated their optometric practice acts over the years to some extent, e.g. prescriptive authority and foreign body removal. Other states permit some if not all the latest procedures being taught in optometry programs today.

Scope of Optometric Practice in 2020

The scope of optometric practice in the U.S. continues to evolve. State practice acts define what is included in care delivered by doctors of optometry. Some states have kept pace with expanding health care and clinical technologies and have updated individual practice acts to reflect the evolving health care landscape. Emerging clinical procedures- often referred to in statutes as ‘advanced procedures’ - and new therapeutic treatment options are currently allowed in some, but not all, states throughout the country.

Several states currently have optometric practice acts which include in their scope the ability to perform ophthalmic surgery such as but not limited to: injections of diagnostic and therapeutic pharmaceutical agents; drainage and/or removal of eyelid chalazia, cysts, abscesses, bullae and seroma; excision and biopsy of cutaneous lesions; repair of eyelid lacerations, removal of foreign bodies of the cornea and conjunctiva; probing/irrigation of the lacrimal drainage structures; the use of ultraviolet, visible, and infrared radiation for treatment of specific ocular conditions; and the use of radiofrequency and thermal cautery.

The term “ophthalmic surgery” is recommended as a description of skills doctors of optometry should possess in order to meet the needs of the patient population adequately. These procedures may be routinely performed in the typical office of a

doctor of optometry, as surgical procedures and the management of their possible complications fall well within the established optometric curriculum, assessment tools, and documentation of the Association of Schools and Colleges of Optometry institutions.

The document below was developed to establish general guidelines for all optometry schools/colleges to reflect the current state of ophthalmic surgery in 2020. For states that already permit these advanced procedures, optometry schools/colleges had to submit legal affidavits stating that their curriculums covered training on these procedures. Every school/college in the U.S. has submitted legal affidavits to those state licensure boards testifying that they do teach and educate their graduates to perform these procedures.

Framework for Developing Optometric Curriculum Guidelines and Educational Standards for Ophthalmic Surgery

Process

The framework draws substantially from the Accreditation Council for Graduate Medical Education (**ACGME**) core competencies, the previously mentioned ASCO 2011 “Attributes” Report, the ASCO Functional Standards for Optometric Education referenced during the admissions process at all schools and colleges of optometry, Accreditation Council on Optometric Education (**ACOE**) standards for the professional optometric degree, Northeastern State University Oklahoma College of Optometry (**NSUOCO**) Surgical Anatomy and Introduction to Office-based Surgery (OPT 7042) Course, and coursework of Southern College of Optometry, and the Illinois College of Optometry.

The framework does not specify an exact number of credit hours, contact hours, observations or performed procedures. Educational research over the past two decades has advanced our knowledge of learning and techniques best suited to facilitate learning. The strategies and methods recommended today are not limited to the strategies of the past. Thanks to the emergence of new technology-based educational tools, we can now offer today’s learner a more valuable experience based on interaction and experimentation.⁹ Studies have demonstrated that authentic learning activities support the acquisition of knowledge that cultivates the kinds of skills that are lasting and more portable.¹³

The three pillars for the core competencies for entry-level ophthalmic surgery include: **1) Professional Values and Ethics; 2) Knowledge; and 3) Skill.** Each core competency is accompanied by a list of suggested objectives which provide examples of activities to measure knowledge, skill, and outcomes. **The framework is a starting point and is not meant as a prescriptive list of activities to restrict, limit, or regulate.** In fact, the project team looks forward to broad engagement and discussion with stakeholders to facilitate implementation.

The “skills” competencies expand upon the entry-level student learning outcomes in the 2011 ASCO Attributes Report, which include: “...the ability to prescribe or use ophthalmic materials, contact lenses, vision therapy, low vision devices, pharmaceuticals, and certain surgical procedures, to treat and otherwise manage common vision disorders and disease,⁴ “and specific procedures utilizing injections, biopsy, excision, curettage, irrigation, ultraviolet radiation, radiofrequency and thermal cautery, to treat and manage vision disorders and disease.

A. Professional Values and Ethics

- A.1. Expected to provide patient care that is compassionate, appropriate, and effective for the promotion of health and the treatment of health problems.
 - A.1.1 Be respectful and responsive to individual patients’ preferences and needs, and ensure their values guide all clinical decisions¹
 - A.1.2 Be mindful and apply varying dimensions of compassion including attentiveness, active listening, helping, and understanding²
- A.2. Expected to demonstrate the ability to investigate and critically evaluate their care of patients, to appraise and assimilate scientific evidence, and to continuously improve patient care based on perpetual self-evaluation and life-long learning.^{3,4}
 - A.2.1 Identify strengths, deficiencies, and limits in one’s knowledge and expertise
 - A.2.2 Systematically analyze practice using quality improvement methods and implement changes with the goal of practice improvement
 - A.2.3 Incorporate formative evaluation feedback into daily practice
 - A.2.4 Employ evidence-based practice and participate in learning and research activities to the extent possible⁷
 - A.2.5 Working knowledge of applicable Clinical Practice Guidelines (AOA) and Preferred Practice Patterns (AAOphthalmology)
 - A.2.6 Set learning and improvement goals
- A.3. Demonstrate a commitment to fulfilling professional responsibilities and an adherence to ethical principles.
 - A.3.1 Responsiveness to patients needs that supersede self-interest
 - A.3.2 Compassion, integrity, and respect for others
 - A.3.3 Demonstrate commitment to continuity of surgical care
 - A.3.4 Accountability to patients, society and the optometric profession
 - A.3.5 Refer to and make visible the Optometric Oath as a resource guiding clinical practice

- philosophy
- A.3.6 Adherence to patient privacy and protection policies
- A.4. Participate in identifying system errors and implementing potential systems solutions, including participation in disease and clinical registries and government reporting programs as appropriate.
- A.4.1 Apply quality improvement to identify hazards in patient care with the objective to improve outcomes⁷
- A.4.2 Participate in a qualified clinical data registry, like AOA MORE
- A.4.3 Participate in prescription monitoring programs (PMP)
- A.4.4 Awareness of reporting options and requirements to state, regional, or national authorities
- A.4.5 Maintenance of procedure logs in various practice settings
- A.4.6 Report adverse outcomes in ophthalmic surgery as part of quality assurance

B. Knowledge

- B.1. Expected to demonstrate knowledge and application of established and evolving biomedical, clinical, epidemiological, and social-behavioral sciences to patient care.
- B.1.1 Must demonstrate competence in their knowledge of basic and clinical sciences specific to optometry and ophthalmic surgery
- B.1.2 Evidence-based medicine
- B.1.3 Outcomes-based registries
- B.2. Able to implement appropriate infection control, cleaning, and sterilization protocols, as well as biohazardous waste disposal procedures.
- B.2.1 Aseptic technique
- B.2.2 Awareness, implementation, and documentation of applicable OSHA requirements
- B.2.3 Personal protective equipment/barriers for patient and provider
- B.3. Expected to demonstrate an understanding of Applied Basic Sciences.
- B.3.1 Integration and clinical application of anatomy, physiology, hemostasis, histopathology, and pathophysiology. Describe actions, mechanisms, and applications of relevant pharmacological and anesthetic effects on organ systems and adverse reactions
- B.3.2 Familiarity with the principles of energy-tissue interactions including laser, visible ultraviolet and infrared light, electrocautery and radiofrequency sources
- B.4. Demonstrate knowledge of intra and postoperative complications and how to manage them.
- B.4.1 Hemorrhaging
- B.4.2 Infection
- B.4.3 Intraocular hypertension
- B.4.4 Inflammation
- B.4.5 Anesthesia and anesthesia-related adverse events
- B.4.6 Adverse pharmaceutical reactions including anaphylaxis
- B.4.7 Wound healing complications
- B.4.8 Other potential complications, relevant to the procedure
- B.5. Expected to understand ophthalmic surgical instrumentation, including its purpose, design, intended use, and related equipment and supplies.

- B.5.1 Equipment for injection
- B.5.2 Wound closure
- B.5.3 Surgical instrumentation
- B.5.4 Ophthalmic lasers
- B.5.5 Radiosurgical technology
- B.5.6 Personal protective equipment for providers and patients
- B.5.7 Sterilization of surgical equipment
- B.5.8 Asepsis and sterile field creation
- B.5.9 Ancillary equipment and supplies

- B.6. Working knowledge of the laws and regulations relating to ophthalmic surgery.
 - B.6.1 Occupational Safety and Health Administration (OSHA)
 - B.6.2 State scopes of practice
 - B.6.3 Centers for Medicare and Medicaid Services (CMS)
 - B.6.4 Appropriate coding and billing practices
 - B.6.5 Accreditation and credentialing – e.g., Accreditation Council on Optometric Education (ACOE), American Board of Optometry (ABO), Joint Commission (surgery centers, and hospitals)
 - B.6.6 Stark and anti-kickback statutes
- B.7. Demonstrates an awareness of and responsiveness to the larger context and system of health care, as well as the ability to call effectively on other resources in the system to provide optimal health care.¹⁴
 - B.7.1 Work effectively in various health care delivery settings and systems relevant to their clinical discipline
 - B.7.2 Coordinate patient care within the health care system relevant to their clinical discipline
 - B.7.3 Advocate for quality patient care and optimal patient care outcomes
 - B.7.4 Incorporate considerations of cost awareness and risk-benefit analysis inpatient and/or population-based care as appropriate
 - B.7.5 Work in inter-professional teams to enhance patient safety, care and improve quality
 - B.7.6 Participate in identifying system errors and implementing potential systems solutions

C. Skills

- C.1. Ability to obtain an appropriate case history and proper informed consent
- C.2. Be able to properly document an ophthalmic surgical procedure report following the standards set by the JCAHO and AAAHC for sufficient information to:
 - C.2.1 Identify the patient
 - C.2.2 Support the diagnosis
 - C.2.3 Justify the treatment
 - C.2.4 Document the postoperative course and results
 - C.2.5 Promote continuity of care

- C.3. Appropriately evaluate and assess the ophthalmic and general medical indications and contraindications for ophthalmic surgery in order to obtain a valid informed consent, including alternatives, risks, benefits, and limitations or contraindications.

- C.4. Provide acute and long-term post-procedure care for ophthalmic surgery.
 - C.4.1 Management and/or treatment of adverse events

- C.4.2 Maximizing procedural outcomes and systematic assessment for quality improvement
- C.4.3 Sequelae of procedure complications
- C.4.4 Wound healing
- C.4.5 Medications
- C.4.6 Necessity for further or ongoing intervention or consultation

- C.5. Manage acute and chronic complications which may be associated with ophthalmic surgery and anesthesia.
 - C.5.1 Supportive training (e.g., CPR, Basic Life Support)
 - C.5.2 Ability to manage early and late stage wound complications
 - C.5.3 Ability to identify and respond to intra and postoperative systemic complications.
 - C.5.4 Ability to utilize resuscitative equipment

- C.6. Expected to demonstrate the psychomotor skills and ASCO Functional Standards necessary to safely and effectively perform procedures.
 - C.6.1 Coordination and control of activity in free space and/or through magnification and illumination (e.g., manual dexterity, eye-hand coordination, and kinesthetic sense)

- C.7. Expected to demonstrate appropriate use, indication, and action of ophthalmic ultraviolet, visible, and infrared radiation LASER procedures
 - C.7.1 Trabeculoplasty
 - C.7.2 Post-cataract capsulotomy
 - C.7.3 Peripheral iridotomy
 - C.7.4 C.6.4 Refractive corneal modification for purposes of refractive changes

- C.8. Expected to demonstrate appropriate use, indication, and action of ophthalmic radiofrequency and thermal cautery procedures
 - C.8.1 Procedural hemostasis
 - C.8.2 Lesion removal

- C.9. Expected to demonstrate the psychomotor and cognitive skills necessary to perform nasolacrimal procedures
 - C.9.1 Punctal dilation and irrigation
 - C.9.2 Lacrimal probing
 - C.9.3 Punctal occlusion
 - C.9.4 Punctoplasty

- C.10. Expected to demonstrate the psychomotor and cognitive skills necessary to perform corneal procedures
 - C.10.1 Foreign body (FB) removal
 - C.10.2 Epithelial debridement
 - C.10.3 Emergent paracentesis
 - C.10.4 Cornea/Photorefractive Keratectomy
 - C.10.5 Cornea/Collagen cross-linking
 - C.10.6 Microstromal puncture

- C.11. Expected to demonstrate the psychomotor and cognitive skills necessary to perform

- conjunctival procedures
- C.11.1 FB removal
- C.11.2 Lymphatic cyst removal
- C.11.3 Granuloma removal
- C.11.4 Biopsy
- C.12. Expected to demonstrate the psychomotor and cognitive skills necessary to administer local and topical anesthesia effectively
 - C.12.1 Local anesthesia toxicity and management
 - C.12.2 Allergic reaction and anaphylaxis
 - C.12.3 Infiltrative local anesthesia
 - C.12.4 Regional anesthesia
- C.13. Expected to demonstrate the psychomotor and cognitive skills necessary to perform injection techniques effectively
 - C.13.1 Intradermal
 - C.13.2 Subcutaneous
 - C.13.3 Subconjunctival
 - C.13.4 Intralesional
 - C.13.5 Intramuscular
 - C.13.6 Venipuncture
 - C.13.7 Intraocular
- C.14. Expected to demonstrate the psychomotor and cognitive skills necessary to perform procedures on the lids and adnexa effectively
 - C.14.1 Suture techniques, including suture removal
 - C.14.2 Lesion excision, scalpel, scissors, dermablade, curette
 - C.14.3 Lesion incision and curettage
 - C.14.4 Cutaneous lesion biopsy
 - C.14.5 Intralesional injection
 - C.14.6 Lesion radiosurgical destruction
 - C.14.7 Laceration repair
 - C.14.8 Everting lid sutures for involutional entropion
- C.15. Expected to demonstrate effective, culturally competent, interpersonal communication skills, oral and written, that result in a clear understanding of health information by patients, their families, and health professionals which result in meaningful outcomes for the patient
 - C.15.1 Communicate effectively with patients, families, and the public, as appropriate, across a broad range of socioeconomic and cultural backgrounds
 - C.15.2 Communicate effectively with physicians, other health professionals, and health related agencies
 - C.15.3 Maintain comprehensive, timely, and legible electronic, or paper, health records, where applicable
 - C.15.4 Act in a consultative role to other physicians and health professionals
 - C.15.5 Work effectively as a member or leader of a health care team or other professional groups

Revised January 2021

ⁱ <https://www.aoa.org/AOA/Documents/Advocacy/HPI/HPI%20Medicare%20Physician%20Utilization.pdf>



AVALON HEALTH ECONOMICS

Optometry's Essential and Expanding Role in Health Care: Assured Quality and Greater Access for Healthier Communities

White Paper

June 12, 2019

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EXECUTIVE SUMMARY

A two-decade drumbeat of bold, future-focused and entirely bi-partisan changes in U.S. state laws has ushered in the modern practice of optometry. The result has been a dramatic expansion of the profession's independent physician role in health care coupled with the increased ability of those in need of eye health and vision care to directly access personalized quality, comprehensive eye health care provided by doctors of optometry in their home communities through a choice of practice settings.

Since 1998, state affiliates of the American Optometric Association have supported and played a positive role in enacting 62 laws in 47 states expanding optometric scope of practice, in turn, granting tens of millions of patients the ability to select doctors of optometry for their essential medical eye health and vision care. Over the same period of time, associations covering all 50 states and the District of Columbia, successfully reduced insurance restrictions and eliminated other barriers to access to doctors of optometry chosen by a patient, including the enactment of powerful "any willing provider" laws. State association advocacy has also resulted in patient safety laws in 23 states, protecting the public from online vision tests, illegal contact lens sales and other dangerous health and medical device-related scams.

This policy direction reflects the notably positive trust relationship between doctors of optometry and their patients and, more broadly, the increasing public recognition of doctors of optometry as the primary eye care providers for families, often delivering care across generations, while practicing in more than 10,176 communities nationwide or counties accounting for 99 percent of the total U.S. population. At the same time, there remain outdated, misguided, politically-influenced and even arbitrarily-drawn laws in the majority of states still imposing harsh burdens on patients by delaying or denying critical access and continuity of care, all at significant individual and systemic cost.

As was the case with successful advocacy-inspired updates to state practice acts prior to 1998 (see Appendix A), in virtually all instances, opposition to optometric scope expansion is typically limited to the specific health care special interests that face increased economic pressures arising from it. By 2019, their decades-old reflexive and diversionary opposition, based on an array of false claims, is facing new scrutiny, even becoming the focus of competition and "cease and desist" directives (see Appendix B) from the public health and patient advocacy community.

In this report, we explore the main benefits of state optometric scope of practice expansion and provide a logical framework through which to assess the value of scope of practice expansion. This report is divided into four sections: Introduction, Analysis, Cost-Benefit, and Public Perception.

The Analysis section documents the need for improvements in access to eye health and vision care, and discusses the literature supporting the ten important domains that form the basis for the value

proposition underlying scope of practice expansion. The Cost-Benefit section provides a simple model to derive the monetary value of scope of practice expansion. We determined that scope of practice expansion adds \$600 million per year in transaction costs savings and another \$4 billion per year in savings attributable to access-related improvements in health outcomes. Finally, the public perception survey found that nearly all voters nationwide consider having access to eye health and vision care a priority; 96% of voters deemed it as either very or somewhat important. Americans want access and ease. In sum, this research provides strong support for scope of practice expansion for doctors of optometry in the U.S.

1. INTRODUCTION

1.1. Numerous forces are placing increasing demands on the health care system in the U.S., including general population growth, the rising mean age of the population, and the increasing dispersion of the population into areas that are more difficult to serve, such as urban, rural, and “exurb” communities.¹ For instance, the incidence of obesity has risen in the U.S. over the past 30 years where now 71.6% of American adults² aged 20 and over are considered overweight or obese. This trend is alarming considering obesity is associated with a higher incidence of chronic diseases, including diabetes, cardiovascular disease and cancer. In the case of eye health and vision care, ocular comorbidities have also risen as the rates of obesity and diabetes rise sharply. Additionally, the passage of the Affordable Care Act (ACA), which mandated specific provisions for comprehensive vision care through the essential health benefits, has added more insured individuals to the market, and these newly insured individuals will begin consuming health care resources at a higher rate. This effort by policy makers is only reinforced by the U.S. Department of Health and Human Services (HHS) report from this year, which notably says “states should consider changes to their scope of practice statutes to allow all health care providers to practice to the top of their license, utilizing their full skill set.” At the same time, there are rising concerns that pressures on demand are fast exceeding the supply of medical care providers. Consequently, policy makers have in recent years increased their efforts to bolster the supply of well-trained high quality providers and create a more efficient system capable of handling the pressures on demand.

1.2. Eye care is more than simply ancillary care, it is essential care. Consider that most eye and vision problems tend to worsen with age or if left untreated, while concomitantly causing patients considerable anxiety, discomfort and reduced overall quality of life.³ In fact, Americans are more than twice as likely to worry about losing their vision than they are the next highest worry, losing their memory.⁴ This is especially poignant given the

¹ For different reasons, each of these geographic distinctions present supply challenges. For urban areas, the problem is often encouraging providers to locate there. This may not be a problem in large growing cities, but can be a problem in cities where growth is static. In the case of rural areas and exurbs, the problem is largely one of travel distance and the density of providers.

² Centers for Disease Control and Prevention, “Selected Health Conditions and Risk Factors, by Age: United States, Selected Years 1988-1994 through 2015-2016,” (2017).

³ See generally B. B. Gauer et al., “Access, Provision, and Cost of Routine Eye Care: A Comparison of Oregon Optometrists and Ophthalmologists,” *J Am Optom Assoc* 65, no. 4 (1994); K. A. Kirtland et al., “Geographic Disparity of Severe Vision Loss - United States, 2009-2013,” *MMWR Morb Mortal Wkly Rep* 64, no. 19 (2015); Engineering National Academies of Sciences et al., “The National Academies Collection: Reports Funded by National Institutes of Health,” in *Making Eye Health a Population Health Imperative: Vision for Tomorrow*, ed. A. Welp, et al. (Washington (DC): National Academies Press (US) Copyright 2016 by the National Academy of Sciences. All rights reserved., 2016).

⁴ American Eye-Q® survey: The American Optometric Association commissioned a 20-minute, online survey among a nationally-representative sample of n=1,002 U.S. adults ages 18+. The margin of error for

public's ever-greater awareness of the toll that Alzheimer's disease and dementia, and cognitive decline, exact on America's seniors. Moreover, when asked who they trust most for accurate, reliable information on their eye health, Americans are more than twelve times as likely to turn to their eye doctor than their primary care physician.⁴ Many Americans already regard their doctor of optometry as fulfilling their primary eye care provider needs, yet many states' scope of practice acts unnecessarily limit these highly trained providers from truly satisfying that capacity. The current, doctoral level education and advanced training that doctors of optometry receive in accredited schools and colleges of optometry nationwide are often curtailed arbitrarily and without merit by some states' scope of practice acts to little more than comprehensive eye examinations. These providers have the education, clinical experience and ability to furnish expanded, high-impact services, such as prescribing relevant pharmaceuticals by any route of administration, administering injections, and providing a range of advanced surgical procedures. These scope of practice expansions have been shown to improve quality and increase access to care.

- 1.3. The overall objective of this report is to demonstrate the value and benefits of scope of practice expansion. The remainder of the report is divided into three sections. The "Analysis" section (2.0) is titled as such because it extends beyond a simple literature review and ties together the key domains that establish the rationale and value for scope of practice expansion. Ten key domains are analyzed: (1) demand, (2) supply, (3) training, (4) quality, (5) productivity, (6) competition, (7) access, (8) scope of practice, (9) advanced procedures, and (10) transaction costs. A simple cost-benefit model is presented in Section 3.0. The model estimates transaction cost and outcomes-related savings associated with scope of practice-driven access expansion. Finally, Section 4.0 presents the results of a new public opinion survey on the perceived value of doctors of optometry among voters, illustrating and adding further support to many of the concepts discussed in Sections 2.0 and 3.0.

this sample is +/-3.1% at the 95% confidence level. The survey was fielded between November 3 and November 9, 2017.

2. ANALYSIS

2.1. *Demand.* Doctors of optometry can meet the increased demand for eye health services that is projected in conjunction with the overall demand for health care services as reflected by several important trends. Chiefly among these, the burgeoning population of older Americans; the demand for medical services accelerated by the passage of the ACA; and swelling obesity figures that have given rise to a public health emergency of type 2 diabetes diagnoses. Seeing an eye doctor regularly reduces the risk of vision loss for individuals with diabetes, but only about 2/3 of those individuals get that care.⁵ As primary eye care providers, doctors of optometry can affect a meaningful difference through the timely detection, intervention, treatment and monitoring of these patients. This impact is no more apparent than when considering that at least 276 systemic diseases have ocular manifestations that can be discovered during a comprehensive eye examination that – when combined with optometry's geographic accessibility – poise doctors of optometry to substantially contribute to Americans' primary health care. Consider, the most impactful trend on overall health care demand: the aging population.⁶ Older individuals are higher users of virtually all types of medical services, especially advanced care, and the aging of the population has resulted in growth in overall demand for medical care.⁷ Among the vision disorders with which Americans 60 and older must contend are age-related macular degeneration (AMD), cataracts and glaucoma. If not immediately addressed, these conditions, the signs of which go unnoticed in the early stages by most patients, gradually deteriorate vision in a population already at high risk of morbidity or mortality from falls.⁸ Another important sector-wide increase in demand for medical care is attributable to the passage of the ACA, including the state Medicaid expansion that accompanied it. Specific to eye care, the growing obesity epidemic and the concomitant rise in the number of individuals with type 2 diabetes has led to an increase demand for eye care related to diabetic retinopathy.⁹ More than 100 million U.S. adults are now living with diabetes or prediabetes, according to the Centers for Disease Control and Prevention (CDC).¹⁰ Diabetic retinopathy can lead to visual impairment and blindness if not diagnosed and treated in an appropriate timeframe. Diabetic retinopathy

⁵ Centers for Disease Control and Prevention, "Diabetes Report Card 2017," ed. US Dept of Health and Human Services (Atlanta, GA2018).

⁶ J. R. Knickman and E. K. Snell, "The 2030 Problem: Caring for Aging Baby Boomers," *Health Serv Res* 37, no. 4 (2002).

⁷ See generally H. Moses, 3rd et al., "The Anatomy of Health Care in the United States," *Jama* 310, no. 18 (2013).

⁸ Elizabeth Burns; Ramakrishna Kakara, "Deaths from Falls among Persons Aged ≥ 65 Years — United States, 2007–2016," *Weekly* 67, no. 18 (2018).

⁹ For example, see P. A. MacLennan et al., "A Survey of Alabama Eye Care Providers in 2010-2011," *BMC Ophthalmol* 14 (2014); National Academies of Sciences et al.

¹⁰ CDC, "National Diabetes Statistics Report, 2017," in *Estimates of Diabetes and Its Burden in the United States* (Washington, D.C.: Centers for Disease Control and Prevention, 2017).

remains the leading cause of blindness among working-age U.S. adults, principally due to lack of a regular source of care.¹¹

2.2. *Supply.* Despite this aforementioned demand, the supply of medical care providers in the U.S. has largely failed to keep up,¹² especially regarding the supply of primary care providers.¹³ The same may be said of the supply of specialists and surgeons, as well.¹⁴ While some estimates describe a shortfall of as many as 90,000 physicians (divided equally between primary and specialty care)¹⁵ – a level that seems difficult to compensate within the supply constraints of current physician training programs in the U.S. – the near opposite is true of optometry's projected workforce. Even accounting for the aforementioned increased demand for services, there is an adequate supply of doctors of optometry, inclusive of projections of new doctors, to meet current and projected demand for eye care services through 2025.¹⁶ In fact, data shows doctors of optometry view themselves able to accommodate much of the expected increase in demand by an average of 19.8 additional patients per week without adding additional hours to their practices. While the shortfall in medical providers is national in scope, low-income, urban and rural areas are disproportionately affected.¹⁷ Moreover, in the U.S. there has been rapid population growth in small metropolitan areas and what are referred to as "exurbs"—large non-urban areas typically longer distances from city centers.¹⁸ These areas have rapidly become a concern for public health experts, as these areas typically have very low densities

¹¹ Y. Liu et al., "Factors Influencing Patient Adherence with Diabetic Eye Screening in Rural Communities: A Qualitative Study," *PLoS One* 13, no. 11 (2018).

¹² See generally S. Collins, "Primary Care Shortages: Strengthening This Sector Is Urgently Needed, Now and in Preparation for Healthcare Reform," *Am Health Drug Benefits* 5, no. 1 (2012); A. Friedman et al., "A Typology of Primary Care Workforce Innovations in the United States since 2000," *Med Care* 52, no. 2 (2014); D. G. Kirch, M. K. Henderson, and M. J. Dill, "Physician Workforce Projections in an Era of Health Care Reform," *Annu Rev Med* 63 (2012); Knickman and Snell; C. Marchand and S. Peckham, "Addressing the Crisis of Gp Recruitment and Retention: A Systematic Review," *Br J Gen Pract* 67, no. 657 (2017); M. C. McCarthy et al., "Meeting Increasing Demands for Rural General Surgeons," *Am Surg* 81, no. 12 (2015); E. Salsberg and A. Grover, "Physician Workforce Shortages: Implications and Issues for Academic Health Centers and Policymakers," *Acad Med* 81, no. 9 (2006).

¹³ For example, see Collins; Friedman et al; Marchand and Peckham.

¹⁴ For example, see McCarthy et al; T. R. Russell, "The Surgical Workforce: Averting a Patient Access Crisis," *Surg Clin North Am* 87, no. 4 (2007); G. F. Sheldon, "Workforce Issues in General Surgery," *Am Surg* 73, no. 2 (2007).

¹⁵ Kirch, Henderson, and Dill.

¹⁶ The Lewin Group, "Eye Care Workforce Study: Supply and Demand Projections" 2014.

¹⁷ See generally R. S. Baker et al., "Access to Vision Care in an Urban Low-Income Multiethnic Population," *Ophthalmic Epidemiol* 12, no. 1 (2005); B. R. Casey et al., "Rural Kentucky's Physician Shortage: Strategies for Producing, Recruiting, and Retaining Primary Care Providers within a Medically Underserved Region," *J Ky Med Assoc* 103, no. 10 (2005); L. A. Hark et al., "Improving Access to Vision Screening in Urban Philadelphia Elementary Schools," *J aapos* 20, no. 5 (2016); Kirtland et al; M. R. Wilson and D. R. Ezzuduemhoi, "Ophthalmologic Disorders in Minority Populations," *Med Clin North Am* 89, no. 4 (2005).

¹⁸ W.H. Frey, "Us Population Disperses to Suburbs, Exurbs, Rural Areas, and "Middle of the Country" Metros," in *THE AVENUE* (Brookings Institution, 2018).

of providers. However, given doctor's of optometry sweeping geographic accessibility (see 2.7) and the ability of comprehensive eye examinations to discover the ocular manifestations of 276 systemic diseases, doctors of optometry are favorably positioned to make initial diagnoses and refer to primary care and specialty providers as necessary.

2.3. *Training.* Doctors of optometry already serve communities as primary eye care providers, and, as highly trained physicians, can – and do, in several states – provide many of the same primary care procedures as their ophthalmology counterparts. There is considerable overlap in the education and medical training for doctors of optometry and ophthalmologists. Optometry school, like medical school, is a four-year graduate-level program often followed by a residency program. While ophthalmologists may devote those years of medical school to general medical knowledge, it's only in their residencies where ophthalmologists learn the specifics about visual systems and eye surgery.¹⁹ Consequently, doctors of optometry, whose training also includes general medical knowledge, benefit from substantially more applied clinical experience compared to that of a typical medical doctor. Consider State University of New York College of Optometry, where optometry students are immersed in the University Eye Center clinic from their first year and direct patient care begins increasing in their second year.²⁰ Similarly, consider the curriculum at The Ohio State University College of Optometry, where optometry students take classes ranging from Clinical Ocular Pharmacology, Management of Glaucoma, Systemic Disease for Optometry, Surgery and Co-Management of Ocular Disease, and significantly more.²¹ While education and training may be similar, the distinction couldn't be more apparent between a profession that provides primary eye care services – i.e., the examination, diagnosis, treatment and management of diseases, injuries and disorders of the visual system, the eye and associated structures, as well as identifying related systemic conditions – and one that specializes in the referred care of these patients requiring eye surgery. In fact, HHS noted that doctors of optometry can provide the same services as other physician groups, and as previously noted HHS further advised, “states should consider changes to their scope of practice statutes to allow all health care providers to practice to the top of their license, utilizing their full skill set.”²² There are currently more than 46,000 doctors of optometry practicing in the U.S., providing primary eye care in more than 10,000 communities; only 12% of counties lack access to an eye care provider.²³

¹⁹ UCLA, "Optometrist Vs. Ophthalmologist: What's the Difference?," (David Geffen School of Medicine, University of California, Los Angeles (UCLA), 2016).

²⁰ SUNY's curriculum, <https://www.sunyopt.edu/education/academics/od-program/od-curriculum>

²¹ Ohio State University's curriculum, <https://optometry.osu.edu/curriculum>

²² Alex M. Azar II, "Reforming America's Healthcare System through Choice and Competition," (U.S. Department of Health and Human Services: U.S. Department of Health and Human Services, 2018).

²³ Based on HPI, "Fact Sheet: County Demonstrates Eye Care Access Nationwide," (Washington, D.C.: American Optometric Association: Health Policy Institute, 2018). The HPI report is a correction of D. M. Gibson, "The Geographic Distribution of Eye Care Providers in the United States: Implications for a

2.4. *Quality.* Doctors of optometry provide a high level of quality care that is commensurate to that of ophthalmologists, and U.S.-based outcomes studies consistently reinforce this fact.²⁴ Moreover, these findings have borne out in several analogous studies conducted outside of the U.S., showing that doctors of optometry provide not only quality primary eye care²⁵ but also quality advanced eye care.²⁶ As a testament to this quality of care, not a single state has reversed or amended statutes or regulations to restrict the scope of practice of doctors of optometry following expansion of their scope of practice.

2.5. *Productivity.* Doctors of optometry increase the overall productivity (i.e., output per unit of input) of eye care in a variety of treatment settings.²⁷ This is demonstrated by the outcomes associated with interdisciplinary, coordinated eye care teams, wherein the doctor of optometry plays a critical role. Early indications of the success of this model were reported by Cohen et al., who found that the integrated program deployed in the Veterans Administration (VA) Medical Center environment resulted in improved patient satisfaction, improved working relationships among ophthalmologists and doctors of optometry, and enhanced staff productivity.²⁸ These general findings were confirmed more recently by Lynch et al., who also examined productivity in the VA setting.²⁹ Collaborative programs have also been shown to work well in commercial managed care settings, where some studies have shown that greater reliance on doctors of optometry results in higher overall productivity and efficiency.³⁰ These findings have been supported

National Strategy to Improve Vision Health," *Prev Med* 73 (2015). The HPI report used more up to date data and accounted for optometrists practicing in multiple locations.

²⁴ For example, see D. A. Revicki and M. L. Poe, "Quality of Care in Cataract Surgery Cases Experiencing Post-Operative Complications with Co-Managed Care," *J Am Optom Assoc* 66, no. 5 (1995); A. H. Cohen et al., "Integrating Ophthalmological and Optometric Services in a Va Hospital Program," *Public Health Rep* 101, no. 4 (1986); M. Soroka et al., "Optimal Clinical Management of Eye Problems: The Role of Optometrists in Managed Care Plans," *Optometry* 71, no. 12 (2000).

²⁵ For example, see A. Azuara-Blanco et al., "The Accuracy of Accredited Glaucoma Optometrists in the Diagnosis and Treatment Recommendation for Glaucoma," *Br J Ophthalmol* 91, no. 12 (2007).

²⁶ For example, see H. Baker et al., "Effectiveness of Uk Optometric Enhanced Eye Care Services: A Realist Review of the Literature," *Ophthalmic Physiol Opt* 36, no. 5 (2016); A. Jindal et al., "Agreement among Optometrists and Ophthalmologists in Estimating Limbal Anterior Chamber Depth Using the Van Herick Method," *ibid.* 35, no. 2 (2015); D. Z. Reinstein et al., "Reproducibility of Manifest Refraction between Surgeons and Optometrists in a Clinical Refractive Surgery Practice," *J Cataract Refract Surg* 40, no. 3 (2014).

²⁷ J. C. Erie, D. O. Hodge, and M. A. Mahr, "Joint Management of Cataract Surgery by Ophthalmologists and Optometrists," *Ophthalmology* 123, no. 3 (2016).

²⁸ Cohen et al.

²⁹ M. G. Lynch et al., "Eye Care Productivity and Access in the Veterans Affairs Health Care System," *Mil Med* 182, no. 1 (2017).

³⁰ For example, see Soroka et al; M. Soroka et al., "Alternative Arrangements for the Delivery of Eye Care Services within Staff Model Managed Care Organizations," *ibid.* 74, no. 11 (2003).

by comparable study results from non-U.S. studies.³¹ Optometry led multi-disciplinary teams can enhance the delivery of care and leverage the expertise of a variety of provider types.

2.6. *Competition.* Doctors of optometry contribute to the overall competitiveness of the U.S. health care landscape, and there is unequivocal evidence that competition (in this case measured as a larger overall number of clinicians providing eye care) results in better outcomes and at lower overall costs. There is now a large body of evidence showing that market-based innovation and competition have resulted in better health outcomes and better organizational efficiency, a concept that originally gained a foothold in the 1990s and 2000s with the publication of several rigorous studies showing evidence of the benefits of competition on costs and quality.³²

2.7. *Access.* Doctors of optometry deliver 85 percent of the primary eye health care in the U.S., practicing in counties that span 99 percent of the U.S. population.³³ Moreover, nearly a third of all voters nationwide report visiting a doctor of optometry in the past year as opposed to only 22% who visited an ophthalmologist.³⁴ Taken together, these figures demonstrate that doctors of optometry are wholly accessible in communities, large and small, nationwide. Restrictive state laws based on outdated assumptions of the profession's skillset continue to create barriers arbitrarily imposed by state legislatures to patient care that could be surpassed with scope of practice expansion that realizes the full potential of doctor's of optometry education and training. Given the aforementioned disconnect between rising demand and static supply, doctors of optometry practicing in states with expanded scope of practice can improve overall access to eye care. Research shows that more providers per capita leads to better access to care, and better access to

³¹ For example, see A. M. Mongan et al., "Changing Trends in Postoperative Cataract Care: Impact of Electronic Patient Records in Optometrist-Delivered Shared Care," *Ir J Med Sci* 187, no. 2 (2018); M. Shah et al., "Task Sharing: Development of Evidence-Based Co-Management Strategy Model for Screening, Detection, and Management of Diabetic Retinopathy," *Int J Health Plann Manage* 33, no. 4 (2018); W. Wittich, A. Canuto, and O. Overbury, "Overcoming Barriers to Low-Vision Rehabilitation Services: Improving the Continuum of Care," *Can J Ophthalmol* 48, no. 6 (2013).

³² For example, see L. C. Baker, M. K. Bundorf, and D. P. Kessler, "Competition in Outpatient Procedure Markets," *Med Care* 57, no. 1 (2019); FTC, "Improving Healthcare. A Dose of Competition," *Dev Health Econ Public Policy* 9 (2005); D. R. Haley et al., "The Influence of Hospital Market Competition on Patient Mortality and Total Performance Score," *Health Care Manag (Frederick)* 35, no. 3 (2016); H. J. Jiang, B. Friedman, and S. Jiang, "Hospital Cost and Quality Performance in Relation to Market Forces: An Examination of U.S. Community Hospitals in the 'Post-Managed Care Era'," *Int J Health Care Finance Econ* 13, no. 1 (2013); J. Rogowski, A. K. Jain, and J. J. Escarce, "Hospital Competition, Managed Care, and Mortality after Hospitalization for Medical Conditions in California," *Health Serv Res* 42, no. 2 (2007).

³³ www.aoa.org/documents/HPI/HPI%20Uniform%20Edit%20Format%20ACCESS%20TO%20EYE%20CARE.pdf

³⁴ Southpaw Insights, "Americans' Thoughts and Experiences Around Vision Care", 2019

care leads to better health outcomes.³⁵ To illustrate this relationship, a literature review by Macinko et al. found that an increase of one primary care physician per 10,000 population was associated with an average mortality reduction of 5.3%, or 49 per 100,000 per year.³⁶ Several studies show that a larger number of doctors of optometry improves access to primary eye health care. Among adults with diabetes, for example, Chou et al. found that access to dilated eye exams was worse in U.S. counties with fewer eye care professionals (ECPs).³⁷ In addition, Soroka et al. found that access to eye care in New York State improved significantly as the supply of doctors of optometry increased.³⁸

2.8. *Scope of Practice.* The U.S. is a patchwork of optometric scope of practice acts, as disparate from one state to the next as the outmoded, merit-less reasons for unnecessarily limiting optometric services. However, there is historical precedent for expanding scope of practice when the demand of eye care widens beyond the supply of eye care professionals. As the aforementioned access benefits associated with increasing provider supply and an evolving medical-model curriculum in the schools and colleges of optometry became more apparent, states began passing laws allowing optometrists to perform a wider array of services, referred to as scope of practice expansion laws.³⁹ The four basic interconnected legislative topics have been: (1) the use of diagnostic pharmaceutical agents (DPA); (2) diagnosis of disease; (3) prescription of therapeutic pharmaceutical agents (TPA); and (4) performance of surgical procedures.⁴⁰ Of these, granting doctors of optometry DPA privileges was the first momentous step in scope of practice expansion legislation and a long process that took decades to fully realize – beginning with Rhode Island in 1971 and only concluding with Maryland in 1989. Next, doctors of optometry focused their legislative efforts on the ability to diagnose diseases or conditions of the eye, as well as gain authorization to prescribe medications to treat those conditions, a particularly watershed moment considering the profession had long been trained and educated to provide that level of care yet were restricted by their respective scope of practice laws. In fact, it wasn't until 2004 that Vermont became the last remaining state where the legislature authorized optometrists to diagnose diseases and disorders of the eye versus detect. This was done in recognition of the ever-expanding education and training of optometrists into medical eye care. The District of Columbia was the last jurisdiction to grant doctors of optometry the right to prescribe drugs (TPA privileges) for their patients, and even then, this authority is still not uniform across all states. In the

³⁵ X. Zhang et al., "Measuring Access to Eye Care: A Public Health Perspective," *Ophthalmic Epidemiol* 15, no. 6 (2008).

³⁶ J. Macinko, B. Starfield, and L. Shi, "Quantifying the Health Benefits of Primary Care Physician Supply in the United States," *Int J Health Serv* 37, no. 1 (2007).

³⁷ C. F. Chou et al., "Impact of Geographic Density of Eye Care Professionals on Eye Care among Adults with Diabetes," *Ophthalmic Epidemiol* 19, no. 6 (2012).

³⁸ M. Soroka, "The New York State Optometry Workforce Study," *J Community Health* 37, no. 2 (2012).

³⁹ S. L. Cooper, "1971 - 2011: Forty Year History of Scope Expansion into Medical Eye Care," *Optometry* 83, no. 2 (2012).

⁴⁰ Ibid.

fourth form of scope of practice expansion legislation - performance of surgical procedures - doctors of optometry have focused their legislative efforts on surgical privileges and the use of lasers for therapeutic purposes. While Iowa became the first state to specifically authorize removal of superficial foreign bodies in 1985, over time, variations of the law have been enacted in different states nationwide. Such was the case in 1988 when Oklahoma was one of 4 states where “the law at that time did not have a specific prohibition against the performance of surgery in the Optometry Act.”⁴¹ Since then, Kentucky, Alaska, and Louisiana have successfully followed suit.

2.9. In sum, the following scope of practice expansions are noteworthy since 1998: 5 states gained authority to perform laser procedures (including “lumps and bumps”); 4 states gained authority to perform surgical excisions of external lesions including potential malignancies (remove lumps and bumps); 10 states gained authority to perform additional surgical procedures as authorized by the state; 7 states gained authority to treat glaucoma with any topical medication or topical and oral treatment, making glaucoma treatment authorized in 49 states and the District of Columbia; 14 states gained authority to prescribe any oral medications, bringing the total authorized jurisdictions to 47 states plus the District of Columbia; 17 states gained authority to prescribe any oral controlled substance, bringing the total to 44 states authorized; and 18 jurisdictions gained authority to administer injectables (anaphylaxis or anaphylaxis and other), making injectables authorized in 35 states and the District of Columbia.

2.10. *Advanced Procedures.* Currently, four states – Alaska, Louisiana, Kentucky and Oklahoma – permit certain advanced surgical procedures, such as phototherapeutic keratectomy (PTK) laser eye surgery, YAG laser capsulotomy and trabeculoplasty, under their scope of practice acts.⁴² Additionally, Arkansas recently passed a scope of practice expansion that will add to this list of states with some advanced surgical procedures. This is not only consequential for patients, as doctors of optometry gain authority to deliver the full range of primary eye health care services, but also for ophthalmologists who will be allotted more time to focus on their surgical specialty, released from the time constraint of non-invasive or minimally invasive procedures that can be – and are, in the aforementioned states – now routinely performed by doctors of optometry. Evidence shows that access to eye health and vision care is an essential priority among voters nationwide (96%), second only to access to primary health care services (97%). Similarly, it is important to note that convenience is a key determinant for 80% of American voters when it comes to their eye health, reporting they’d rather have easy access to a doctor of optometry than have to travel further or wait longer to schedule with a specialist. As scope of practice authority expands for doctors of optometry, patients can safely receive certain advanced procedures and services previously only authorized by ophthalmologists. Significantly, in the four states

⁴¹ Ibid.

⁴² K. Chodnicki et al., “A Systematic Evaluation of State Laws Governing Optometric Glaucoma Management in the United States Up to 2015,” *J Glaucoma* 27, no. 3 (2018).

where these advanced surgical procedures have been enacted, stretching as far back as 1998 in the case of Oklahoma, there have been no malpractice judgements against doctors of optometry related to these procedures. In fact, there are hardly any incidents reported at all. Doctors of optometry have demonstrated they safely, efficiently perform advanced procedures in an effective primary eye care model that plays to either discipline's – optometry and ophthalmology – strengths. More than 22 million Americans, aged 40 and older, are affected by cataracts, making cataract surgery one of the most common procedures in the U.S.⁴³ In 2015, only about 9,000 ophthalmic surgeons performed 3.6 million cataract surgeries, or about 400 cataract surgeries per year, per ophthalmologist.⁴⁴ Optometry has the education, training and workforce supply to handle the demand for these primary eye care services in a model that permits ophthalmology more capacity for necessary surgeries. Further, Americans overwhelmingly support this model: 91% of voters' nationwide support laws that allow doctors of optometry to provide the full range of care commensurate to their education and training (discussed further in Section 4.2).

- 2.11. *Transaction Costs.* Doctors of optometry reduce the overall transaction costs associated with obtaining eye health care services, especially among states with advanced procedures permitted under expanded scope of practice, in addition to improving overall access. Transaction costs associated with medical care consist mainly of time; according to the American Time Use Survey, individuals in the U.S. spend an average of 2.06 hours each time they obtain medical care.⁴⁵ The average U.S. hourly wage, as of April 2019, is \$27.77. Thus, the average medical care transaction cost (in terms of time only), is \$57.21.⁴⁶ This concept has been applied to eye care "transactions" in several studies. For example, Ihrig et al. assessed travel cost savings associated with telerehabilitation for low-vision care in the VA community.⁴⁷ This study was focused on assessing travel mileage and travel time, and did not assess the quality of the care provided via telehealth services. When focusing on time and travel cost, the researchers found that adding low-vision telerehabilitation services (i.e., reduction in travel time) resulted in a 24% increase in utilization of low-vision patient care combined with a reduction in median travel time of 2.09 per case, resulting in a transaction cost savings of \$65 per case. Transaction costs also rise with waiting times, and long wait times have been identified as barriers to obtaining necessary

⁴³<https://www.beckersasc.com/news-analysis/10-statistics-and-facts-about-ophthalmology-and-ophthalmologists.html>

⁴⁴ "The Future of Cataract Surgery," *Ophthalmology Times* 2017.

⁴⁵ Time spent obtaining medical care plus any necessary travel. Based on American Time Use Survey, Table A-1. Time spent in detailed primary activities and percent of the civilian population engaging in each activity, averages per day by sex, 2017 annual averages

⁴⁶ Based on the Bureau of Labor Statistics, Table B-3. Average hourly and weekly earnings of all employees on private nonfarm payrolls by industry sector, seasonally adjusted

⁴⁷ C. Ihrig, "Travel Cost Savings and Practicality for Low-Vision Telerehabilitation," *Telemed J E Health* (2018).

follow-up care for diabetic retinopathy.⁴⁸ It is also worth noting that driving time is in many cases more arduous for individuals with visual impairment, thereby further increasing the overall transaction costs associated with obtaining eye care.⁴⁹ Again, transaction costs are increasingly important given the current trends in U.S. population dynamics; that is, the aging population, overall population growth in exurbs, and the declining numbers of medical providers in urban and rural areas. Unlike their medical counterparts, optometrists are currently practicing in 82% of counties (or county equivalents) where a majority of the population is rural⁵⁰, providing access to primary eye health care services. Moreover, this increased access to primary eye health care services afforded by doctors of optometry further reduces redundant visits for follow up care. Among states with the most advanced scope of practice, drawing on as much as two decades of advanced eye care procedures and services in the case of Oklahoma (discussed in 2.10), the percentage of residents seeing both a doctor of optometry and ophthalmologist for care is lower than the national average. While 7% of voters' nationwide report personally visiting both a doctor of optometry and ophthalmologist in the past year, only 4%, 4% and 5% report the same among Oklahoma, Louisiana and Kentucky, respectively. The decreased duplication of care further reduces these transaction costs on behalf of the patient and health care costs from multiple providers.

⁴⁸ A. J. Lu et al., "Analysis of Patient-Reported Barriers to Diabetic Retinopathy Follow-Up," *Ophthalmic Surg Lasers Imaging Retina* 50, no. 2 (2019).

⁴⁹ J. M. Wood and A. A. Black, "Ocular Disease and Driving," *Clin Exp Optom* 99, no. 5 (2016).

⁵⁰ www.aoa.org/documents/HPI/HPI%20Uniform%20Edit%20Format%20ACCESS%20TO%20EYE%20CARE.pdf

3. COST-BENEFIT

- 3.1. *Overview.* In this section, we conduct a simple cost-benefit analysis in the form of a simulation model to estimate the overall economic value of doctors of optometry. This descriptive analysis ties together some of the concepts from Section 2.0 above to form a picture of the overall value doctors of optometry contribute to the U.S. health care system.⁵¹ The cost-benefit calculation is based on two sources of value: (1) the health benefits associated with access to care; and (2) the transaction cost reductions (see Section 2.11 above) associated with ease of access to services (i.e., approximated by the density of providers). There are, of course, other sources of value, such as economic impact by way of a normal health care expenditure multiplier, but in this case, for simplicity we assume that those effects are the same across all providers of care.
- 3.2. The analysis hypothesized that by expanding the array of services that doctors of optometry can provide (i.e., through scope of practice expansion laws) increased access to care will generate overall health care savings by way of better health outcomes and lower transaction costs. The analysis assumes a cohort of all U.S. patients seeking eye care in a given year. The main diseases and conditions assumed to be most impacted by doctors of optometry, as denoted by disease prevalence are age-related macular degeneration, age 50 and older (AMD; n=2,069,403); cataract (n=24,409,978); diabetic retinopathy (n=7,685,237), and glaucoma (n=2,719,379).⁵² Together, these conditions affect 36,883,997 individuals in the U.S.
- 3.3. First, the cost-benefit model described the total number of patient visits (to either a doctor of optometry or an ophthalmologist) associated with the aforementioned conditions. Based on prevalence – and given the nature of these conditions and diseases that require repeat visits with an eye care provider – our model conservatively projected a total of 100 million patient visits per year to any eye care provider for the four conditions.⁵³ Then, based on a very conservative estimate of scope of practice expansion, we increased this amount by only 10%. Our rationale behind this diminutive figure is because, statistically, it is

⁵¹ This analysis approaches “savings” only from the perspective of estimated savings to the U.S. health system. There are other benefits, such as “multiplier” benefits to the national and state economies, but these are not considered here. Thus, our estimates could be considered conservative; the actual value to the U.S. economy (of scope of practice expansion) could actually be considerably larger than what we report here.

⁵² These are the main “age-related” diseases affecting those over the age of 40, as listed by disease prevalence. There are of course many other important diseases and conditions impacted by optometrists, but the data for the age-related conditions (and more generally for the aged cohort) is generally more complete. Refer to NEI, “Prevalence of Adult Vision Impairment and Age-Related Eye Diseases in America,” (Washington, D.C.: National Institutes of Health, National Eye Institute, 2016).

⁵³ There is some debate in the literature on the actual range of this number. We use the estimates developed by Wilson et al. because it appears to be a generally conservative estimate, based on multiple sources. Refer to F. A. Wilson, J. P. Stimpson, and Y. Wang, “Inconsistencies Exist in National Estimates of Eye Care Services Utilization in the United States,” *J Ophthalmol* 2015 (2015). Summing data from other reports and published studies arrives at a similar number.

difficult to develop sufficiently long time periods to capture temporal effects and sufficiently heterogeneous variation across states to capture cross-section effects.⁵⁴ Thus, we define the status quo as 100 million patient visits per year for these four conditions, and scope of practice expansion conservatively elevates this to 110 million visits in our model.

3.4. *Transaction Cost Effects.* Based on the discussion in Section 2.11 above, we estimate the expected transaction costs associated with an eye care visit to be \$50, which is lower than the amount derived above and substantially lower than the amount found by Ihrig et al. This translates to total eye care transaction costs of \$5.0 billion (for the status quo). It is then assumed that the 10% increase in access to care lowers these transaction costs by 20% (to \$40), which is a conservative figure based on Lee et al., who found that travel distances to ophthalmologists may be as much as 50% longer than travel distances to doctors of optometry.⁵⁵ At the higher service volume, this results in total transaction costs of \$4.4 billion, and a difference (i.e., estimated savings) of \$600 million per year, or \$16.27 per eye care patient visit per year.

3.5. *Outcomes Effects.* To assess the savings impact of scope of practice expansion on access to eye health care, we first derived an estimate of the total annual costs of the four diseases and conditions. Based on direct medical care expenditures and other direct costs (and excluding work productivity losses), we found these costs to be \$27.3 billion per year.⁵⁶ Again, our analysis' hypothesis is that this amount can be reduced by improving access and thereby improving care (e.g., earlier diagnosis, timely treatment). There is a wide variety of literature identifying the health outcomes effects of what would generally be considered optimal treatment, but it is difficult to properly meta-analyze these sources due to the diversity of outcomes measured. However, we were able to settle upon the impact at about \$4 billion per year (i.e., assuming all patients were treated "more optimally" compared to the status quo).⁵⁷ This represents a savings of 14.65% and about \$108.45 per eye care patient per year.

⁵⁴ Both of these tasks were attempted for this analysis, with a large array of statistical models tested; models did not yield stable results. However, using number of providers as a post-scope of practice expansion metric, Chodnicki et al. found that states with scope of practice expansion had approximately 23% more providers, hence the 10% estimate seems both reasonable and conservative. Refer to Chodnicki et al.

⁵⁵ C. S. Lee et al., "Evaluating Access to Eye Care in the Contiguous United States by Calculated Driving Time in the United States Medicare Population," *Ophthalmology* 123, no. 12 (2016).

⁵⁶ Based on two studies: *ibid.*; D. B. Rein et al., "The Economic Burden of Major Adult Visual Disorders in the United States," *Arch Ophthalmol* 124, no. 12 (2006); M. Salm, D. Belsky, and F. A. Sloan, "Trends in Cost of Major Eye Diseases to Medicare, 1991 to 2000," *Am J Ophthalmol* 142, no. 6 (2006).

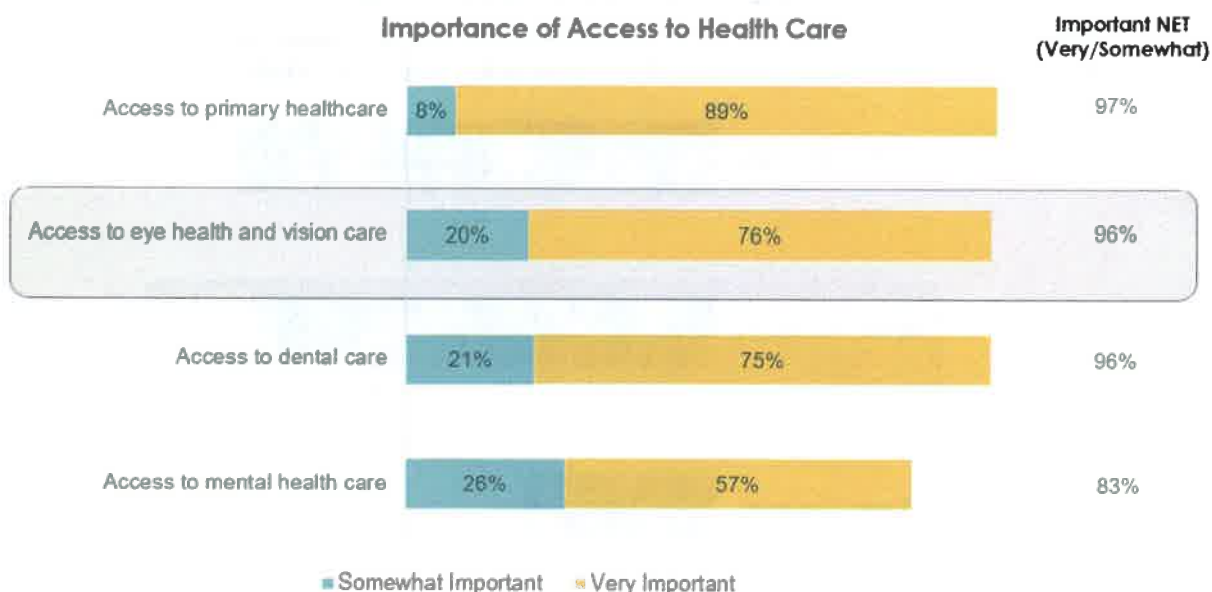
⁵⁷ See generally J. C. Javitt, "Cost Savings Associated with Detection and Treatment of Diabetic Eye Disease," *Pharmacoeconomics* 8 Suppl 1 (1995); Macinko, Starfield, and Shi; D. B. Rein, "Vision Problems Are a Leading Source of Modifiable Health Expenditures," *Invest Ophthalmol Vis Sci* 54, no. 14 (2013); Soroka et al.

3.6. *Total Effects.* Taken together, transaction cost effects and health outcomes effects result in total estimated savings of \$4.6 billion per year. This is, of course, a conservative number, but each of the parameters used in its calculation are reasonable at face value based on the existing literature. In terms of sensitivity analysis, $\pm 10\%$ changes in the estimates of key parameters (i.e., scope of practice expansion effects of 10%; transaction savings of 20%, and savings from better outcomes of 14.65%) results in only minor differences, with resulting additional cost savings in the range of about \$3.5 billion to \$5.5 billion annually.

4. PUBLIC PERCEPTIONS

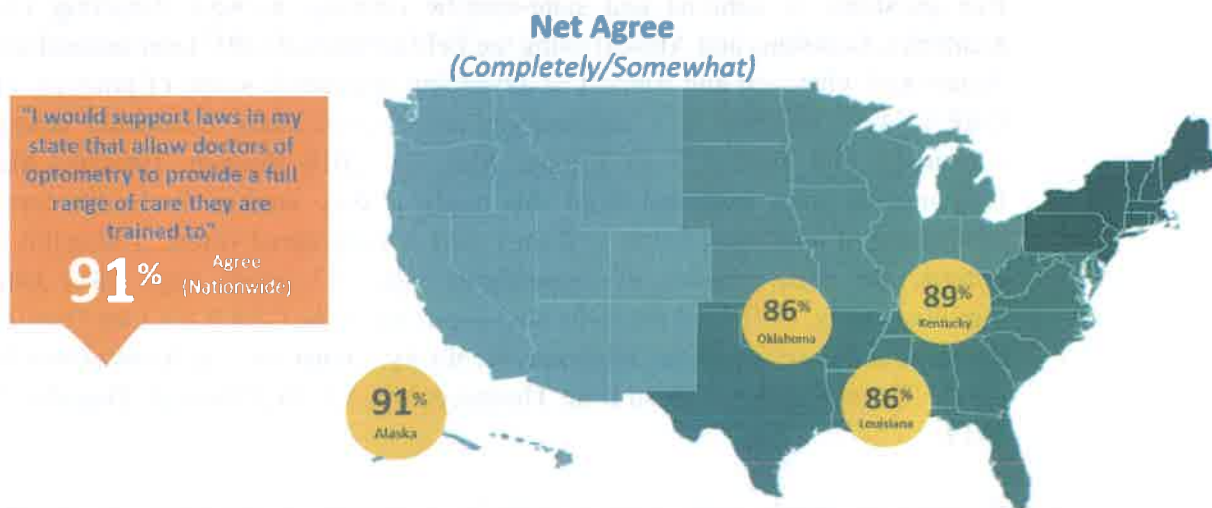
- 4.1. To bring into focus some of the important concepts discussed in the preceding sections of this report, Southpaw Insights (“SI”) was commissioned to conduct a survey on American voters’ thoughts and experiences pertaining to eye health and vision care. They fielded five questions in national and state-specific omnibus surveys (targeting Oklahoma, Kentucky, Louisiana and Alaska) using the field services of ORC International to measure Americans’ views on and support of advancing optometric scope of practice. The ORC CARAVAN Omnibus is a national online research study conducted among 1,000 consumers and fielded from Friday, May 24, 2019 through Tuesday, May 26th. Respondents were excluded from this study if they worked in health care, media, advertising or marketing fields, or if they were not registered voters. Using this audience criteria, the total number of respondents was 757 adults (age 18+) nationwide. Simultaneously, SI fielded the same five questions in the CARVAN Geo Omnibus using the same audience targets in Oklahoma, Kentucky, Louisiana, and Alaska (N=125 in each state). The survey was fielded from Thursday, May 23, 2019 through Thursday, May 30, 2019.
- 4.2. Remarkably, nearly every voter nationwide considers having access to eye health and vision care, for themselves and their family, a priority; three quarters of voters consider access to eye health and vision care *very* important (76%) while 96% say it is either very or somewhat important (Figure 4-1). This sentiment was shared across the four states where scope of practice has already expanded to include advanced surgical procedures – Alaska, Oklahoma, Louisiana, and Kentucky.

Figure 4-1. Importance of Access to Health Care



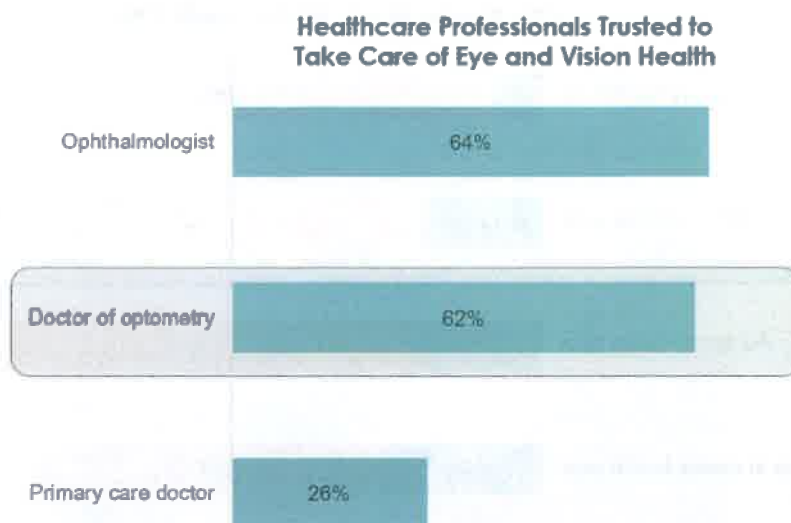
- 4.3. Nine out of ten voters nationwide support laws that allow doctors of optometry to provide a full range of care. This sentiment is shared among voters residing in Alaska, Oklahoma, Louisiana, and Kentucky. (Figure 4-2).

Figure 4-2. Support Laws that Allow Doctors of Optometry to Provide Full Range of Care



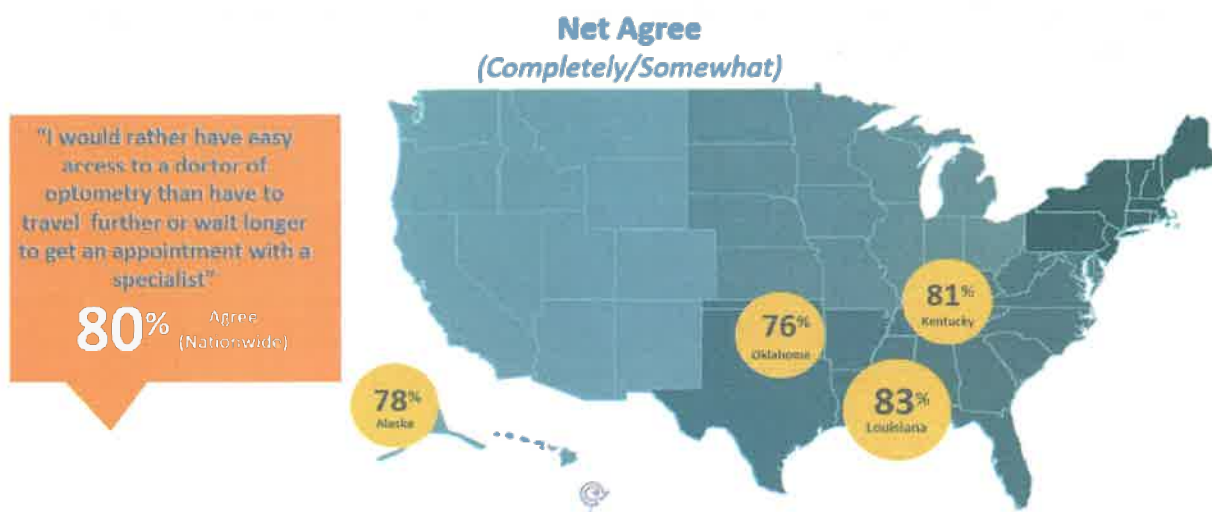
- 4.4. Trust in doctors of optometry is high with nearly two thirds of voters saying they trust a doctor of optometry to take care of their eye and vision health as compared to only a quarter of voters who trust their primary care doctor with their eye health (Figure 4-3). This high level of trust in doctors of optometry is shared across the four priority states. Nearly all voters nationwide (91%) support laws that allow doctors of optometry to provide a full range of care.

Figure 4-3. Trust in Health Care Professionals



4.5. Finally, convenience is key for 80% of American voters when it comes to their eye health (Figure 4-4). Eight in ten voters nationwide say they would rather have easy access to a doctor of optometry than have to travel further or wait longer to get an appointment with a specialist. Nearly eight in ten voters nationwide agree that having competition in health care is a good way to lower costs. Three quarters of voters residing in Alaska, Oklahoma, and Kentucky and nearly nine in ten in Louisiana view competition in the health industry positively.

Figure 4-4. Convenience for Eye Health



CONCLUSION

Information presented in this report clearly outlines the case for expanded scope of practice for doctors of optometry, allowing them to diagnose, treat and practice to the highest levels of their knowledge, education and training. The overwhelming support and trust among U.S. voters for doctors of optometry to practice at the highest levels of their training (91%), coupled with voters' sense of importance placed on access to qualified providers like doctors of optometry (96%), accentuates the disparity between practical application and antiquated opposition to legislative efforts which enhance scope of practice. This unequivocal support by American voters, when coupled with the conservative health care savings estimate of over \$4.6 billion annually, proves undeniably that expanded scope of practice legislation for doctors of optometry, to the highest levels taught and trained, is necessary to meet the increasing demands on the U.S. health care system.

REFERENCES

- Azuara-Blanco, A., J. Burr, R. Thomas, G. MacLennan, and S. McPherson. "The Accuracy of Accredited Glaucoma Optometrists in the Diagnosis and Treatment Recommendation for Glaucoma." [In eng]. *Br J Ophthalmol* 91, no. 12 (Dec 2007): 1639-43.
- Baker, H., G. Ratnarajan, R. A. Harper, D. F. Edgar, and J. G. Lawrenson. "Effectiveness of Uk Optometric Enhanced Eye Care Services: A Realist Review of the Literature." [In eng]. *Ophthalmic Physiol Opt* 36, no. 5 (Sep 2016): 545-57.
- Baker, L. C., M. K. Bundorf, and D. P. Kessler. "Competition in Outpatient Procedure Markets." [In eng]. *Med Care* 57, no. 1 (Jan 2019): 36-41.
- Baker, R. S., M. Bazargan, S. Bazargan-Hejazi, and J. L. Calderon. "Access to Vision Care in an Urban Low-Income Multiethnic Population." [In eng]. *Ophthalmic Epidemiol* 12, no. 1 (Feb 2005): 1-12.
- Casey, B. R., J. Owens, D. A. Gross, and L. M. Dixon. "Rural Kentucky's Physician Shortage: Strategies for Producing, Recruiting, and Retaining Primary Care Providers within a Medically Underserved Region." [In eng]. *J Ky Med Assoc* 103, no. 10 (Oct 2005): 505-13.
- CDC. "National Diabetes Statistics Report, 2017." In *Estimates of Diabetes and Its Burden in the United States*. Washington, D.C.: Centers for Disease Control and Prevention, 2017.
- Chodnicki, K., S. Kalarn, L. Quinn, H. Jampel, and O. Saeedi. "A Systematic Evaluation of State Laws Governing Optometric Glaucoma Management in the United States Upto 2015." [In eng]. *J Glaucoma* 27, no. 3 (Mar 2018): 233-38.
- Chou, C. F., X. Zhang, J. E. Crews, L. E. Barker, P. P. Lee, and J. B. Saaddine. "Impact of Geographic Density of Eye Care Professionals on Eye Care among Adults with Diabetes." [In eng]. *Ophthalmic Epidemiol* 19, no. 6 (Dec 2012): 340-9.
- Cohen, A. H., S. A. Martin, R. Soden, M. Meyer, S. Liss, and W. L. Hodson. "Integrating Ophthalmological and Optometric Services in a Va Hospital Program." [In eng]. *Public Health Rep* 101, no. 4 (Jul-Aug 1986): 429-32.
- Collins, S. "Primary Care Shortages: Strengthening This Sector Is Urgently Needed, Now and in Preparation for Healthcare Reform." [In eng]. *Am Health Drug Benefits* 5, no. 1 (Jan 2012): 40-7.
- Cooper, S. L. "1971 - 2011: Forty Year History of Scope Expansion into Medical Eye Care." [In eng]. *Optometry* 83, no. 2 (Feb 15 2012): 64-73.
- Erie, J. C., D. O. Hodge, and M. A. Mahr. "Joint Management of Cataract Surgery by Ophthalmologists and Optometrists." [In eng]. *Ophthalmology* 123, no. 3 (Mar 2016): 505-13.
- Frey, W.H. "Us Population Disperses to Suburbs, Exurbs, Rural Areas, and "Middle of the Country" Metros." In *THE AVENUE*: Brookings Institution, 2018.
- Friedman, A., K. A. Hahn, R. Etz, A. M. Rehwinkel-Morfe, W. L. Miller, P. A. Nutting, C. R. Jaen, E. K. Shaw, and B. F. Crabtree. "A Typology of Primary Care Workforce Innovations in the United States since 2000." [In eng]. *Med Care* 52, no. 2 (Feb 2014): 101-11.
- FTC. "Improving Healthcare. A Dose of Competition." [In eng]. *Dev Health Econ Public Policy* 9 (2005): vii-xi, 1-430.
- "The Future of Cataract Surgery." *Ophthalmology Times*, 2017.
- Gauer, B. B., T. S. Erickson, R. L. Ulland, and W. B. Bleything. "Access, Provision, and Cost of Routine Eye Care: A Comparison of Oregon Optometrists and Ophthalmologists." [In eng]. *J Am Optom Assoc* 65, no. 4 (Apr 1994): 240-7.
- Gibson, D. M. "The Geographic Distribution of Eye Care Providers in the United States: Implications for a National Strategy to Improve Vision Health." [In eng]. *Prev Med* 73 (Apr 2015): 30-6.
- Haley, D. R., M. Zhao, A. Spaulding, H. Hamadi, J. Xu, and K. Yeomans. "The Influence of Hospital Market Competition on Patient Mortality and Total Performance Score." [In eng]. *Health Care Manag (Frederick)* 35, no. 3 (Jul-Sep 2016): 266-76.

- Hark, L. A., E. L. Mayro, J. Tran, M. Pond, R. Schneider, J. Torosian, M. Snitzer, N. Dabbish, and A. V. Levin. "Improving Access to Vision Screening in Urban Philadelphia Elementary Schools." [In eng]. *J aapos* 20, no. 5 (Oct 2016): 439-43.e1.
- HPI. "Fact Sheet: County Demonstrates Eye Care Access Nationwide." Washington, D.C.: American Optometric Association: Health Policy Institute, 2018.
- Ihrig, C. "Travel Cost Savings and Practicality for Low-Vision Telerehabilitation." [In eng]. *Telemed J E Health* (Aug 17 2018).
- II, Alex M. Azar. "Reforming America's Healthcare System through Choice and Competition." U.S. Department of Health and Human Services: U.S. Department of Health and Human Services, 2018.
- Javitt, J. C. "Cost Savings Associated with Detection and Treatment of Diabetic Eye Disease." [In eng]. *Pharmacoeconomics* 8 Suppl 1 (1995): 33-9.
- Jiang, H. J., B. Friedman, and S. Jiang. "Hospital Cost and Quality Performance in Relation to Market Forces: An Examination of U.S. Community Hospitals in the "Post-Managed Care Era"." [In eng]. *Int J Health Care Finance Econ* 13, no. 1 (Mar 2013): 53-71.
- Jindal, A., J. Myint, D. F. Edgar, W. P. Nolan, and J. G. Lawrenson. "Agreement among Optometrists and Ophthalmologists in Estimating Limbal Anterior Chamber Depth Using the Van Herick Method." [In eng]. *Ophthalmic Physiol Opt* 35, no. 2 (Mar 2015): 179-85.
- Kakara, Elizabeth Burns; Ramakrishna. "Deaths from Falls among Persons Aged ≥ 65 Years — United States, 2007–2016." *Weekly* 67, no. 18 (2018): 509-14.
- Kirch, D. G., M. K. Henderson, and M. J. Dill. "Physician Workforce Projections in an Era of Health Care Reform." [In eng]. *Annu Rev Med* 63 (2012): 435-45.
- Kirtland, K. A., J. B. Saaddine, L. S. Geiss, T. J. Thompson, M. F. Cotch, and P. P. Lee. "Geographic Disparity of Severe Vision Loss - United States, 2009-2013." [In eng]. *MMWR Morb Mortal Wkly Rep* 64, no. 19 (May 22 2015): 513-7.
- Knickman, J. R., and E. K. Snell. "The 2030 Problem: Caring for Aging Baby Boomers." [In eng]. *Health Serv Res* 37, no. 4 (Aug 2002): 849-84.
- Lee, C. S., A. Morris, R. N. Van Gelder, and A. Y. Lee. "Evaluating Access to Eye Care in the Contiguous United States by Calculated Driving Time in the United States Medicare Population." [In eng]. *Ophthalmology* 123, no. 12 (Dec 2016): 2456-61.
- Liu, Y., N. J. Zupan, O. O. Shiyanbola, R. Swearingen, J. N. Carlson, N. A. Jacobson, J. E. Mahoney, *et al.* "Factors Influencing Patient Adherence with Diabetic Eye Screening in Rural Communities: A Qualitative Study." [In eng]. *PLoS One* 13, no. 11 (2018): e0206742.
- Lu, A. J., A. J. Chen, V. Hwang, P. Y. Law, J. M. Stewart, and D. L. Chao. "Analysis of Patient-Reported Barriers to Diabetic Retinopathy Follow-Up." [In eng]. *Ophthalmic Surg Lasers Imaging Retina* 50, no. 2 (Feb 1 2019): 99-105.
- Lynch, M. G., A. Maa, W. Delaune, J. Chasan, and G. C. Cockerham. "Eye Care Productivity and Access in the Veterans Affairs Health Care System." [In eng]. *Mil Med* 182, no. 1 (Jan 2017): e1631-e35.
- Macinko, J., B. Starfield, and L. Shi. "Quantifying the Health Benefits of Primary Care Physician Supply in the United States." [In eng]. *Int J Health Serv* 37, no. 1 (2007): 111-26.
- MacLennan, P. A., G. McGwin, Jr., K. Searcey, and C. Owsley. "A Survey of Alabama Eye Care Providers in 2010-2011." [In eng]. *BMC Ophthalmol* 14 (Apr 3 2014): 44.
- Marchand, C., and S. Peckham. "Addressing the Crisis of Gp Recruitment and Retention: A Systematic Review." [In eng]. *Br J Gen Pract* 67, no. 657 (Apr 2017): e227-e37.
- McCarthy, M. C., H. E. Bowers, D. M. Campbell, P. P. Parikh, and R. J. Woods. "Meeting Increasing Demands for Rural General Surgeons." [In eng]. *Am Surg* 81, no. 12 (Dec 2015): 1195-200.
- Mongan, A. M., F. Kerins, B. McKenna, S. M. Quinn, and P. Mullaney. "Changing Trends in Postoperative Cataract Care: Impact of Electronic Patient Records in Optometrist-Delivered Shared Care." [In eng]. *Ir J Med Sci* 187, no. 2 (May 2018): 529-35.
- Moses, H., 3rd, D. H. Matheson, E. R. Dorsey, B. P. George, D. Sadoff, and S. Yoshimura. "The Anatomy of Health Care in the United States." [In eng]. *Jama* 310, no. 18 (Nov 13 2013): 1947-63.

National Academies of Sciences, Engineering, Medicine, Health, Division Medicine, Health Board on Population, Practice Public Health, Impairment Committee on Public Health Approaches to Reduce Vision, and Health Promote Eye. "The National Academies Collection: Reports Funded by National Institutes of Health." In *Making Eye Health a Population Health Imperative: Vision for Tomorrow*, edited by A. Welp, R. B. Woodbury, M. A. McCoy and S. M. Teutsch. Washington (DC): National Academies Press (US)

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NEI. "Prevalence of Adult Vision Impairment and Age-Related Eye Diseases in America." Washington, D.C.: National Institutes of Health, National Eye Institute, 2016.

Prevention, Centers for Disease Control and. "Diabetes Report Card 2017." edited by US Dept of Health and Human Services. Atlanta, GA, 2018.

———. "Selected Health Conditions and Risk Factors, by Age: United States, Selected Years 1988-1994 through 2015-2016." 2017.

Rein, D. B. "Vision Problems Are a Leading Source of Modifiable Health Expenditures." [In eng]. *Invest Ophthalmol Vis Sci* 54, no. 14 (Dec 13 2013): Orsf18-22.

Rein, D. B., P. Zhang, K. E. Wirth, P. P. Lee, T. J. Hoerger, N. McCall, R. Klein, *et al.* "The Economic Burden of Major Adult Visual Disorders in the United States." [In eng]. *Arch Ophthalmol* 124, no. 12 (Dec 2006): 1754-60.

Reinstein, D. Z., T. E. Yap, G. I. Carp, T. J. Archer, and M. Gobbe. "Reproducibility of Manifest Refraction between Surgeons and Optometrists in a Clinical Refractive Surgery Practice." [In eng]. *J Cataract Refract Surg* 40, no. 3 (Mar 2014): 450-9.

Revicki, D. A., and M. L. Poe. "Quality of Care in Cataract Surgery Cases Experiencing Post-Operative Complications with Co-Managed Care." [In eng]. *J Am Optom Assoc* 66, no. 5 (May 1995): 268-73.

Rogowski, J., A. K. Jain, and J. J. Escarce. "Hospital Competition, Managed Care, and Mortality after Hospitalization for Medical Conditions in California." [In eng]. *Health Serv Res* 42, no. 2 (Apr 2007): 682-705.

Russell, T. R. "The Surgical Workforce: Averting a Patient Access Crisis." [In eng]. *Surg Clin North Am* 87, no. 4 (Aug 2007): 797-809, v.

Salm, M., D. Belsky, and F. A. Sloan. "Trends in Cost of Major Eye Diseases to Medicare, 1991 to 2000." [In eng]. *Am J Ophthalmol* 142, no. 6 (Dec 2006): 976-82.

Salsberg, E., and A. Grover. "Physician Workforce Shortages: Implications and Issues for Academic Health Centers and Policymakers." [In eng]. *Acad Med* 81, no. 9 (Sep 2006): 782-7.

Shah, M., A. Noor, G. M. Ormsby, F. A. Islam, C. A. Harper, and J. E. Keeffe. "Task Sharing: Development of Evidence-Based Co-Management Strategy Model for Screening, Detection, and Management of Diabetic Retinopathy." [In eng]. *Int J Health Plann Manage* 33, no. 4 (Oct 2018): e1088-e99.

Sheldon, G. F. "Workforce Issues in General Surgery." [In eng]. *Am Surg* 73, no. 2 (Feb 2007): 100-8.

Soroka, M. "The New York State Optometry Workforce Study." [In eng]. *J Community Health* 37, no. 2 (Apr 2012): 448-57.

Soroka, M., D. M. Krumholz, M. Krasner, and J. Portello. "Optimal Clinical Management of Eye Problems: The Role of Optometrists in Managed Care Plans." [In eng]. *Optometry* 71, no. 12 (Dec 2000): 781-90.

Soroka, M., L. Reis, D. Krumholz, M. Krasner, and J. Portello. "Alternative Arrangements for the Delivery of Eye Care Services within Staff Model Managed Care Organizations." [In eng]. *Optometry* 74, no. 11 (Nov 2003): 711-26.

UCLA. "Optometrist Vs. Ophthalmologist: What's the Difference?": David Geffen School of Medicine, University of California, Los Angeles (UCLA), 2016.

Wilson, F. A., J. P. Stimpson, and Y. Wang. "Inconsistencies Exist in National Estimates of Eye Care Services Utilization in the United States." [In eng]. *J Ophthalmol* 2015 (2015): 435606.

- Wilson, M. R., and D. R. Eezzuduemhoi. "Ophthalmologic Disorders in Minority Populations." [In eng]. *Med Clin North Am* 89, no. 4 (Jul 2005): 795-804.
- Wittich, W., A. Canuto, and O. Overbury. "Overcoming Barriers to Low-Vision Rehabilitation Services: Improving the Continuum of Care." [In eng]. *Can J Ophthalmol* 48, no. 6 (Dec 2013): 463-7.
- Wood, J. M., and A. A. Black. "Ocular Disease and Driving." [In eng]. *Clin Exp Optom* 99, no. 5 (Sep 2016): 395-401.
- Zhang, X., R. Andersen, J. B. Saaddine, G. L. Beckles, M. R. Duenas, and P. P. Lee. "Measuring Access to Eye Care: A Public Health Perspective." [In eng]. *Ophthalmic Epidemiol* 15, no. 6 (Nov-Dec 2008): 418-25.

1971 – 2011: Forty Year History of Scope Expansion Into Medical Eye Care

Sherry L. Cooper

Abstract

The focus of this paper is to provide a historical timeline for many of the well over 180 incremental scope of practice expansion and amplification legislative successes achieved in the United States (U.S.) during the 40-year period 1971 – 2011 that cumulatively expanded optometry into medical eye care. This paper also serves to update the historical timeline of scope of practice amplification legislation enacted after the year 1999, which was so comprehensively described up to that point by Dr. Melvin D. Wolfberg.¹

Introduction

More than 110 years ago, on April 13, 1901, Minnesota Senate Bill 188 was signed into law establishing the first optometry practice Act. That first scope of practice was defined as:

"An act to regulate the practice of optometry.

Be it enacted by the Legislature of the State of Minnesota:

*SECTION 1. The practice of optometry is defined as follows, namely: The employment of subjective and objective mechanical means to determine the accommodative and refractive states of the eye and the scope of its functions in general."*²

Over the next 23 years a law to license optometrists and define the scope of services optometrists could legally provide was enacted in every state and the District of Columbia, with the last practice Act enacted on May 28, 1924 in the District of Columbia. In fact, four optometry practice Acts were approved while the jurisdiction was still a territory. These territorial enactments included: New Mexico, enacted March 16, 1905; Arizona, enacted March 14, 1907; Hawaii, enacted April 30, 1917; and Alaska, enacted May 2, 1917.

Beginning with the passage of a law in Rhode Island in 1971 authorizing the use of diagnostic drugs, to the enactment of a law in Kentucky in 2011 authorizing the use of surgery and therapeutic lasers, the scope of the practice of optometry has been expanded into medical eye care well over 180 times legislatively during the last 40 years in the various U.S. jurisdictions. This historic chapter in the evolution of optometry saw a sweeping transformation of the profession from the expert, but "drugless" refractionists of the early 1900s, to detecting and referring eye disease at mid-century, to today's largest eye and vision care profession,^{3,4} providing



patients access to safe and effective vision and medical eye care from their local doctor of optometry.

Due to political compromise some of the scope of practice expansion or amplification laws into medical eye care contained a sunset provision that, if not extended or repealed, had the potential to undo a legislative victory.⁵ None of the sunset provisions that were enacted survived to accomplish the obvious goal of the opposition; to revert to an earlier statutorily defined scope of practice. So it is important to note that, in addition to the well over 180 enactments, no optometric scope of practice expansion or amplification law has ever been diminished or repealed at a later date by a state legislature.

The legislative steps to expand the authorized scope of practice over the course of this dynamic 40-year period in the evolution of the profession, while sometimes breathtaking in their achievements, were more often small and incremental, as curriculum and legislative successes each grew over time. Optometrists in every state and the District of Columbia educated legislators regarding the training of modern optometrists as they worked to pass laws expanding the scope of practice commensurate with the expanded curriculum, and in order to better meet the medical eye care needs of their patients.

Components of Scope of Practice Expansion

There have been four basic interconnected legislative components related to scope of practice expansion into medical eye care over the past 40 years. Each of these essential elements of expansion was achieved by the various states at their own pace. In fact, there are many areas where further amplification efforts remain to be enacted in order for the states to achieve more uniformity from one to the other regarding prescriptive authority and the ability to perform non-surgical and surgical primary care procedures.

The Four Components:

1 — Use of "Diagnostic Pharmaceutical Agents" or "DPAs." This terminology, and the resultant acronym, was

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coined by the profession to easily explain to lay non-medical legislators legislation seeking to authorize the use of diagnostic drugs within the practice to facilitate the examination. The ability to use anesthetic, dilation, and other topical drugs in the office was a significant first step in the transformation of optometry into the profession it is today.

2 — “Diagnosis” of Disease. Over time, the early optometry practice Acts generally had been amended to authorize optometrists to “detect,” “recognize,” or “ascertain” diseases or conditions of the eye with a requirement that the optometrist then refer the patient to a medical physician for confirmation of diagnosis and commencement of treatment. This form of legislation sought to specifically establish the legal responsibility of optometrists to “diagnose” diseases or conditions of the eye and vision system. This effort was tied to diagnostic, or more frequently, therapeutic prescriptive authority expansion efforts.

3 — Prescription of “Therapeutic Pharmaceutical Agents” or “TPAs.” As with DPAs, the “TPA” terminology and acronym were also coined by the profession to easily explain to lay legislators legislation seeking to authorize the prescription of medication to treat many of the diseases or conditions of the eye and related structures that optometrists were educated and trained to diagnose.

4 — Performance of Surgical Procedures. At the beginning of this 40-year period of expansion it is believed that every state’s optometry Act except for the laws in Idaho, Indiana, Oklahoma, and Washington state included language prohibiting, in some manner, the performance of surgery. However, certain procedures routinely performed by optometrists, and not normally considered surgery as that term is traditionally understood, have surgical reimbursement codes assigned to them. Primarily for reimbursement reasons, legislation was enacted in the majority of states to make it clear that certain surgical procedures, such as the removal of foreign bodies, are included in the practice of optometry. Until such time as a state legislature repeals a prohibition against performing surgery, defining certain surgical procedures as within the scope of optometric practice and hence not included in any prohibition against performing surgery, was, and continues to be, the approach in most states.

Historical Timeline – Diagnostic Pharmaceutical Agents (DPAs)

While the first law specifically authorizing the use of diagnostic drugs to facilitate the examination was enacted in Rhode Island in 1971, in fact there were two other states prior to 1971 where use of diagnostic drugs by optometrists received favorable attorney general opinions based on an interpretation of the optometry Act in effect at the time.

In Indiana there was a favorable attorney general opinion dated July 17, 1946, affirming that the optometry Act, as reenacted in 1935, authorized the use of legend drugs by optometrists. “Prior to 1935, optometric drug use in patient care was prohibited by law, but the 1935 Indiana Legislature saw fit to remove that restriction and allow optometrists to practice to the fullest extent of their education and clinical experience.”⁶ Legislation was later considered and defeated by the Indiana legislature that would have prohibited pharmaceutical use – lending weight to the view of the attorney general that diagnostic and prescriptive authority were authorized under the Indiana optometry law. In addition, in 1980, organized ophthalmology challenged that interpretation of the

Indiana optometry law in court. The suit was eventually dismissed by the state Court of Appeals in 1985.⁷

In New Jersey there was a favorable attorney general directive issued to the New Jersey State Board of Medical Examiners dated May 22, 1968, that said the optometry Act in effect at that time authorized optometrists to use a local anesthetic to perform corneal tonometric examinations.

Both states went on to enact clarification legislation at a later date making it unambiguous that the use (Indiana and New Jersey) or the prescription (Indiana) of drugs was included in the practice of optometry.

It took almost 18 years from the Rhode Island victory on July 16, 1971 until January 13, 1989 when Maryland became the last state authorizing the use of diagnostic drugs to facilitate the examination. However, considering the fact that varying opposing interests both internal and external to the profession, along with innumerable political and legislative hurdles had to be overcome in 51 separate jurisdictions in order to enact similar legislation, 18 years was a relatively short period of time in the 110-year history of optometry as a legislated profession. (On December 28, 1982 and August 15, 1999, respectively, the U.S. territory of Guam and the Commonwealth of Puerto Rico also enacted diagnostic authority legislation.)

Historical Timeline – Diagnosis of Disease

It is apparently lost to history which state law first established the legal duty for optometrists to “diagnose” diseases or conditions of the eye and vision system vs. “detect,” “ascertain,” or “recognize.” Such authority was most likely in place in some states before the first diagnostic or therapeutic laws were enacted. However, we do know the year the last practice Act was amended establishing the legal requirement for optometrists in every state and the District of Columbia to diagnose disease.

The last state to amend “ascertain” or “detect” to “diagnose.” On May 11, 2004 Vermont Senate Bill 54 was enacted, amplifying previous law that had authorized the prescription of limited topical drugs, excluding those used to treat glaucoma. The 2004 amplification law – one in a series of amplification victories in Vermont over a period of several years – authorized the use and prescription of all topical and oral drugs, including injectables for anaphylaxis. In addition, this Act added authority to treat glaucoma and added specific language affirming the authority of Vermont optometrists to treat the lacrimal gland and use punctal plugs.

Of historical import, the 2004 Act amended the law replacing the language “ascertain” and “detecting the possible presence of” with “diagnosing.” This concluded a decades-long effort to clarify, if not elevate, the legal duty of optometrists in every state to *diagnose* diseases and conditions of the eye and related structures, a responsibility entirely appropriate for doctoral level, independent, learned health care providers.

Historical Timeline – Therapeutic Pharmaceutical Agents (TPAs)

On March 4, 1976, West Virginia was the first state to enact legislation specifically granting optometrists the right to prescribe legend (prescription) drugs for their patients and the District of Columbia was the last jurisdiction to do so on April 22, 1998 – a

period of 22 years. (On April 22, 1995, the U.S. territory of Guam also enacted therapeutic prescriptive authority legislation.)

Only five states enacted legislation authorizing diagnostic (DPA) and at least some therapeutic (TPA) drugs in the same law [See Table 1].

Full therapeutic (TPA) authority was not gained, except in very few jurisdictions, all in one legislative victory. **Only four states enacted laws granting full TPA authority in one bill.** [See Table 2].

Prescriptive authority achieved in the initial therapeutic legislative victories was not in any way uniform from state to state. Table 3 illustrates many of the incremental steps of scope of practice/prescriptive authority expansion required in the vast majority of the states. Because of the great number of legislative successes, even this Table does not provide the luxury of space that would be required to illustrate every single incremental victory expanding optometry into medical eye care.

For example:

- Six states did not achieve topical steroid authority with their initial therapeutic law [See Table 4];
- Twenty six states gained topical drug prescriptive authority only with their initial therapeutic law and had to go back to the legislature at a later date to gain oral drug authority (*in fact, at this time 3 jurisdictions remain without any oral drug authority*);
- Twenty-six states and the District of Columbia gained glaucoma treatment with their initial therapeutic law (albeit many with topical drugs only) while the rest had to go back later to gain authority to treat glaucoma (*in fact, at this time 1 state remains without the authority to treat glaucoma*);
- Only 10 states gained controlled narcotic substance authority with their initial therapeutic law (*in fact, at this time 7 states and the District of Columbia remain without any controlled narcotic substance authority*);
- Only 9 states and the District of Columbia gained authority with their initial therapeutic law to use injectable agents to treat an anaphylactic reaction or to diagnose or treat disease (*in fact, at this time 15 states remain without injectables authority of any type*);
- Some states were initially required to use or prescribe drugs from a formulary – most did not;
- Many states gained certain drugs or classes of drugs and had to go back later for additional drugs or classes of drugs – or repeal the limitations altogether; and
- Some states initially had to accept multiple statutorily-defined standard of care or other conditions, restrictions, or limitations on the use or prescription of drugs to treat diseases or conditions of the eye [See Figure 1].

The fact is that many of the states and the District of Columbia must still pursue additional amplification legislation in order to fully establish a prescriptive authority law that meets the criteria for uniformity described below.

For political and practical reasons, principally because the various state laws are written style-wise so differently from each other, there is no recommended uniform prescriptive authority language. However, there is a uniform prescriptive authority end point result.

A uniform prescriptive authority law is a tangible concept. While there is no **model** language there is a **model result**; it is the **effect** of a state's practice Act, not the precise language of the law. The statutory language establishing uniform prescriptive authority can be written in as many ways as there are practice Acts. The goal is for the optometry law to authorize the use and prescription of all appropriate or necessary legend (prescription) and over-the-counter drugs, including controlled narcotic substances, via any route of administration for the diagnosis, treatment, and management of conditions of the vision system, eye, and related structures. As with other classes of independent doctoral-level prescribing professions (e.g., allopathic or osteopathic medical physicians, dentists, and podiatrists) an optometry license issued or renewed today should automatically include full prescriptive authority. And importantly, there should be no statutorily defined conditions, restrictions, limitations, or other standard of care-type language codified into the practice Act by the state legislature.

While the legislature is the only body in each state empowered to set the general parameters of scope of practice for the various regulated professions, the legislature, whose vast majority of members are not educated and trained as health care providers, shouldn't be practicing the mechanics of health care by defining in statute how specific services or procedures are to be provided, under what circumstances patients should be referred, or which medications are appropriate for a certain condition. These medical decisions, made for an individual patient, should be left to the independent professional judgment of all doctoral-level health care providers, each of whom is held to a standard of care and expected to practice appropriately without such statutorily spelled out mandates.

A uniform scope of practice law is a tangible concept. Quite simply, an optometry license, as authorized by the state legislature, should allow licensees to examine, diagnose, treat, and manage diseases or conditions of the vision system, eye, and related structures with any appropriate means. This includes every facet of the practice of modern optometry, from the use of lenses and prisms; to the provision or prescription of ocular exercises, vision therapy, and vision rehabilitation; to the prescription, fitting, dispensing, and sale of corrective eyewear and contact lenses, including plano or cosmetic lenses; to the ordering or performing of appropriate diagnostic or imaging tests; to the use or prescription of appropriate drugs, including controlled narcotic substances; to the performance of non-surgical and surgical procedures.

While the concept has gone through philosophical and statutory changes over the decades, the more than 180 expansion and amplification laws enacted over the past 40 years in the various states and the District of Columbia have strived to achieve, albeit often in incremental steps, a uniform medical eye care scope of practice among the jurisdictions.

Historical Timeline – Performance of Surgical Procedures

The performance of certain procedures that are assigned Current Procedural Terminology (CPT®)⁸ surgical reimbursement codes began on March 4, 1976 with passage of West Virginia House Bill 1005, the first therapeutic law. The legislature established the scope of practice of optometry in 1976 in West Virginia as:

"§30-8-2. Practice of optometry defined.

Any one or any combination of the following practices shall constitute the practice of optometry:

*(c) The employment **without the use of surgery** of any instrument, device, method or diagnostic or therapeutic drug for topical application to the anterior segment of the human eye intended for the purpose of investigating, examining, **treating**, diagnosing, improving or **correcting any** visual defect or **abnormal condition of the human eye or its appendages**;" [emphasis added]*

Nowhere in the 1976 West Virginia law was surgery defined. And since removal of superficial foreign bodies and treatment of the lacrimal drainage system do not involve cutting, suturing, or use of a local or general anesthetic (all components of surgery as that term might commonly be defined), performing these procedures was not prohibited.

The law enacted 1 year later on June 3, 1977 in North Carolina authorized the use of diagnostic and therapeutic drugs in the same legislation. There were no restrictions or limitations placed by the legislature on which drugs or routes of administration were authorized. While the law enacted in 1977 included the use of injectable agents, it took a lengthy regulatory process before the North Carolina State Board of Examiners in Optometry authorized their use by optometrists to perform certain procedures or diagnostic tests. The legislature established the scope of practice of optometry in North Carolina in 1977 as:

*"§90 - 114. Optometry defined. Any one or any combination of the following practices shall constitute the practice of optometry: (2) the employment of instruments, devices, pharmaceutical agents and procedures, **other than surgery**, intended for the purposes of investigating, examining, treating, diagnosing or correcting visual defects or abnormal conditions of the human eye or its adnexa; or" [emphasis added]*

The removal of foreign bodies, use of punctal plugs, and other services/procedures not commonly defined to be "surgery" as that term is generally understood were not prohibited.

First state to specifically authorize removal of superficial foreign bodies. Iowa (the sixth state to enact a therapeutic law) enacted Senate Bill 438 on May 31, 1985, becoming the first state optometry law to specifically reference the authority of an optometrist to remove foreign bodies:

"Section 154.1 (new section):

*Therapeutically certified optometrists may employ the following pharmaceuticals: topical antimicrobial agents, topical and oral antihistamines, topical anti-inflammatory agents, topical analgesic agents and topical anesthetic agents. **Superficial foreign bodies may be removed from the human eye and adnexa. ...**" [emphasis added]*

As therapeutic laws were enacted and/or amplified in other states, a specific reference to the removal of foreign bodies (generally limited to "superficial" foreign bodies) was included in almost every practice Act, which served to prevent inaccurate interpretations of the law by third-party payers when optometrists sought reimbursement for performing the procedure.

Other surgical procedures. Over time, in some states additional surgical procedures such as treatment of the lacrimal drainage system, chalazion, or concretions have been 1) added to the definition of the practice of optometry, 2) exempted from a prohibition against the performance of surgery, or 3) deemed authorized because they were not specifically excluded. The authority to use an injectable drug of some type may be necessary to perform some of these procedures.

The use of lasers for therapeutic purposes. [See Table 5]

Oklahoma Laser Authority. Oklahoma optometrists have been performing laser and non-laser surgical procedures since as early as 1988. In 1988 Oklahoma was one of only 4 states where the law at that time did not have a specific prohibition against the performance of surgery in the optometry Act.

Minutes from the February 21, 1988 meeting of the Oklahoma Board of Examiners in Optometry reflected a recognition by the board that "*when medically necessary, a qualified optometrist may utilize lasers, remove said stitches, and foreign bodies.*" In 1989 the optometry board approved a certification process licensees were required to complete in order to become authorized to use lasers for therapeutic purposes.

In 1993 the Oklahoma State Medical Association (OSMA) found a sponsor for legislation seeking to prohibit optometrists from using lasers. The legislation (Senate Bill 883) did not apply to podiatrists, veterinarians, osteopathic physicians, or dentists. The sponsor pulled the bill prior to consideration. That same year, the OSMA sought an attorney general opinion that the use of lasers by optometrists was not authorized. Attorney General Susan B. Loving declined to issue an opinion.

In response to efforts by the OSMA causing Medicare and Medicaid to discontinue paying optometrists for these services, the optometry board issued a formal declaratory ruling in 1994 stating that lasers were within the scope of practice of optometry. Both Medicare and Medicaid resumed reimbursing optometrists.

1994 saw the enactment of a scope of practice expansion bill in Oklahoma when Senate Bill 818 was signed into law by Governor David Walter on April 13, 1994. This legislation repealed the limitation on prescriptive authority to topical agents only, but the law continued to remain silent on surgery (i.e., there was no prohibition against performing surgery) [deletions indicated by strikethrough, additions indicated by underscore]:

"Section 581. The practice of optometry is defined to be the science and art of examining the human eye and measurement of the powers of vision by the employment of any means, including the use or furnishing of any self-testing device, the use of any computerized or automatic refracting device, the use of ocular pharmaceutical agents topically applied, the diagnosis of conditions of the human eye and the correcting and relief of ocular abnormalities by means including but not limited to prescribing and adaptation of lenses, contact lenses, spectacles, eyeglasses, prisms and the employment of visual training or orthoptics for the aid thereof. The practice of optometry shall also include the prescribing of dangerous drugs and controlled dangerous substances for all schedules specified in the Uniform Controlled Dangerous Substances Act except

Schedules I and II for the purpose of diagnosis and treatment of ocular abnormalities. Provided, however, the practice of optometry shall not include the dispensing of drugs. This shall not preclude the dispensing of professional samples to patients."

Also in 1994, the OSMA found a sponsor for legislation to define lasers as surgery and prohibit their use by optometrists. However, Senate Bill 103 failed in Senate Committee.

The next year, the Oklahoma Board of Medical Licensure and Supervision sued the Board of Examiners in Optometry in an attempt to stop optometrists from using lasers. An Oklahoma District Court ruled the medical board did not have authority to sue the optometry board. The Court of Appeals concurred with the decision. However, in 1996 the Oklahoma Supreme Court overruled the District Court and the Court of Appeals.

This decision spurred the introduction of Senate Bill 995 in 1996 seeking to eliminate the Board of Medical Licensure and Supervision's ability to file suit against other licensing boards. The legislation passed when it was signed into law by Governor Frank Keating.

In 1997 Judge Eugene Mathews ruled in Oklahoma County District Court that the optometry Act did not authorize laser surgery and that only legislative action could accomplish this result.

Senate Bill 1192 was introduced in 1998 to codify and reinstate the previous privileges of optometrists to perform certain laser surgery procedures. The legislation was signed into law by Governor Frank Keating on March 16 that year.

The scope of practice as amended by the 1998 legislation was as follows (language specifically referencing the authority to perform laser surgical procedures was added) [deletions indicated by ~~strikethrough~~, additions indicated by underscore]:

"Section 581. A. The practice of optometry is defined to be the science and art of examining the human eye and measurement of the powers of vision by the employment of any means, including the use or furnishing of any self-testing device, the use of any computerized or automatic refracting device, the use of pharmaceutical agents, the diagnosis of conditions of the human eye and the correcting and relief of ocular abnormalities by means including but not limited to prescribing and adaptation of lenses, contact lenses, spectacles, eyeglasses, prisms and the employment of ~~visual training vision therapy~~ or orthoptics for the aid thereof, low vision rehabilitation, laser surgery procedures, excluding retina, laser in-situ keratomileusis (LASIK), and cosmetic lid surgery.

B. The practice of optometry shall also include the prescribing of dangerous drugs and controlled dangerous substances for all schedules specified in the Uniform Controlled Dangerous Substances Act except Schedules I and II for the purpose of diagnosis and treatment of ocular abnormalities. ~~Provided, however, the~~ The practice of optometry shall not include the dispensing of drugs. ~~This shall not preclude but may include the dispensing of professional samples to patients.~~

C. Optometrists shall be certified by the Board of Examiners in Optometry prior to administering drugs,

prescribing drugs, or performing laser surgery procedures.

D. Nothing in this title shall be construed as allowing any agency, board, or other entity of this state other than the Board of Examiners of Optometry to determine what constitutes the practice of optometry."

In 2004 organized medicine sought another attorney general opinion, this time asking whether the optometry law, as amended in 1998, authorized the performance of any surgery other than laser surgery. Organized medicine got the opinion they were looking for when the attorney general opined that the optometry board could not interpret the statute as allowing licensees to perform any surgery other than laser surgery.

The optometry board was able to convince the attorney general to pull and then revise that opinion – a very rare action on the part of any attorney general. But, based on the revised attorney general's opinion, the Oklahoma Association of Optometric Physicians found it necessary to go back to the legislature again to clarify the authority of optometrists to perform surgeries other than laser surgery.

The first attorney general opinion issued on March 15, 2004 (Okl. A.G. Opin. No. 04-9):

"It is, therefore, the official Opinion of the Attorney General that:

1. Title 59 O.S. 2001, § 581 does not authorize licensed optometrists to perform any surgical procedures other than laser surgery procedures (excluding retina surgery, laser in-situ keratomileusis (LASIK) surgery and cosmetic lid surgery).

2. Title 59 O.S. 2001, § 581 does not authorize the Board of Examiners in Optometry to determine that licensed optometrists are authorized to perform surgical procedures other than laser surgery procedures (excluding retina surgery, laser in-situ keratomileusis (LASIK) surgery and cosmetic lid surgery)."

W.A. Drew Edmondson, Attorney General Of Oklahoma
Debra Schwartz, Assistant Attorney General

The revised attorney general opinion issued on April 6, 2004 (Okl. A.G. Opin. No. 04-9):

"It is, therefore, the official Opinion of the Attorney General that:

1. Title 59 O.S. 2001, § 581 does not authorize licensed optometrists to perform any surgeries other than laser surgeries (excluding retina surgery, laser in-situ keratomileusis (LASIK) surgery and cosmetic lid surgery).

2. Title 59 O.S. 2001, § 581 does not authorize the Board of Examiners in Optometry to determine that licensed optometrists are authorized to perform surgeries other than laser surgeries (excluding retina surgery, laser in-situ keratomileusis (LASIK) surgery and cosmetic lid surgery).

3. **Whether any particular procedure constitutes surgery is a question of fact which cannot be answered in an Attorney General's Opinion.** 74 O.S. 2001, § 18 b(A)(5). [emphasis added]

4. This Opinion replaces the previous version of Opinion

04-9 dated March 15, 2004, which is hereby withdrawn."

W.A. Drew Edmondson, Attorney General Of Oklahoma
Debra Schwartz, Assistant Attorney General

On April 21, 2004, House Bill 2321 was enacted clarifying that in addition to laser surgery procedures, non-laser surgery procedures (as defined by the optometry board) were included in the scope of practice. As charged by the legislature, the optometry board promulgated an emergency rule in October 2004 defining non-laser surgery. The emergency rule was made final through legislative approval in 2005. The rule adopted by the optometry board established a list of those surgical procedures that are excluded from the scope of services optometrists may perform.

The scope of practice as amended by the 2004 legislation was as follows [deletions indicated by ~~strikethrough~~, additions indicated by underscore]:

"Section 581.A. The practice of optometry is defined to be the science and art of examining the human eye and measurement of the powers of vision by the employment of any means, including the use or furnishing of any self-testing device, the use of any computerized or automatic refracting device, the use of pharmaceutical agents, the diagnosis of conditions of the human eye and the correcting and relief of ocular abnormalities by means including but not limited to prescribing and adaptation of lenses, contact lenses, spectacles, eyeglasses, prisms and the employment of vision therapy or orthoptics for the aid thereof, low vision rehabilitation, laser surgery procedures, excluding retina, laser in-situ keratomileusis (LASIK), and cosmetic lid surgery. The practice of optometry is further defined to be non laser surgery procedures as authorized by the Oklahoma Board of Examiners in Optometry, pursuant to rules promulgated under the Administrative Procedures Act.

B. The practice of optometry shall also include the prescribing of dangerous drugs and controlled dangerous substances for all schedules specified in the Uniform Controlled Dangerous Substances Act except Schedules I and II for the purpose of diagnosis and treatment of ocular abnormalities. The practice of optometry shall not include the dispensing of drugs but may include the dispensing of professional samples to patients.

C. Optometrists shall be certified by the Board of Examiners in Optometry prior to administering drugs, prescribing drugs, or performing laser or nonlaser surgery procedures.

D. Nothing in this title shall be construed as allowing any agency, board, or other entity of this state other than the Board of Examiners of in Optometry to determine what constitutes the practice of optometry."

While optometrists in Oklahoma have safely and effectively performed thousands of non-laser and laser surgical procedures since 1988, it took years of legal and legislative battles to clarify this authority.

Kentucky Laser Authority. In comparison to Oklahoma, the Kentucky experience establishing authority for optometrists to perform laser and non-laser surgery was not as complicated, nor drawn out. Having the benefit of the Oklahoma experience as a

guide, the Kentucky Optometric Association drafted language for bill introduction in the 2011 legislative session that clearly and incontrovertibly defined the authority of optometrists to perform surgery and laser surgery; with the exception of 17 procedures. Senate Bill 110 was overwhelmingly supported by state legislators and signed into law by Governor Steve Beshear on February 24, 2011.⁹

The Kentucky Board of Examiners in Optometry was charged by the state legislature in Senate Bill 110 with promulgation of regulations to define the education and training required of optometrists in order to be authorized to perform the newly granted surgery and laser surgery privileges.

The five most significant features of Senate Bill 110 expanding the scope of practice for optometrists in Kentucky are, in ascending order:

5. Made crystal clear the optometry board's authority — **within the constraints of the law as enacted by the legislature** — to explain (interpret) the practice Act, including scope of practice (the new language reinforced the authority the board already held);

4. While adding the authority to perform laser and non-laser surgical procedures, the Act retained all of the basic fundamental components of optometric scope of practice including, but not limited to such services as: the examination, diagnosis, and treatment of the human eye and its appendages to correct and relieve ocular abnormalities and to determine eye health, the visual efficiency of the human eye, or the powers or defects of vision in any authorized manner; the use of autorefractors or any other testing means or devices; the prescribing, furnishing, use, or adapting of lenses, contact lenses, spectacles, eyeglasses, prisms, or ocular devices; and the employing of vision therapy, orthoptics, ocular exercises, or low vision rehabilitation;

3. Made clear the authority of optometrists to use or prescribe any drug via any route of administration (with the exception of Schedule I and II controlled narcotic substances, laser or nonlaser injections into the posterior chamber of the eye to treat any macular or retinal disease, or the administration of general anesthesia);

2. For the first time in any state, a state official during a public health emergency may authorize optometrists to administer vaccinations or immunizations for systemic health reasons; and

1. **For the first time in any state, a legislature repealed a prohibition against the performance of surgery by optometrists.**¹⁰

Conclusion

Seventy years after optometrists were first licensed in the United States as a profession there began a 40-year curriculum and statutory scope of practice expansion effort that initiated a sweeping transformation of the profession from the expert, but "drugless" refractionists of the early 1900s, to detecting and referring eye disease at mid-century, to today's largest eye and vision care profession, providing patients access to safe and effective vision and medical eye care from their local doctor of optometry. However, it may take another decade or more of intensive grassroots legislative activity to establish a more uniform

medical eye care scope of practice among the various jurisdictions and complete the journey started 40 years ago in Rhode Island.

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References

1. Wolfberg MD. Remembrance of things past - A profession's commitment to increased public service: optometry's remarkable story. *J Am Optom Assoc* 1999; 70:145-170.
2. Minnesota Senate Bill 188, Approved April 13, 1901.
3. According to the American Medical Association's Physician Masterfile (updated July 7, 2008), there are 23,861 ophthalmologists in the U.S. That number includes both active and inactive (retired, etc.) ophthalmologists. As referenced by the American Academy of Ophthalmology at http://www.aao.org/newsroom/press_kit/upload/Eye-Health-Statistics-June-2009.pdf, accessed October 5, 2011
4. Based on projections, there were 38,758 full-time equivalent optometrists in the workforce during 2010. *Caring for the Eyes of America 2010, a Profile of the Optometric Profession*, American Optometric Association, 2010
5. An example of a scope expansion law that included a sunset date which would have repealed the authority granted unless the sunset date was extended or removed by the legislature was Senate Bill 2356 enacted in North Dakota on March 22, 1979. This law expanded the scope of practice by authorizing the use of diagnostic pharmaceutical agents. Contained in the law was a provision that the authority of the optometry board to certify licensees to use diagnostic agents would sunset (expire) on June 30, 1981. However, on March 9, 1981, North Dakota Governor Allen Olson signed Senate Bill 2222 into law repealing the sunset provision and reaffirming the authority of the board to grant diagnostic certification to licensees who met board-approved education and training requirements.
6. Wuensch, RW. Memorandum to the membership of the Indiana Optometric Association; October 31, 1985.
7. *ibid*
8. CPT® is a registered trademark of the American Medical Association.
9. Kentucky Senate Bill 110 passed the Senate on February 11 by a vote of 33 to 3 (with one pass) and the House on February 18 with a vote of 81 to 14. The bill was signed into law by the Governor on February 24, 2011.
10. When enacting Senate Bill 110 repealing the prohibition against the performance of surgery by optometrists, the Kentucky legislature excluded, except for the pre-operative and post-operative care of these procedures, the following from the authority granted to perform laser and non-laser surgery:
 1. Retina laser procedures, LASIK, and PRK;
 2. Nonlaser surgery related to removal of the eye from a living human being;
 3. Nonlaser surgery requiring full thickness incision or excision of the cornea or sclera other than paracentesis in an emergency situation requiring immediate reduction of the pressure inside the eye;
 4. Penetrating keratoplasty (corneal transplant), or lamellar keratoplasty;
 5. Nonlaser surgery requiring incision of the iris and ciliary body, including iris diathermy or cryotherapy;
 6. Nonlaser surgery requiring incision of the vitreous;

7. Nonlaser surgery requiring incision of the retina;
8. Nonlaser surgical extraction of the crystalline lens;
9. Nonlaser surgical intraocular implants;
10. Incisional or excisional nonlaser surgery of the extraocular muscles;
11. Nonlaser surgery of the eyelid for eyelid malignancies or for incisional cosmetic or mechanical repair of blepharochalasis, ptosis, and tarsorrhaphy;
12. Nonlaser surgery of the bony orbit, including orbital implants;
13. Incisional or excisional nonlaser surgery of the lacrimal system other than lacrimal probing or related procedures;
14. Nonlaser surgery requiring full thickness conjunctivoplasty with graft or flap;
15. Any nonlaser surgical procedure that does not provide for the correction and relief of ocular abnormalities
16. Laser or nonlaser injection into the posterior chamber of the eye to treat any macular or retinal disease; and
17. The administration of general anesthesia.

Figure 1

Examples Of Statutorily Defined Standard Of Care-Type Conditions, Restrictions, Or Limitations

NOTE: Depending on the diagnosis, progress, or unique circumstances of individual patients, every doctoral-level health care practitioner, based on his or her independent professional judgment and within appropriate standard of care guidelines for that profession, has a legal and ethical duty in some cases to limit the services he or she provides and/or refer the patient to another provider. However, based on the reality of political compromise that is sometimes required to enact legislation, over the years the legislature in more than 1 state has codified a requirement in the optometry Act to do for all patients what should be a professional medical judgment decision made for an individual patient. These mandatory "standard of care"-type provisions applying to all patients have been and continue to be repealed as part of the effort to establish more uniform scope of practice laws among the various jurisdictions.

Conditions

- An optometrist is required by statute to consult an ophthalmologist before, or shortly after, initiating treatment of all patients newly diagnosed with glaucoma.
- An optometrist is required to refer all patients with a certain condition or disease to a medical physician if there is no improvement within a statutorily defined period of time.

Restrictions

- An optometrist can prescribe a particular medication, but never for more than a statutorily defined period of time.
- An optometrist can prescribe a particular medication, but only to treat certain statutorily defined specific diseases.
- An optometrist is authorized to prescribe a particular medication, but in its topical form only.

Limitations

- An optometrist can only prescribe medications within certain statutorily defined classes of drugs.
- An optometrist can only prescribe medications listed on a statutorily required formulary.
- An optometrist is prohibited from treating certain diseases or disorders of the eye.

Table 1**States Where Diagnostic Use And Therapeutic Prescriptive Authority Were Enacted In The Same Legislation**

STATE:	DIAGNOSTIC AND THERAPEUTIC AUTHORITY*
FLORIDA**	July 10, 1986
INDIANA**	May 13, 1991
NEW JERSEY**	January 16, 1992
NORTH CAROLINA	June 3, 1977
WEST VIRGINIA	March 4, 1976

FOOTNOTE:

* Some states went on at a later date to amplify the therapeutic authority gained in the original legislative victory.

** The legislation enacted in Florida and New Jersey in reference to diagnostic drug authority and in Indiana in reference to diagnostic and therapeutic prescriptive authority clarified earlier favorable Attorney General opinions based on the law at that time.

Table 2**States Where Full Prescriptive Authority Was Obtained In The Initial Therapeutic Law**

[NOTE: This includes topical and oral drugs, the treatment of glaucoma, controlled narcotic substances, and use of injectables of some type.]

STATE:	FIRST TPA LAW	GLAUCOMA Tx	ORALS	CONTROLLED SUBSTANCES	INJECTABLES (anaphylaxis or other)
Alabama	June 20, 1995 (43)	June 20, 1995 (30)	June 20, 1995 (25)	June 20, 1995 (18)	June 20, 1995 (12)
North Carolina*	June 3, 1977 (2)	June 3, 1977 (2)	June 3, 1977 (1)	June 3, 1977 (1)	June 3, 1977 (1)
Utah**	March 20, 1991 (26)	March 20, 1991 (13)	March 20, 1991 (10)	March 20, 1991 (8)	March 20, 1991 (4)
Wisconsin***	August 3, 1989 (25)	August 3, 1989 (12)	August 3, 1989 (8)	August 3, 1989 (6)	August 3, 1989 (3)

The number in parentheses following the enactment date is the ranking order of enactment compared to the other states. For example, Alabama passed the 43rd TPA law, the 30th glaucoma treatment law, the 25th orals authority law, the 18th controlled substance authority law, and the 12th law allowing for the use of injectable agents of some type.

FOOTNOTES:

* The law enacted in North Carolina in 1977 authorized the use and prescription of all drugs. In 2005, policy was adopted by the State Board of Examiners in Optometry whereby optometrists meeting specific educational requirements were allowed to use injections for the treatment of chalazia, to perform peri-ocular injections for purposes other than for cosmesis, and to perform fluorescein angiography.

** The law enacted in Utah in 1991 authorized optometrists to prescribe drugs, but required optometrists at that time to prescribe drugs through protocols developed with supervising ophthalmologists. The only drugs excluded by the 1991 statute were Schedule II and III controlled narcotic substances. However, the protocols developed by individual supervising ophthalmologists may or may not have limited prescription to certain drugs only. The law was amended in 1997 when the supervision requirement was repealed and authority to prescribe oral drugs was clarified. The law was again amended in 2000 repealing the prohibition on the prescription of Schedule III controlled narcotic substances.

*** The law enacted in Wisconsin in 1989 required use of a formulary that still exists today. The only drugs specifically excluded by that law were Schedule I and II controlled narcotic substances. The formulary developed to implement the law contained a long list of drugs authorized for prescription. Rulemaking in April 1994 amended the formulary one final time to add authority to prescribe "any drug which is used for an ophthalmic therapeutic purpose."

Table 3

The Date Legislation Was First Enacted Authorizing The Prescription Of Drugs, Glaucoma Drugs, Oral Drugs, Controlled Narcotic Substances, Or Use Of Injectable Agent

As of February 23, 2012.

(NOTE: *The majority* of the initial therapeutic laws were amplified in subsequent years, some multiple times.)

STATE:	FIRST TPA LAW (Rx <u>any</u> legend drugs)	GLAUCOMA Tx (Rx <u>any</u> topical or topical & oral)	ORALS (Rx <u>any</u> orals)	CONTROLLED SUBSTANCES (Rx <u>any</u> orals)	INJECTABLES (anaphylaxis or anaphylaxis & other)
Alabama	June 20, 1995 (43)	June 20, 1995 (30)	June 20, 1995 (25)	June 20, 1995 (18)	June 20, 1995 (12)
Alaska	June 11, 1992 (32)	June 11, 1992 (17)	Sept 7, 2007 (46)	Sept 7, 2007 (41)	Sept 7, 2007 (31)
Arizona	April 6, 1993 (33)	April 6, 1993 (19)	May 18, 1999 (36)	May 18, 1999 (28)	May 18, 1999 (19)
Arkansas	March 3, 1987 (14)	March 3, 1987 (9)	Feb 17, 1997 (33)	Feb 17, 1997 (24)	Feb 17, 1997 (17)
California	Feb 20, 1996 (47)	Sept 24, 2000 (45)	Feb 20, 1996 (28)	Sept 24, 2000 (31)	Sept 24, 2000 (21)
Colorado	April 20, 1988 (23)	June 8, 1996 (37)	April 20, 1988 (7)	April 20, 1988 (5)	April 22, 2011 (34)
Connecticut	May 27, 1992 (31)	May 8, 1996 (36)	May 27, 1992 (12)	May 8, 1996 (22)	May 8, 1996 (16)
Delaware	June 30, 1994 (40)	June 30, 1994 (27)	June 30, 1994 (21)		
D.C.	April 22, 1998 (50B)	April 22, 1998 (41B)	April 22, 1998 (34B)		April 22, 1998 (17B)
Florida	July 10, 1986 (12)	July 10, 1986 (7)			
Georgia	Feb 25, 1988 (21)	April 8, 1994 (26)	April 8, 1994 (19)	April 8, 1994 (14)	
Hawaii	June 24, 1996 (48)	April 30, 2004 (48)	April 30, 2004 (42)		April 30, 2004 (26)
Idaho	March 31, 1987 (15)	March 22, 1993 (18)	March 22, 1993 (13)	March 22, 1993 (9)	March 22, 1993 (6)
Illinois	July 14, 1995 (45)	July 14, 1995 (31)	July 14, 1995 (27)	August 17, 2007 (40)	August 17, 2007 (30)
Indiana	May 13, 1991 (3)*	May 13, 1991 (3)*	May 13, 1991 (3)*		
Iowa	May 31, 1985 (6)	May 7, 1987 (10)	May 31, 1985 (2)	May 7, 1987 (4)	March 28, 2002 (23)
Kansas	April 17, 1987 (17)	April 1, 1996 (34)	March 23, 1999 (35)	March 23, 1999 (27)	
Kentucky	Feb 7, 1986 (8)	Feb 7, 1986 (6)	March 25, 1996 (30)	March 25, 1996 (20)	March 25, 1996 (15)
Louisiana	June 1, 1993 (36)	June 1, 1993 (23)	June 1, 1993 (16)	May 27, 2005 (39)	June 1, 1993 (8)
Maine	June 25, 1987 (20)	April 2, 1996 (35)	April 2, 1996 (31)	April 2, 1996 (21)	July 3, 1995 (13)
Maryland	May 25, 1995 (42)	May 25, 1995 (28)	May 25, 1995 (24)**		May 25, 1995 (11)
Massachusetts	July 31, 1997 (50)				
Michigan	Dec 29, 1994 (41)	Dec 1, 1997 (40)	Dec 13, 2002 (39)	Dec 13, 2002 (33)	
Minnesota	May 11, 1993 (34)	May 11, 1993 (21)	May 19, 2003 (41)	May 19, 2003 (35)	May 19, 2003 (25)
Mississippi	April 7, 1994 (38)	April 7, 1994 (25)	March 16, 2005 (45)	March 16, 2005 (38)	March 16, 2005 (28)
Missouri	June 24, 1986 (11)	May 31, 1995 (29)	June 24, 1986 (4)	June 24, 1986 (2)	
Montana	April 23, 1987 (19)	Feb 24, 1999 (42)	April 23, 1987 (6)	April 23, 1987 (3)	Feb 24, 1999 (18)
Nebraska	March 26, 1986 (10)	March 3, 1998 (41)	June 10, 1993 (17)	June 10, 1993 (12)	
Nevada	June 29, 1995 (44)	May 29, 1999 (43)	June 29, 1995 (26)	May 29, 1999 (29)	
New Hampshire	June 29, 1993 (37)	May 18, 2002 (46)	June 29, 1993 (18)	June 29, 1993 (13)	June 29, 1993 (9)
New Jersey	January 16, 1992 (29)	January 16, 1992 (15)	August 7, 2004 (44)	August 7, 2004 (37)	January 16, 1992 (5)
New Mexico	April 5, 1985 (5)	April 5, 1985 (5)	March 17, 1995 (23)	March 17, 1995 (17)	April 2, 2007 (29)
New York	August 2, 1995 (46)	August 2, 1995 (32)			
North Carolina	June 3, 1977 (2)	June 3, 1977 (2)	June 3, 1977 (1)	June 3, 1977 (1)	June 3, 1977 (1)
North Dakota	April 10, 1987 (16)	March 23, 1997 (39)	April 10, 1987 (5)	March 23, 1997 (25)	April 10, 1987 (2)
Ohio	Feb 15, 1992 (30)	Feb 15, 1992 (16)	Feb 15, 1992 (11)	Dec 21, 2007 (42)	Dec 21, 2007 (32)
Oklahoma	March 22, 1984 (4)	March 22, 1984 (4)	April 13, 1994 (20)	April 13, 1994 (15)	April 13, 1994 (10)
Oregon	August 9, 1991 (28)	August 9, 1991 (14)	June 27, 2001 (38)	June 27, 2001 (32)	June 27, 2001 (22)
Pennsylvania	Oct 30, 1996 (49)	Dec 16, 2002 (47)	Oct 30, 1996 (32)	Oct 30, 1996 (23)	
Rhode Island	June 26, 1985 (7)	March 20, 1997 (38)	July 8, 2008 (47)	July 8, 2008 (43)	
South Carolina	May 14, 1993 (35)	May 14, 1993 (22)	May 14, 1993 (15)	May 14, 1993 (11)	
South Dakota	March 15, 1986 (9)	Feb 22, 1994 (24)	Feb 26, 1991 (9)	Feb 26, 1991 (7)	
Tennessee	April 22, 1987 (18)	May 5, 1993 (20)	May 5, 1993 (14)	May 5, 1993 (10)	May 5, 1993 (7)
Texas	June 15, 1991 (27)	June 19, 1999 (44)	June 19, 1999 (37)	June 19, 1999 (30)	June 19, 1999 (20)
Utah	March 20, 1991 (26)	March 20, 1991 (13)	March 20, 1991 (10)	March 20, 1991 (8)	March 20, 1991 (4)
Vermont	June 20, 1994 (39)	May 11, 2004 (49)	May 11, 2004 (43)	May 11, 2004 (36)	May 11, 2004 (27)
Virginia	April 11, 1988 (22)	March 8, 1996 (33)	March 8, 1996 (29)	March 8, 1996 (19)	March 8, 1996 (14)
Washington	April 18, 1989 (24)	April 18, 1989 (11)	May 7, 2003 (40)	May 7, 2003 (34)	May 7, 2003 (24)
West Virginia	March 4, 1976 (1)	March 4, 1976 (1)	April 18, 1997 (34)	April 18, 1997 (26)	April 2, 2010 (33)
Wisconsin	August 3, 1989 (25)	August 3, 1989 (12)	August 3, 1989 (8)	August 3, 1989 (6)	August 3, 1989 (3)
Wyoming	March 2, 1987 (13)	March 2, 1987 (8)	Feb 16, 1995 (22)	Feb 16, 1995 (16)	

The number in parentheses following the enactment date for each state is the order of enactment compared to the other states. For example, Alabama passed the 43rd TPA law, the 30th glaucoma treatment law, the 25th orals authority law, the 18th controlled substance authority law, and the 12th law allowing for the use of injectable agents of some type. In the case of the District of Columbia, the number in parentheses followed by a "B" indicates that D.C. was the next jurisdiction in the order of enactment after the state with that same number.

FOOTNOTES:

- * General legislation, favorable attorney general opinion based on the law at that time. Legislation that would have prohibited pharmaceutical use defeated. Appeal from dismissal of litigation that would have prohibited pharmaceutical use denied by state supreme court, February 27, 1986. Clarification legislation adopted May 13, 1991.
- ** Tetracycline and its derivatives for the diagnosis and treatment of meibomitis and seborrheic blepharitis are the only oral drugs authorized.

Table 4

States Where Authority To Prescribe Topical Steroids Was Not Granted With Initial Therapeutic Legislation

STATE:	INITIAL THERAPEUTIC LAW:	LAW AUTHORIZING TOPICAL STEROIDS:
CALIFORNIA	February 20, 1996	September 24, 2000
HAWAII*	June 24, 1996	June 18, 2002
MARYLAND	May 25, 1995	May 10, 2005
MONTANA	April 23, 1987	April 12, 1993
NEW HAMPSHIRE	June 29, 1993	May 18, 2002
PENNSYLVANIA	October 30, 1996	December 16, 2002

FOOTNOTE:

- * The Hawaii legislature did not prohibit the prescription of topical steroids in the initial prescriptive authority law enacted on June 24, 1996. However, the formulary committee in place at that time, which included two optometrists, two ophthalmologists, and two pharmacists, did not include topical steroids on the formulary of authorized drugs. Legislation to repeal the formulary committee and specifically clarify the authority of an optometrist to prescribe topical steroids was enacted on June 18, 2002.

Table 5

States Where The Use Of Lasers For Certain Therapeutic Purposes Is Authorized

STATE:	USE OF LASERS FOR THERAPEUTIC PURPOSES
Kentucky	February 24, 2011
Oklahoma*	March 16, 1998

- * This Act codified and expanded on a recognition by the Oklahoma Board of Examiners in Optometry during a February 1988 board meeting, as recorded in the minutes of the meeting, that "*when medically necessary, a qualified optometrist may utilize lasers, remove said stitches, and foreign bodies.*"

Appendix B

February 15, 2019

Dear Members of the Wyoming Legislature,

AMVETS, which is also known as American Veterans, is the most inclusive Congressionally-chartered veterans service organization open to representing the interests of 20 million veterans and their families, including those in Wyoming. Since 1944, we have proudly served veterans and maintain a special focus on advancing quality health care and expanded access through the U.S. Department of Veterans Affairs (VA) health system.

On behalf of veterans in Wyoming, we are outraged to learn that VA policies are being mischaracterized and misrepresented by lobbying groups who are placing their own selfish organizational and turf concerns over the interests of America's veterans in need of access and choice for essential eye health care, including advanced procedures. In recent days, we have seen examples of such disgraceful tactics in Wyoming, and we call on the American Academy of Ophthalmology and the Surgical Scope Fund under their control to immediately cease and desist their false and misleading attacks.

The fact is that the Department of Veterans Affairs recognizes the importance of dedicated VA physicians, including doctors of optometry, practicing to the full extent of their education and training (VHA Directive 1231 – November 2016). Moreover, with regard to eye health care, the VA's eye care handbook specifically recognizes that optometrists and ophthalmologists are "equal partners" in caring for the eyes and vision of America's veterans (VHA Handbook 1121.01 – March 2011).

Thank you for the opportunity to set the record straight on this matter. We look forward to working with you and other leaders across the state to do more for veterans and their families who need and deserve assured access to essential high-quality health care.

Yours in service to our nation's veterans,



Joseph R. Chenelly
National Executive Director
AMVETS National Headquarters



**SERVING
WITH
PRIDE**



A M V E T S

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Curriculum

Curriculum outlines for each of the schools and colleges of Optometry are below.

University of Alabama at Birmingham School of Optometry

Curriculum (Click [here](#))

The fundamental curricular contents required for advanced procedures, including ophthalmic laser surgical procedures, injections, and minor surgical procedures, are woven into the UAB School of Optometry curriculum from the 1st year of school and into the 4th, and include systemic and ocular anatomy, physiology, microbiology, pathology, biochemistry, pharmacology, management for conditions in eye care – with over 1000 hours of didactic and laboratory contact time for each student not including clinical encounters through clinical/patient care. In the first and second year of the program, optometry students take the same systemic curriculum as the dental students and medical students (Fundamentals in Health Sciences, Neuroscience, Gross Anatomy, Cardiovascular, Respiratory, Gastrointestinal, Musculoskeletal/Skin, Hematology, Endocrine, and Renal Systems) which was the design of the medical optometry curriculum from its inception in 1969.

2019-20	CONTACT HOURS
FUNDAMENTALS I	92
CLINICAL OPTICS	96
OCULAR ANATOMY	64
PHYSIOLOGY	64
BIOCHEM	24
FUNDAMENTALS II	92
SYSTEMS	290
OCULAR MICRO	16
VISUAL OPTICS	96
CEVS III (SLE, BIO, GONIO)	152
PHARM	64
ANT SEG	96
POST SEG	56
GLAUCOMA	24

NEURO	32
CLINICAL MANAGEMENT	48
TOTAL RELATED	1306
INJECTIONS MSP	48
LASERS	16.5
TOTAL RELATED	64.5

To ensure that students can apply fundamental concepts clinically, and perform surgical procedures, there are two required, stand-alone courses for injections/minor surgical procedures and ophthalmic lasers (OPT 326 and OPT 323) and have been since 2008 and 2012 respectively. These two courses account for an additional 46 contact hours. OPT 326 and OPT 323 were designed based on the broadest scope of optometric practice and utilize standardized high-fidelity model-based practices to ensure safety and essential skills. The courses do not simply teach technical skills, but cover anatomy, pharmacology, clinical application, indications, contraindications, and management of potential complications. Furthermore, faculty for the OPT326 and OPT 323 courses are only those who are certified in the surgical procedures.

Midwestern University Arizona College of Optometry

Curriculum (Click [here](#)) | Course Descriptions (Click [here](#))

OPTOG 1729

Advanced Ophthalmic Procedures (4 Credits)

This course is a multidisciplinary course that is team taught by faculty from various Midwestern University colleges and demonstrates the importance of the interdisciplinary approach as related to eye and vision care. This course provides an introduction to physical assessment therapeutic ophthalmic lasers; intraocular, subcutaneous, intramuscular, and intravenous injections; and other advanced procedures. The course will also include pre and post op care of ophthalmic procedures related to ocular disease and refractive correction.

Prerequisite: OPTOG 1746 Ocular Disease IV

Marshall B. Ketchum University Southern California College of Optometry

Current Curriculum 2023 (Click [here](#)) | Course descriptions (Click [here](#))

Curriculum (2018-2019) at a glance (Click [here](#))

CLS 764: Ocular Health Procedures III. (2.5 credit hours)

Two lecture hours and one laboratory hour per week. The purpose of this course is for the student to become knowledgeable in the protocol of advanced complex diagnostic and therapeutic clinical procedures involving ocular disease conditions. Special emphasis is placed on the indications and procedural application of anterior and posterior segment lasers, ocular imaging devices, neuro-imaging, diagnostic and therapeutic injections and ocular surgical procedures.

CLS 766: Advanced Clinical Topics. (1.5 credit hours)

One and one-half lecture hours per week. The purpose of this course is to present ophthalmic surgical procedures and advanced imaging techniques that are commonly encountered in practice. Special emphasis is placed on pre-operative patient selection, variations of surgical procedures and assessment of normal and complicated post-surgical outcomes. Ordering and interpretation of imaging techniques will also be presented.

University of California Berkeley School of Optometry

Curriculum and Course Descriptions (Click [here](#))

Western University of Health Sciences College of Optometry

Overview of curriculum (Click [here](#))

A composite list of relevant topics is summarized; relevant content may be introduced in one course in the curriculum and reinforced in another, which may reach a higher level in another course in the curriculum. These may be applied in a subsequent course in the curriculum and may not be readily evident that all the important content is embedded within our curriculum simply upon review of the course descriptions.

- laser physics, hazards, and safety
- biophysics of lasers
- laser application on clinical optometry
- laser tissue interactions;
- laser indications, contraindications, and potential complications
- gonioscopy
- laser therapy for open angle glaucoma
- laser therapy for angle closure glaucoma
- posterior capsulotomy
- common complications: lids, lashes, lacrimal system
- medicolegal aspects of anterior segment procedures
- peripheral iridotomy
- laser trabeculoplasty
- minor surgical procedures
- overview of surgical instruments, asepsis
- surgical anatomy of the eyelids

- emergency surgical procedures
- chalazion management
- local anesthesia: techniques and complications.

OPTM 8120 Principles and Practices of Optometry VI: Laser Eye Procedures and Minor Surgical Eye Care (2.0 credit hours)

This course covers the uses of lasers to perform certain surgical eye procedures, including laser therapies for open angle glaucoma, for angle closure glaucoma, and for posterior capsulotomy. The course will include a review of laser biophysics, laser-tissue interactions, as well as contraindications and complications associated with laser procedures on ocular tissues. This course will also cover surgical preparation and management of lid and adnexal lesions with an emphasis on benign neoplasms and chalazion. Additional topics include medicolegal aspects of surgical eye care and postoperative wound care. The lab portion of the course will provide hands on experience in suturing techniques and ophthalmic laser operations.

OPTM 8021 Principles and Practice of Optometry V: Special Procedures (2.0 credit hours)

This course will cover the theory and methods of clinical techniques that build upon basic examination skills acquired during the courses Principles and Practice of Optometry I through IV. Clinical techniques including scleral depression, A- and B-scan ultrasonography, punctal occlusion, punctal dilation and irrigation, removal of foreign bodies from the cornea and conjunctiva, and the injection techniques of IM, SubQ and IV will be presented in a hands-on format. The course will include non-glaucoma visual fields and applications of significant optometric thought processing.

OPTM 6175 Ocular Disease: Diagnosis and Treatment of the Posterior Segment (4.0 credit hours)

This course builds upon the framework presented in the Principles and Practice of Optometry curricular track to present advanced concepts in ocular disease management. The anatomical, physiological, histological, and pathological processes of ocular disease will be emphasized. Topics include in-depth discussion of diseases and abnormalities of the vitreous and retina as well as vitreo-retinal pathology associated with systemic diseases.

OPTM 6073 Ocular Disease: Diagnosis and Treatment of Glaucoma (2.5 credit hours)

This course covers the pathophysiology, diagnosis, treatment, and management of patients with all forms of glaucoma, with an emphasis on evidence-based therapeutic interventions. The course includes technique and interpretation of visual fields for glaucoma diagnosis and management. Topical and systemic medical therapies will be emphasized. The course will also discuss current surgical management of various forms of glaucoma.

OPTM 6053 Optical Science: Physical Optics (3.0 credit hours)

This course presents the physics of light, including the wave and particle behavior of light. In

particular, the course will include the characteristics of electromagnetic radiation, wave motion, total and partial coherence of light, interference, diffraction (single slit, double slit, gratings, circular apertures), zone plates, polarization, birefringence, anti-reflective lens coatings, lasers, emission and absorption spectra. Examples of applications in vision science and ocular diagnostic instruments will be provided.

OPTM 5133 Systemic Pharmacology (2.0 credit hours)

This course will cover medications commonly prescribed for systemic conditions, their indications and mode of action, as well as their ocular and visual side effects and toxicities. Topics include pharmacodynamics, pharmacokinetic aspects of drug formulations, routes of administration, and dosing & elimination, with an emphasis on drug indications, mechanisms of action, adverse effects, drug interactions, and contraindications. Additionally, a review of the pathophysiology of systemic diseases as it relates to current drug treatment paradigms will reinforce the connection between the medications and their corresponding indications.

OPTM 5130 Ocular Physiology (3.0 credit hours)

This course presents in depth coverage of the physiology of the eye, adnexa and visual systems. Topics include the physiology of the eyelids, lacrimal gland and its apparatus, tear production, cornea and lens, ocular fluid dynamics, vitreous body, retina, choroid and optic nerve. Topics of visual function and nutrition related to development and normal ocular function will be covered. When possible, relevant comparisons to disease states will be discussed to show the clinical relevance of the physiological concepts. The topics related to visual function includes, visual acuity, color vision, contrast sensitivity function, in health and disease states, accommodation function and decline in accommodation function with aging and presbyopic changes.

OPTM 5041 Anatomy for the Optometrist (4.0 credit hours)

This course covers all aspects of anatomy relevant to the practice of Optometry. Course content covers broad aspects of gross anatomy. Ocular anatomy is covered in detail including adnexa, orbit, orbital content, structure, and functional relationship of various ocular structures and their clinical importance. Through lectures and laboratory exercises students are introduced to the anatomy of the head and neck and neuroanatomy. Particular attention is paid to the cranial nerves, both their normal function and the numerous clinical syndromes that affect them as they pertain to optometric practice.

Sample topical outlines for selected content areas relevant to expanded scope of practice

[selected courses only] In the following section, some samples of topical outlines are provided. These outlines go beyond the course descriptions to provide another layer of detail to elaborate on the curricular content more fully. The samples do not represent the entirety of the course content, and merely provide a portion of the content that is particularly relevant to demonstrating the education and training in support of expanded scope of practice.

OPTM 8120 Sample Topics

- Cataract surgery in Review
- IOL calculations and IOL types (premium IOLs)
- Femtosecond Laser-Assisted Cataract Surgery (FLACS)
- Post-op cataract complications
- LASIK in Review
- Post-op LASIK complications
- Innovations in corneal refractive procedures SMILE procedure
- Safety overview for minor surgical procedures: indications, surgical procedures. Instrumentation, anesthesia, asepsis & OSHA, medicolegal aspects, management of anaphylaxis & other complications
- Laser glaucoma procedures
- Gonioscopy review & ALT/SLT procedures
- YAG posterior capsulotomy
- Peripheral Iridectomy (PI)
- YAG cap, PI, ALT laser procedures (3-hr lab with proficiency)
- Minor corneal procedures: FB removal, amniotic membranes
- Corneal FB removal, lid speculum, pressure patch, amniotic membrane (2-hr lab with proficiency)
- Basic lid procedures e.g. chalazion, benign lesions
- Oculoplastic Procedures
- Glaucoma surgeries e.g. MIGS, trabs, tubes Retinal laser procedures e.g. PRP, macular grid Surgical Retinal Procedures
- Suturing and subdermal injections (2-hr lab with proficiency)

OPTM 8021 Sample Topics

- Injections
- Reclined BIO
- Scleral Depression BIO 3-Mirror Fundus Ocular Foreign Bodies Punctal Plugs
- Dilation & Irrigation
- Cataract Surgical Procedures
- Anterior Segment OCT Refractive Surgeries
- Fundus Auto Fluorescence Sample Assessments
- Demonstrate ability to perform the complete process of injections for IM
- Demonstrate ability to perform the complete process of injections for IV
- Perform complete process of specialty testing suite including Interpretation and Report
- Integrate specialty fundus exam techniques (scleral depression BIO and 3-Mirror fundus lens) suitably into ocular health evaluation
- Examine angles with four mirror lens
- Discuss the processes and procedures of ocular cataract surgeries
- Discuss the processes and procedures of corneal refractive surgeries
- Demonstrate ability to perform Anterior Segment OCT
- Examine the retina using FAF
- Perform the sequence of managing corneal foreign bodies
- Complete process of ultrasonography

- Safely implement punctal health procedures of dilation/irrigation and plugs

OPTM 6053 Sample Topics

- Laser Theory and Clinical Laser Applications
- Spontaneous emission
- Stimulated emission
- Three-level ruby laser
- Brewster windows
- Laser types
- Helium Neon laser
- Pulsed laser
- Mode locking
- Q-switching
- Lasers in eye care
- Laser tissue interaction
- Photocoagulation
- Photoablation
- Photodisruption

OPTM 6073 Sample Topics

- Surgical management
- Laser options
- Types of surgeries
- MIGS
- Consideration in selection of procedures
- Transitioning from medical to surgical options
- Future developments
- Anaphylaxis and other office emergencies
- Post-operative wound care

Nova Southeastern University College of Optometry

Curriculum ([Click here](#)) | Catalog - College of Optometry ([Click here](#))

OPT 7162—Seminars in Laser and Surgical Ophthalmic Care

This course is a series of learning modules encompassing surgical and laser procedures of the ocular adnexa, anterior segment and posterior segment of the eye. Patient selection and preparation, preoperative care and postoperative care will be emphasized. Surgical techniques, procedures, complications, and expected outcomes will be presented by experts in each respective area.

Midwestern University Chicago College of Optometry

Curriculum ([Click here](#)) | Course descriptions ([Click here](#))

OPTOD 1736

Ophthalmic Application of Lasers (Credits: 1)

This course is a comprehensive introduction to the ophthalmic application of lasers. Indications, perioperative management, complications, and patient education will be reviewed for laser vision correction and therapeutic medical lasers. Physical principles of lasers, mechanisms of damage, and American National Standards Institute standards pertaining to laser safety will also be included. Hands-on learning with living and non-living tissues will be incorporated throughout lab exercises.

Illinois College of Optometry

Curriculum ([Click here](#)) | Course descriptions ([Click here](#))

OCD 369: Ophthalmic Lasers

0.5 hours of lecture, 0.5 hours of laboratory per week

Refractive and medical lasers are an important consideration in the practice and referral patterns of the primary care optometrist. Optometrists who perform and/or co-manage laser procedures can play a critical role in ensuring successful surgical outcomes by: assessing patient candidacy, facilitating the pre-operative examination, providing patient education, recommending specific procedures, and providing post-operative care. In certain states with laser privileges, optometrists may also be the ones performing the laser surgical procedures. There are currently three states (Oklahoma, Kentucky & Louisiana) where certain anterior segment laser procedures are within the scope of optometric practice and more states are examining adding these privileges each year. This course will review basic laser physics and safety, laser-ocular tissue interactions, and medicolegal considerations in laser surgical procedures. Refractive surgery procedures that are commonly co-managed by optometry will be presented, with special attention to those procedures approved for performance by certified optometric surgeons in select states. The course will also review co-management procedures for refractive surgery such as pre-operative testing, candidacy, indications/contraindications, complications and post-operative care. A hands-on refractive surgery wet lab will be held in conjunction with doctors and staff from TLC Laser Eye Centers. This course will also focus on medical lasers used in anterior segment procedures such as argon laser trabeculoplasty, selective laser trabeculoplasty, posterior capsulotomy, and peripheral iridotomy. Since gonioscopy skills are vital to the performance of some of these procedures, both gonioscopy itself and interpretation and documentation of the angle structures will be reviewed in both lecture and lab. There will also be laboratory time devoted to hands-on use of all the medical lasers, including performance of simulated procedures on model eyes. (1 credit)

PCE 371 – Specialty Rotation (Advanced Eyecare)

4 hours of patient care per week for half quarter

This clinical rotation emphasizes the diagnosis and management of patients with ocular pathology. Particular emphasis is given to patients with multiple, complicated and advanced

stages of disease. The majority of patients are referred to the service from other IEI services for laser and surgical intervention. Students have the opportunity to observe as well as play an important role in the pre- and post-operative management of these patients. Students in the service may rotate through any of the following sub-specialty services: Comprehensive ophthalmology, Cornea and External Disease, Glaucoma service, Vitreo-Retinal service, Neuro-Ophthalmic service, Emergency Eye Service, Visual Fields, and Electrophysiology service.

Indiana University School of Optometry

Bulletin 2021-2023 (Click [here](#)) For PDF of curriculum, click [here](#).

Curriculum from 2017-2019 (Click [here](#)) | Course descriptions from 2017-2019 (Click [here](#))

OPT-V 740 Ocular Disease V: Lasers, Injections, and Minor Surgical Procedures (2 cr.) P: V 746 and V 788 C: V 749

Learn advanced anterior segment procedures and treatment modalities, including laser procedures, injection techniques, minor surgical procedures, and wound closure techniques. Students will also learn aseptic technique, how to manage office emergencies, and other topics as appropriate.

OPT-V 749 Ocular Disease IV (Applied Ocular Therapeutics) (3 cr.) P: V 745. The use, in clinical optometric practice, of legend drugs, lasers, and other therapeutic devices in the treatment and management of ocular disease.

University of Pikeville, Kentucky College of Optometry

OPT 715 Advanced Topics in Ocular Disease Management

This course is a continuation of OPT 628. It includes discussion of advanced procedures and recent discoveries pertaining to the detection, diagnosis and management of posterior segment disorders.

OPT 716 Glaucoma Diagnosis & Management

This course is a comprehensive presentation of primary and secondary glaucomas, including etiology, mechanisms, prevalence and classification. The course emphasizes diagnostic testing including the use of advanced technologies, imaging procedures, photographic techniques and management options including medical, surgical and laser procedures.

OPT 717 Inter-Professional Clinical Case Analysis & Management

Clinical cases involving multidisciplinary involvement will be presented. Participation will include discussion by physicians, nurses, pharmacists, social workers, public health personnel, and other professional personnel as well as optometrists to exemplify and provide proper sequential and/or parallel management and arrive at an integrated approach in solving the patient's issues.

OPT 722 Epidemiology and Research Methodology Epidemiology

Discusses the factors that concern the frequency of occurrence of certain eye diseases or conditions among a defined population, particularly rural areas of Appalachia and other rural areas in America, and their effect on the health and well-being of their patients. It discusses screening, standards of care and reviews major epidemiological eye studies together with those determinants that contribute to ocular diseases and conditions in aging and poverty. Other topics include those factors that contribute to or worsen the effect of visual impairment such as pharmacological factors or cognitive impairment in the aged population or psychological factors in the young. There is also a detailed analysis of health care policy. Research Methodology covers development of a research question, experimental design, specific aims and statistical analysis, writing of the research proposal, grant applications, regulatory requirements related to human subject and animal research, CITI and other mandatory training for carrying out research and clinical trials, presentation of papers and posters and publication in refereed journals.

OPT 723 Clinical Internship IV

The student continues supervised clinical patient care with emphasis on the intern delivering care in the role of the provider. As in Clinical Internship III, care is supervised by KYCO clinical faculty and will take place mainly in the KYCO primary care clinics within the College and at one or more KYCO network clinics. Case conferences and Grand Rounds experiences will be assigned. Emphasis is upon correct interpretation and management of refractive and disease cases that have moderate complexity.

OPT 725 Neuro-Ophthalmic Disease, Neurological Disorders & Acquired Brain Injury

This course provides an in-depth discussion of the diagnosis of and management strategies for various neurological disorders that can affect vision and visual perception. Other systemic conditions such as some of vascular or cardiac etiologies or space-occupying lesions of the brain may also contribute to visual abnormalities or loss. Testing and neurological evaluation is discussed in depth and is accompanied by various radiological and other technologies that help the diagnostic process. The diagnostic strategies for the confirmation of acquired brain injuries are also covered in detail.

OPT 726 Clinical Medicine & Systemic Disease: Management & Co-Management

This course covers the major systemic diseases that have ocular and visual implications and reviews their etiology as discussed in pathology, the patient's signs and symptoms and other clinical assessments to not only reach a definitive diagnosis but also develop effective management plans. Since many systemic diseases have ocular correlates or implications, management often takes the form of co-management. The course will emphasize certain diseases such as diabetes, cardiovascular disorders, infectious and other conditions prevalent in the general and Appalachian populations.

OPT 625 Anterior Segment Disease

This course covers the diagnoses and management of the diseases of the anterior segment including those of the ocular adnexa, conjunctiva, cornea, anterior chamber, iris, and crystalline lens. It addresses the etiology, diagnosis and management of infectious, autoimmune,

neuromuscular, degenerative and neoplastic conditions as well as those involving surgical and laser interventions. Assessment techniques, specific to the anterior segment will be discussed as well as laboratory testing and detailed management protocols. Credit Hours: 4.5

OPT 727 Ophthalmic Surgery I: Laser Procedures

This course provides instruction and laboratory experience in advanced ocular therapeutic laser procedures. Topics will include a review of laser physics, tissue interaction, laser hazards and safety, and laser treatment protocol. As part of this course, students will perform simulated laser treatments as well as receive instruction for providing pre- and post-operative patient care in preparation for the clinical application of these procedures.

OPT 728 Optometry Review I

This course will review basic concepts focusing on the content presented in past and ongoing courses coordinated with the matrix outlined by the National Board of Optometry and the Accreditation Committee on Optometric Education. Targeted topics include principles of optics, general and ocular pharmacology and pharmacogenetics, and systemic and ocular disease. The goal of the course is to help participants prepare for their national board and state licensure exams, driving the course content.

OPT 731 Pre & Post-Operative Management of Ophthalmic Surgery Patients

This course presents the evaluation and management, including surgical decision-making in the care of the pre-operative candidate patient for ophthalmic surgery. All pre-surgical testing, counselling and preparation of the patient is presented as are the post-operative procedures, medications, and device management.

OPT 732 Advances in Optometry & Ocular Imaging

This seminar course is intended for presentations on contemporary and future innovations in the practice of optometry from the development of new technologies and instrumentation, to better management strategies, research in pharmacogenetics, detection of markers predictive of disease, pharmaceutical discoveries, and better optical solutions to current refractive disorders. A wide array of advanced corneal and refractive imaging systems devices will also be introduced.

OPT 733 Clinical Internship V

Continuing supervised clinical patients care with emphasis upon the intern delivering care in the role of the provider. Care will be supervised by KYCO clinical faculty and will take place mainly in the KYCO primary eye care clinics within the College and at one or more KYCO network clinics. Case conferences and grand round experiences will be assigned. Emphasis is upon correct interpretation and management of refractive and disease cases that have high complexity.

OPT 735 Ophthalmic Surgery II: Injections & Periocular Surgery

This course provides an introduction to minor periocular surgical procedures including informed consent, OSHA guidelines and asepsis, sterile techniques, lesion removal, and post-operative wound care. Various techniques, including radiofrequency surgery will be discussed. Injection

topics include indications and techniques for periocular injections, venipuncture, local anesthesia, and emergency procedures for anaphylaxis.

OPT 811, 812, 813, 821, 822, 823, 831, 832, & 833 Clinical Externships

The fourth-year rotations occur within the KYCO clinical network and include direct supervised patients care in the Primary Eye Care clinics with rotations to appropriate clinical facilities for direct and observed supervised clinical experience in specialty eye diseases, contact lenses, pediatrics, low vision, ophthalmic dispensing services as well as observational participation in other medical specialty clinics. Clinical management by interns during the fourth year is expected to reflect an ability to evaluate and manage a complex case load including surgical care.

MCPHS University School of Optometry

Curriculum (Click [here](#))

New England College of Optometry

Curriculum (Click [here](#))

COPE-Accredited CE Programs (Click [here](#))

Ferris State University Michigan College of Optometry

Curriculum (Click [here](#)) | Optometry Program (Click [here](#)) | Course Descriptions (Click [here](#))

OPTM 525 - Physical & Visual Optics 2

Equivalent power, system matrices, cardinal points, Gullstrand schematic eyes. Angular magnification. Stops and related effects. Aberration theory. Coherence and interference. Laser acuity testing, laser refraction, anti-reflecting films. Diffraction and resolution. Diffractive gratings and lenses. Scattering, dispersion, and polarization. Emission, absorption and photons. Laser ocular surgery concepts. Modulation transfer functions. Aberrations of the Human Eye.

OPTM 633 Laser & Refractive Surgery

History, theory and clinical application of ocular laser procedures will be discussed. Laser surgery for the treatment of anterior and posterior segment ocular diseases and refractive surgery for correction of myopia, hyperopia, astigmatism and presbyopia will be emphasized.

OPTM 737 Advanced Ocular Disease & Surgical Management

Course emphasizes the specific surgical, laser and/or medical management of patients with ocular disease. A portion of the course is taught by visiting optometrists and ophthalmologists from various specialties (retina, glaucoma, cornea, etc.). The differential diagnosis of eye disease is also emphasized.

University of Missouri St. Louis College of Optometry

Curriculum, page 22-24—Course Descriptions, page 25-29 (Click [here](#))

8680 Ophthalmic Lasers (1)

Prerequisite: OPTOM 8570. Principles and applications of lasers for ophthalmic use. Emphasis

will be placed on demonstration where possible. Topics will include the principles, physics and safety concerns of ophthalmic lasers. Lasers used in retinal imaging, and in the care of glaucoma, cataract, refractive conditions, and cosmetic conditions will be discussed and demonstrated. Comanagement of patients requiring ophthalmic laser treatment will also be covered.

8816 External Rotation in Ophthalmic Laser Treatment (7)

Prerequisite: Successful completion of all second- and third-year coursework. Comprehensive clinical care in ophthalmic laser treatment of patients at an external site approved by the College of Optometry's Externship Council. This course fulfills one of the clinic courses required for graduation.

State University of New York College of Optometry

Curriculum (Click [here](#)) | Course Descriptions (Click [here](#))

Integrated Optics II

4.0 Credits

Students learn the fundamentals of wave optics and physiological optics as they apply to image formation and clinical practice. The course integrates optical, biological, perceptual and clinical aspects. Topics include model eyes, Purkinje images, interference, diffraction, scatter and polarization, blur of the retinal image, aberrations of the eye, modulation transfer function, contrast sensitivity, photometry, fiber-optic nature of cones, entoptic images, cues for ocular accommodation, quantum optics and lasers. The goal is an intuitive understanding of the optical aspects of vision as related to clinical care. This is the second in a three-course sequence on clinical optics.

Clinical Optometry III

3.0 Credits

This course introduces advanced diagnostic and therapeutic procedures as well as providing an overview of disorders of the anterior and posterior segments of the eye. Along with the skills covered in the Optometric Theory and Procedures I and II courses, the intern will become proficient with the slit lamp biomicroscope, the use of diagnostic pharmaceutical agents and applanation tonometry. Examination of the anterior and posterior segments will be performed using gonioscopy, binocular indirect ophthalmoscopy, contact and non-contact lens fundoscopy. Additional diagnostic testing including laser interferometry, and ultrasonography will be reviewed. Students will learn to determine appropriate testing procedures, analyze and formulate treatment plans, and present cases for review.

The Ohio State University School of Optometry

Curriculum (Click [here](#))

Click on each course in the curriculum description for more details.

The program indicates: Note: The above curriculum meets the Kentucky Board of Optometric Examiners laser course requirement (201 KAR 5:110 Section 1) for licensure in Kentucky.

In addition to basic systemic anatomy, physiology, pathology, and pharmacology coursework, our students also extensively study the structure, function, and pathology of the eye and orbit.

Noteworthy, this coursework is not taken by any medical student. Relevant highlights of our curriculum include:

- A detailed course in ocular anatomy with both didactic and hands-on laboratory inspection and dissection of the globe, histological examination of all ocular tissue, and examination of all nervous and vascular supply to the orbit. This course covers a complete tissue study of every layer and tissue of the lids, conjunctiva, and globe in addition to the anatomy of the orbit. This course comprises 50 hours of didactic lecture and 30 hours of hands-on laboratory work.
- A detailed course in the physiology of the eye and orbit. This course covers all fluid dynamics of the globe, detail on all immunological and inflammatory mechanisms of ocular trauma, and a discussion of blood flow, lymphatic drainage, neural control, etc. This course comprises 50 hours of didactic coursework.
- An extensive course in the optical structures of the eye discussing in detail the exact thicknesses, curvatures, changes of these structures over lifetime, measurements of these structures using instrumentation and interpretation of these images. This course is comprised 50 hours of didactic lecture and 30 hours of laboratory hands-on work.
- A 28-hour course in the understanding of lasers and ionizing radiation and its interaction with human tissue. A 50-hour course in the clinical use of optical instruments such as slit lamp biomicroscopes, funduscopy lenses, etc. with extensive training and practice in the precise use of these instruments and practical examinations ensuring that every student is proficient in the precise visualization and clinical interpretation of the health/pathology of each layer of the eye.
- An extensive clinical rotation in which our students conduct complete vision examinations on patients under the direct supervision of licensed attending optometrists. These examinations typically include complete slit lamp biomicroscopic examinations of the eye and adnexa of each patient, thereby ensuring excellent skills in these procedures, e.g., examination and clinical interpretation of ocular tissues and treatment and management of inflammation and infection of any part of the visual system. At Ohio State each student currently completes approximately 1700 full eye examinations before graduation.
- A 30-hour course in direct training (didactic and hands-on laboratory) in the area of lasers, injections, and advanced procedures that has been approved by all states with advanced optometric scope as meeting the needed didactic and hand on procedures for licensure in those states.
- A 17-week (40 hours per week) rotation in their fourth year in an ophthalmology office or surgical co-management site where students work directly with ophthalmologists in pre- and post-surgical care, thereby learning the diagnosis and treatment of complications of ophthalmic surgery, surgical candidate selection and observation of surgical procedures.

Northeastern State University Oklahoma College of Optometry

Curriculum and Course Catalog (Click [here](#))

Select Course Descriptions – NSU Courses with Surgical and Laser Correlates

5103 General Pharmacology

General principles of drug action and specific systemic treatment. Mechanisms of action and therapeutic guidelines for: autonomic drugs, anti-infective agents including those used for prophylaxis pre- and post-operatively, anti-inflammatory agents, agents used in the treatment of allergy, major drugs acting on the CNS, cardiovascular, kidney, and endocrine systems, agents used for local or infiltrative anesthesia and analgesia relevant to office-based procedures, antiseptic agents and common over-the-counter drugs. Adverse side effects and drug interaction of commonly prescribed pharmaceuticals.

4126 Geometric and Physical Optics

Imaging of light: ray tracing through optical systems; aberrations and optical systems design. Physics of light: sources, spectra, scatter, polarization, refraction, reflection, absorption, interference, diffraction. Theory behind diagnostic and therapeutic ophthalmic lasers. Lecture and laboratory.

4271 Interpersonal Communications

Interpersonal and interprofessional relationships. Creating and enhancing a professional image; communicating with patients; interpreting patient complaints and concerns; enhancement of patient understanding and compliance; interviewing and history taking techniques; referrals; surgical co-management; dealing with difficult patients.

5203 Ocular Pharmacology

Principles of ocular pharmacology and medical treatment, clinical administration of oral, topical, and injectable drugs and utilization of diagnostic agents in the clinical/surgical care of the eye and adnexa. Principles and specific management

and treatment of ocular disease, trauma, anterior segment surgery, and laser

treatment/surgery by systemic, local, and topical therapy, including antisepsis. Clinician responsibility in the treatment and management of ocular and systemic complications of pharmaceutical use.

4133 Clinical Immunology and Microbiology

A study of the cellular and biochemical aspects of the human immune system and the immune response to infectious disease. Abnormal immune responses will be discussed. Lectures will also cover microbial aspects of infectious diseases (including postoperative infections) caused by bacteria, viruses, fungi and parasites, with emphasis on pathogenic mechanisms, host-pathogen interaction and antimicrobial therapy.

7101 Systemic Therapy in Ocular Disease and Trauma

Basic systemic therapy in ocular disease. Clinical indications, dosage, drug interactions, and common complications of enteral and parenteral medications utilized in ocular disease. Management of surgical post-operative complications with systemic medications.

7132 Differential Diagnosis of Ocular Disease and Trauma

A review of ocular disease, including eyelid lesions, and trauma with emphasis on clinical presentation, adjunctive testing, differential diagnosis as well as treatment with oral agents, topical agents, office-based surgical procedures and therapeutic lasers.

6223 Strabismus and Amblyopia

Basic principles of strabismus and amblyopia. This will include the symptoms, signs, diagnosis, test administration, test data analysis and therapy with lenses/prisms, vision therapy, and surgical options including procedures, referral criteria and outcomes. Lecture and laboratory.

5183 Optometric Clinical Methods III

This course emphasizes instrumentation and procedures for the detection, diagnosis, and management of pathological conditions. Includes introduction to office-based surgical procedures. Credit will not be awarded for Optometry 5183 until the pre-clinical examination has been completed successfully. Lecture and laboratory.

4213 The Human Nervous System

Structure and function of the central, peripheral, and autonomic nervous systems including anatomic correlates to periocular sensory anesthesia. Particular emphasis is placed on the anatomy and physiology of the visual system as it applies to the processing of visual information. Lecture and laboratory.

6081 Optometric Case Studies I

Case presentation and a discussion of selected topics in optometric clinical care including optometric surgical and laser procedures by faculty, students, and invited speakers. Current literature will be explored which applies to the subjects under discussion.

6251 Optometric Case Studies II

Case presentation and a discussion of selected topics including optometric surgical and laser procedures in optometric clinical care by faculty, students, and invited speakers. Current literature will be explored which applies to the subjects under discussion.

7081 Optometric Case Studies III

Case presentation and a discussion of selected topics in optometric clinical care including optometric surgical and laser procedures by faculty, students, and invited speakers. Current literature will be explored which applies to the subjects under discussion.

7171 Optometric Case Studies IV

Case presentations and discussions of selected topics in optometric clinical care including optometric surgical and laser procedures by faculty, students, and invited speakers. Current literature will be explored which applies to the subjects under discussion.

5273 Ocular Disease I:

Cataracts, Corneal, and External Ocular Disease Epidemiology, pathophysiology, differential diagnosis, management, and treatment of cataract, corneal and external ocular diseases, including disorders of the crystalline lens, eyelids, lacrimal system, conjunctiva, cornea, sclera and episclera. Includes cataract pre-operative and post-operative care as well as indications for treatment of posterior capsular haze with the Nd:YAG laser. Also includes instruction of office-based surgical procedures for the treatment and relief of ocular abnormalities.

6023 Ocular Disease II: Glaucoma and Anterior Uveal Disease

This course emphasizes differential diagnosis and management of primary and secondary glaucomas and disorders of the anterior uveal tract. Current technologies and pharmacologic management for glaucoma are taught. Indications for treatment of glaucoma with laser and other surgical procedures are taught. Includes pre-operative and post-operative care.

6173 Ocular Disease III: Vitreal, Choroidal, and Retinal Disease

This course covers the epidemiology, pathophysiology, symptoms, and signs necessary to differentially diagnose, manage, and treat disorders of the vitreous, choroid, and retina. Indications for treatment and overview of techniques used for laser, surgical and medical management of posterior segment conditions are taught.

5291 Clinical Practice I

Performance of clinical procedures and observation with case discussion. Optometric examinations conducted under the supervision of clinical faculty within clinical and hospital settings. Includes observing and assisting faculty, residents and upper-class students with office-based minor surgical procedures, including anterior segment laser procedures.

6093 Clinical Practice II

Clinical practice under supervision of clinical faculty in the screening, examination, diagnosis, treatment and management of vision conditions and other health problems. Optometric examinations conducted under the supervision of clinical faculty within clinical and hospital settings. Includes performance of office based surgical procedures, including anterior segment laser procedures.

6195 Clinical Practice III

Clinical practice under supervision of clinical faculty in the screening, examination, diagnosis, treatment, and management of vision conditions and other health problems. Optometric examinations conducted under the supervision of clinical faculty within clinical and hospital settings. Includes performance of office based surgical procedures, including anterior segment laser procedures.

6295 Clinical Practice IV

Clinical practice under supervision of clinical faculty in the screening, examination, diagnosis, treatment and management of vision conditions and other health problems. Optometric examinations conducted under the supervision of clinical faculty within clinical and hospital settings. Includes performance of office-based surgical procedures, including anterior segment laser procedures.

7095 Clinical Practice V

Clinical practice under supervision of clinical faculty in the screening, examination, diagnosis, treatment and management of vision conditions and other health problems. Optometric examinations conducted under the supervision of clinical faculty within clinical and hospital settings. Includes performance of office-based surgical procedures, biopsy and anterior segment laser procedures.

7196 Clinical Practice VI

Clinical practice under supervision of clinical faculty in the screening, examination, diagnosis, treatment, and management of vision conditions and other health problems. Optometric examinations conducted under the supervision of clinical faculty within

clinical and hospital settings. Includes performance of office-based surgical procedures, biopsy and anterior segment laser procedures.

7293 Clinical Practice VII

Clinical practice under supervision of clinical faculty in the screening, examination, diagnosis, treatment, and management of vision conditions and other health problems in on- and off-campus clinics. Optometric examinations conducted under the supervision of clinical and adjunct faculty within clinical, private practice and hospital settings. Includes performance of office-based surgical procedures, biopsy, and anterior segment laser procedures.

6231 Optometric Clinical Methods IV

Course topics covered include instrumentation and technical skills necessary for surgical procedures performed in the primary eye care setting. Includes OSHA regulations pertaining to blood borne pathogens. Included techniques are asepsis, iv injections, fluorescein angiography, management of anaphylaxis, wound management, basic suturing, and in-office minor surgical procedures. The course discusses the indications for, alternatives to, and risk/benefits of all techniques, as well as the management of complications. The course includes lecture and hands on participation.

4264 Ocular Anatomy and Physiology

Gross and microscopic anatomy of the orbit and its contents including the globe, muscles, bone structure, blood and nerve supplies; embryology, histology, anatomy and physiology of the eye including the chemical composition, metabolic activities; physiological functions of the various tissues of the eye and related structures including sensory and motor innervation of the face and

biomechanics of the eyelid as relevant to office-based eyelid surgical procedures. Lecture and laboratory.

7042 Office-Based Surgery

The role of office-based surgical practice within the comprehensive scope of current optometric practice. Application of evidence-based medicine and basic science human anatomy to office-based surgical patient selection, planning, instrumentation, procedures, anesthesia, and pre- and post-operative care.

7031 Ophthalmic Applications of Lasers

Laser biophysics, hazards, safety precautions, indications and contraindications for specific procedures, performance of the procedures, and follow-up care including management of complications are reviewed.

Pacific University College of Optometry

Curriculum (Click [here](#)) | Catalog with searchable course descriptions (Click [here](#))

OPT 749 - Refractive Surgery

1.5 credit(s)

This course provides an overview of the surgical and laser treatments of refractive error including historical and state of the art techniques, basic science of lasers, aberrations, and intraocular lenses, patient selection factors and protocols for co-management, the diagnosis, treatment, and management of postoperative complications and the role of optometry in refractive surgery.

Pennsylvania College of Optometry at Salus University

Curriculum (Click [here](#))

PCO OPT 7509 Ophthalmic Lasers and Minor Surgical Procedures

2 credits Fall Semester Third Year

Southern College of Optometry

Curriculum page 11 & Course Descriptions page 12-16 (Click [here](#)) | PDF version, click [here](#)

OPT 121 Optics of the Eye II (5 semester hrs) Four hours of lecture and two hours of laboratory per week. Emphasis on visual and physical optics. Optics of objective and subjective refraction. Ophthalmoscopy. Magnification and retinal image size. Optical aspects of accommodation and presbyopia. Effects of apertures and aberrations on optical systems. Optics of low vision devices. Topics in physical optics to include interference, diffraction, polarization, lasers, and photometry. Entopic phenomena. Role of the pupil as it affects depth of field, aberrations, and accommodation. Incidence, distribution, etiology, and development of refractive error. Prerequisites: OPT 111

OPT 320 Ophthalmic Lasers & Peri-operative Management (3 semester hrs) Three hours of lecture per week. Laser treatment and perioperative management for conditions such as

glaucoma, posterior capsular haze, cataracts, corneal disease, refractive error, macular edema, and other retinal disease. Emphasis on the use of lasers and the management of post-surgical complications. Prerequisites: OPT 221, 223, 308 & 313

CLN 306, 316, 326 Clinical Internship I, II, III (7 semester hrs) 21 hours of clinic per week. Weekly assignments will include participation with doctors of optometry or other physicians as non-physician extenders in comprehensive direct patient care utilizing a full range of management modalities. Assignments will emphasize management of eye and visual conditions with appropriate application of various designs and types of contact lenses and low vision devices; management of conditions especially prevalent in children; treatment and management of acute onset ocular diseases and chronic conditions; assisting non-optometric physicians in the management of patients utilizing laser and other in-office surgical procedures. Additional assignments may include the assignment of the Vision Therapy Service, Contact Lens Service, Technology department, participation in patient care at external clinics, and the Optical. Prerequisites: OPT 220 for CLN 306, CLN 306 (for 316), CLN 316 (for 326)

CLN 403, 413, 423 Clinical Advanced Care Ocular Disease (3 semester hrs) Nine hours of clinical activity per week. One clinic assignment will be in the Advanced Care Ocular Disease Service. Activities will consist of assisting doctors of optometry or other physicians as non-physician extenders in the diagnosis, treatment, and management of ocular disease. An emphasis is placed on acute-onset conditions which may involve intensive long-term management. Other activities will involve assisting physicians in the management of patients who have had laser and surgical procedures. Prerequisites: CLN 326

University of Houston College of Optometry

Catalog (Click [here](#)) | Curriculum (Click [here](#))

OPTO 7130 - Laser, Refract & Surg Lab

Credit Hours: 1.0, Lecture Contact Hours: 0, Lab Contact Hours: 3

Prerequisite: Concurrent enrollment in OPTO 7330

Hands on learning with several laser and surgical techniques. Lab exercises on appropriate use of Nd:YAG, argon, and Excimer lasers. Both nonliving tissue exercises as well as simulations with living tissue will be offered. Suturing techniques, injection techniques, miscellaneous minor surgical procedures and proper operating room protocol.

OPTO 7330 - Lasers, Refract Proced, Surg

Credit Hours: 3.0

Lecture Contact Hours: 3 Lab Contact Hours: 0

Familiarization with ophthalmic laser instrumentation, surgical laser procedures, management of ocular conditions with lasers. Types of ophthalmic lasers, laser-tissue interactions, technical considerations associated with laser surgery, and pre- and post-operative considerations for ocular conditions commonly managed with lasers. Principles of refractive surgery including pre-operative, procedural, and post-operative and complication management of radial keratotomy, lamellar procedures, and laser procedures. Special consideration is given to anatomy, wound

healing, and wound healing modulators. Role of optometry in refractive surgery. Operating room protocols, injection, and suturing techniques.

University of the Incarnate Word Rosenbloom School of Optometry

Curriculum ([Click here](#))

OPT 122 Visual and Applied Optics (6 Credits)

Prerequisites - OPT 112

Five hours of lecture and two hours of lab per week.

The optics of the human eye will be studied in detail as it relates to human visual function. The eye as a refracting device will be investigated along with the clinical application of lenses to remediate refractive error. The application of prism and ocular deviation will be addressed along with the axes and angles of the eye. A general overview of photometry and physical optics including interference, diffraction, polarization, thin film optics, and lasers. Entopic phenomena and the Stiles-Crawford effect. Magnification and retinal image size with clinical applications of accommodation, presbyopia, aphakia, and pseudophakia. The clinical role of the pupil in depth of field, aberrations, and accommodation. Introduction to contact lenses in the treatment of ametropias. Contemporary optics will be introduced to include the study of aberrations, testing for higher-order aberrations, and the remediation of higher order aberrations within the human visual system.

OPT 306 Glaucoma Diagnosis and Management (2.5 Credits)

Prerequisites – OPT 215, OPT 228, OPT 223, OPT 303

Two hours of lecture per week and one hour of laboratory per week.

A comprehensive review of glaucoma. Etiology, mechanisms, natural history, prevalence of glaucoma. Classifications of glaucoma. Anterior segment and posterior segment relationships to the diagnosis and management of the glaucomas. Primary and secondary glaucomas. Exhaustive presentation of the diagnostic tests and their interpretation. The use of gonioscopy, pachymetry, intra-ocular pressure, anterior chamber anatomy, pre-existing ocular disease considerations, previous surgery considerations, previous trauma consideration, and co-morbidities in the diagnosis of glaucoma. The use of advanced technology in the diagnosis and management of glaucoma to include GDx, HRT, OCT, RTA or other optic nerve head imaging. The appropriate use of automated and non-automated visual field testing. The use of 78D/90D slit lamp biomicroscopy in the diagnosis and management of glaucoma. The use of photographic techniques in the diagnosis and management of glaucoma. Treating the glaucomas with medical management. Treating the glaucomas with surgical and/or laser treatments. The standard of care of glaucoma diagnosis and management along the course of the disease process. The complications of diagnosis and management of the glaucoma with ocular co-morbidities to include neurologic defects, macular degeneration, retinal detachment, or other ocular pathology. The proper coding and billing of the glaucoma patient. Appropriate follow-up schedules in the management of glaucoma. Appropriate written and oral communications among medical professionals as part of the standard of care for glaucoma patients.

OPT 321 Peri-operative Management and Techniques (2.5 Credits)

Prerequisites – OPT 223, OPT 226, OPT 228, OPT 303, OPT 306

Two hours of lecture and one hour of laboratory per week.

Pre- and post-operative considerations for ocular and adnexa ophthalmic and laser surgeries. Indications and candidacy for surgery. Expected outcomes and prognoses. Pre-operative counseling, workup, and documentation. Standard protocols for pre, intra, and post operative care. Cataract surgery, YAG capsulotomy, refractive surgery, laser trabeculoplasty, peripheral iridotomy, trabeculectomy, retinal detachment surgery, retinal laser surgery, penetrating keratoplasty, and endothelial cell transplantation. Proper coding and billing for co-management and peri-operative care.



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March 24, 2023

The Honorable Denis McDonough
Secretary, U.S. Department of Veterans Affairs
810 Vermont Avenue, NW, Room 1063B
Washington, DC 20402

Dear Secretary McDonough,

On behalf of the millions of Veterans, families, and survivors AMVETS represents, I am writing to express our appreciation for ongoing Department of Veterans Affairs efforts to protect and boost access to needed health care services, including eye and vision care services. With vision and eye health care ranking as the third-most requested service by Veteran patients, we urge VA to continue working to ensure that all Veterans have access - when and where they need it - to the full range of care that eye doctors within VA and in the community are trained and licensed to provide.

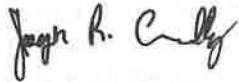
AMVETS is appreciative for and supports recent amendments made by VA to its Eye Care Comprehensive Standard Episodes of Care (SEOC) – a change which aims to better ensure Veterans access to a wide range of medical eye care services provided by both optometrists and ophthalmologists, based on the state licensure of the provider. We agree with VA that “this change will improve access by allowing providers to render services for which they are legally licensed, reduce the need for multiple Community Care encounters and allow Veterans to choose their preferred provider within the care network.” This move also helps ensure that Veterans are treated fairly and have the same access to care now enjoyed by pretty much every other citizen in their states, including those covered by Medicare, Medicaid, the Indian Health Service, and all major private health insurers. If VA is considering any further changes to these policies, we would ask for a full briefing beforehand.

Additionally, as VA works to finalize optometry national standards of practice, we would urge the Department to follow the aforementioned Eye Care SEOC approach by ensuring that Veterans within VA – as they now do through the community – have access to the full range of care that both ophthalmologists and optometrists are trained and licensed to provide. While optimistic that the new standards will help boost access to needed care, we are concerned that they may not include some eye care services provided by optometrists simply because these types of eye doctors are authorized to provide those services in less than a majority of states. Should VA take the approach of only including health care services in the standards which are authorized in a significant number of states, AMVETS is worried that Veterans in some states may needlessly be denied access to essential health care services solely because states other than their own have failed to act. AMVETS urges VA to ensure that through these practice standards Veterans,

at the very least, have the same access to the same services that every other citizen of their state now enjoys.

Thank you, again, for your commitment to protecting and improving access to care for our nation's Veterans. With vision and eye health care ranking as the third-most requested service by Veteran patients, these issues are of utmost importance to our members and we look forward to continuing to work with you and the Department to ensure that all Veterans have access to the full range of care that eye doctors within VA and in the community are trained and licensed to provide.

Sincerely,

A handwritten signature in black ink, appearing to read "Joseph R. Chenelly". The signature is fluid and cursive, with the first name "Joseph" and last name "Chenelly" clearly distinguishable.

Joseph R. Chenelly
AMVETS, National Executive Director

VA Enacts Policy Securing Veteran Access to Laser Eye Care Procedures Provided by Doctors of Optometry

2022 VA Community Care Program Updates Follow 2020 Removal of Language Which Had Prevented Veteran Access to OD-Provided Laser Eye Care at VA Facilities, Bringing VA in Closer Alignment with All Major Federal and Private Payers

In September 2022, the U.S. Department of Veterans Affairs (VA) dropped restrictive language within two Eye Comprehensive Standardized Episode of Care (SEOC) guidelines that had prevented veterans from accessing community care doctors of optometry for so-called “invasive” eye procedures.

The Eye Comprehensive SEOCs, which outline the scope of approved services a private community provider may offer to a Veteran, previously included language that stated, “only ophthalmologists can perform invasive procedures, including injections, lasers and eye surgery.” However, after hearing from concerned Veteran advocates and lawmakers, the VA changed its language to allow these services to be provided by “an ophthalmologist or optometrist based on the state licensure of the provider.”

The move better ensures Veteran access to a wide range of medical eye care services provided by both optometrists and ophthalmologists, based on the state licensure of the provider. The change also boosts access by allowing providers to render services for which they are legally licensed, reduces

the need for multiple Community Care encounters and allows Veterans to choose their preferred provider within the care network. This move also better ensures that Veterans are treated fairly and have the same access to high-quality care now enjoyed by other citizens of their states,

The change follows the directive governing both optometrists and ophthalmologists (VHA Eye and Vision Care) indicating that the latter are currently the providers of laser eye procedures - setting a pathway for doctors of optometry to gain the necessary VA credentialing and privileging to provide laser care to veterans. The VA policy reversal came after concerned U.S. House members wrote VA demanding that veterans in their states have the same access to therapeutic laser eye procedures performed by doctors of optometry that non-veterans now enjoy.





The reversals now more closely align VA with all

other major federal and private payers. Medicare, Medicaid, and all major private insurers have for many years reimbursed for and ensured patient access to therapeutic laser eye care and other advanced procedures provided by doctors of optometry trained and licensed to do so.



The Indian Health Service, which similarly operates under a federal supremacy health care system, recognizes the ability

of appropriately licensed doctors of optometry to provide therapeutic laser eye and other procedures to patients and allows its optometrists to provide this care across state lines.



Veteran advocates have hailed the moves, including American Veterans (AMVETS) - one of the nation's oldest,

most recognized veterans service organizations in the country.



On behalf of America's more than 20 million veterans and their families, AMVETS is proud of and applauds the VA for its recent and decisive move toward ensuring that more of our veterans have access to the full range of eye care services, including laser eye procedures, that doctors of optometry are ready, willing and fully able to provide," says Joe Chenelly, AMVETS national director. "AMVETS is committed to ensuring that our veterans have access to the care they need, where and when they need it—and we're happy that the VA is increasingly joining us in that mission."



July 29, 2023

State of Vermont
Office of Professional Regulation
89 Main Street, Suite 3
Montpelier, Vermont 05602

Dear Director Rushing,

As an introduction to our request to expand the scope of practice for optometry, we wanted to provide you and your team with the Q & A that have been discussed over the past four years. We believe this will provide you with background information that is needed. We have attached the Colorado bill which passed in 2023 as this is the most recent State to expand optometry scope of practice.

We have collated a binder of information so you and your team can easily access pertinent information to update your report.

Lastly, we very much want to extend a "hand" in helping to update the previous report. We are hoping that we are part of this process. If information is missing or you are having trouble accessing or contacting any entity that you need information about, please reach out to us so we can ensure you have the absolute best, up to date information. We are looking forward, not back, and hope we can work together.

Sincerely,

Dr. Dean Barcelow
President
Optometrist; Offices in Bethel, White River Junction
802-558-3604

OUTLINE OF INFORMATION FOR SCOPE EXPANSION:

(1) A description of the practices and activities that the profession or occupation would be permitted to engage in if the scope of practice is amended.

We would request a repeal of § 1728b 1-4. At this time, all Optometrists have the skill and knowledge to treat patients with multiple glaucoma medications, as well as many more medications and combinations of medications on the market than when initially passed.

Additionally, we are asking for specific language allowing prescribing of schedule 2 products with hydrocodone. National changes within the DOJ changed hydrocodone classification and we see this as an administrative change and/or board clarification.

In relation to allowing optometric procedures, and to reduce confusion about what we are asking for and what we are not asking for, we have included both prohibitions and the requested (allowed) procedures below:

We have included specific prohibitions and allowed procedures below.

Except that a licensee shall not practice any of the following procedures:

- (A) retina laser procedures;
- (B) penetrating keratoplasty or corneal transplant;
- (C) the administration of general anesthesia;
- (D) surgery done with general anesthesia;
- (E) surgery related to removal of the eye from a living human being;
- (F) surgery requiring full thickness incision or excision of the cornea or sclera other than paracentesis in an emergency situation requiring immediate reduction of the pressure inside the eye;
- (G) surgery requiring incision of the iris and ciliary body, including 9 diathermy or cryotherapy;
- (H) surgery requiring incision of the vitreous;
- (I) surgery requiring incision of the retina;
- (J) surgical extraction of the crystalline lens;
- (K) surgical intraocular implants;
- (L) incisional or excisional surgery of the extraocular muscles; incisional or excisional surgery of the extraocular muscles;
- (M) surgery of the eyelid for suspect malignancies or for incisional cosmetic or mechanical repair of blepharochalasis, ptosis, and tarsorrhaphy;
- (N) surgery of the bony orbit, including orbital implants;
- (O) incisional or excisional surgery of the lacrimal system other than probing or related procedures;
- (P) surgery requiring full thickness conjunctivoplasty with graft or flap; and
- (Q) pterygium surgery.

Unless otherwise prohibited in 1717 (B) (3) the following areas of advanced procedures will be authorized.

Laser procedures of the Anterior segment, surface of the eye, or adnexa. Including,

- 1) Laser procedures to create a capsulorhexis prior to cataract surgery.
- 2) Laser procedures to treat glaucoma such as laser trabeculoplasty.

- 3) Laser procedures to treat narrow angles such as laser iridotomy, or laser iridoplasty.
- 4) Laser procedures to treat capsular opacification such as YAG capsulotomy.

Injections pertaining to the eye and its adnexa, intravenous injections, subcutaneous and intramuscular injections. Including,

- 1) Injections for the administration of local anesthesia.
- 2) Injections to perform fluorescein angiography.
- 3) Injections of therapeutics into the eyelid or its adnexa or subconjunctival space.
- 4) Injections for anaphylaxis.
- 5) Injections for vaccination in a public health emergency.

Removal and restoration of tissue or lesions with low risk of malignancy of the eye and its adnexa. Including,

- 1) Excision and repair of chalazia.
- 2) Excision and repair of lesions with low risk of malignancy.
- 3) Corneal Crosslinking, treatment of Recurrent Corneal Erosion
- 4) Radio Frequency Therapy.

We propose that these would be in the form of an endorsement granted to practitioners who meet requirements set forth by State Statute and endorsed by OPR that are in line with (1) the education received by optometric education, and (2) the requirements of numerous other states that allow these procedures to be performed.

(2) Public health, safety, or welfare benefits, including economic benefits that the requestor believes will be achieved if the request is implemented and, if applicable, a description of any harm to public health if the request is implemented.

The Vermont Optometric Association has long maintained that there are lengthy lines to see eyecare providers. While expanded scope will not solve this problem completely, allowing Optometrists to perform procedures that they have received training to perform, would allow space with Ophthalmology to perform more advanced procedures. Optometry already manages pre- and post-operative care for all Ophthalmological procedures.

As a regulated profession, Optometry is keenly aware of the spotlight that can be shone on any one individual and as such tends to be incredibly cautious in our treatment and care of patients. You will not find any evidence that Optometrists pose any higher risk than what currently exists within the healthcare system.

Please see *Appendix 4: Avalon report*, which shows the savings to the healthcare system when Optometry is allowed to practice to the full extent of its training.

We are under no delusion that treatment and care of patients at times leads to unexpected outcomes, but there is no evidence that Optometry performing procedures poses any higher risk than what currently exists within the healthcare system. The argument exists that a less rushed practitioner who has seen the patient for years could perform the task more carefully and less rushed. Optometry stands by discussing the many moments that the requested procedures were poorly executed by our colleagues.

(3) The impacts of the scope of practice expansion will have on the public's access to occupational services.

Allowing an expanded scope of practice would increase access for patients. There are currently months to year long waits that exist depending on procedures, there is a need to expand care. Vermonters rely on UVM and Dartmouth for surgical care, both of which have long wait times. Access is not just about geographical location but about wait times. Patients waiting months for a procedure when an optometrist is trained and educated to perform within the same office visit is better for patient care.

(4) A description of the current laws and regulations, both federal and State, pertaining to the profession, including a description of the current education, training, and examination requirements and any relevant certification requirements applicable to the profession for which the amended scope of practice is being sought.

Optometrists attend college with a degree that would allow them to pursue a medical field with prerequisites on par with any major medical school. Following completion of their undergraduate degree, they take a national admissions test called the Optometry Admissions Test (OAT) which is similar to the Dental Admissions Test (DAT), or Medical College Admissions Test (MCAT). Preparatory classes are often merged across these professions. Following an acceptable passing rate admission into a graduate program a graduate will complete 4 years of Graduate education at a school or college of Optometry.

This includes 3 years of coursework and one year of externships. These three years include Biology, Histology, Anatomy, Physiology, Principles and Practice of Optometry, Clinical Reasoning, Patient Care, Optics, Visual Sensation and Perception, Neuroanatomy, Ocular Disease, Biochemistry, Genetics, Immunology, Pharmacology, Ocular Pharmacology, Contact Lenses, Binocular Vision, and Clinical Medicine including classes on pre- and post-operative care, injections, and use of Ophthalmic Lasers. Externships usually include rotations in a hospital, private practice, large educational clinic(s), and a specialty clinic setting.

During these four years, Optometry students prepare for and take a series of 3 National Boards by the National Board of Examiners in Optometry (NEBO), the State of Vermont could also rely on NEBO for additional boards covering injections and laser and surgical procedures. NEBO is a trusted source of third-party testing for all states and has rigorous standards. Further information can be found at optometry.org.

Please see Appendix 5 for the Curriculum outlines for schools and colleges of Optometry.

(5) The extent to which the public can be confident that a practitioner is competent to perform the activities and practices permitted under the amended scope of practice, including a description of the nature and duration of the education and training for performing these activities and practices, if any. The description of the education and training shall include the following information:

- **Educational requirement includes a substantial amount of supervised practical experience.**

All Doctorate candidates perform a minimum of 1 year of externships collaborating with preceptors from a variety of diverse backgrounds including hospitals, public health clinics, private practice, and teaching institutions. This includes directly supervised

optometric procedures including the procedures that are being requested in this application.

- **The courses description and professional educational programs, including relevant syllabi and curricula, training professionals to perform the activities and practices being proposed under the expanded scope of practice.**

Please see Appendix 5 for the Curriculum outlines for schools and colleges of Optometry.

All optometry schools train their students to perform Optometric procedures to ensure that their students can practice to the highest level and within any state across the country. We can make affidavits available from each school of Optometry to the Optometry Board of Louisiana stating that the schools teach a minimum curriculum to each graduating class upon request.

- **Do educational programs exist in this State?**

There are no Optometry educational programs that exist within the state. There are several locations that host students from schools across the country and these doctors serve as adjunct faculty in their role with these students.

- **What is the experience requirement?**

The Vermont Optometric Association is in favor of the language presented, it is in line with the consensus of other state statutes and has a safe and proven track record.

- **How will optometrist be registered, certified, and licensed practitioner continuing education?**

Our request is to have all Vermont Licensees complete a 32-hour course which will be offered by an accredited school or college of Optometry and COPE approved.

- **Are there alternative routes of entry or methods of satisfying the eligibility requirements and qualifications?**

The only alternative route of entry to satisfy eligibility requirements would be by endorsement from a state with substantially significant training requirements.

- **Additional Testing Requirements:**

All applicants who complete the 32-hour optometric procedures course will be required to pass an examination which is a required part of its administration. The costs of developing this course are rolled into its COPE approval and are borne by the clinician.

(6) What is the optometrist's profession's ability to practice to the full extent of the profession's education and training?

For decades Optometrists have been trained to perform Optometric Procedures. In the last 10 years there has been a move across the country to bring State Statute in line with the full extent of Optometry's education and training. This requested scope expansion will bring Vermont in line with the training and education graduates receive.

(7) Identify any health care professions that can reasonably be anticipated to be directly impacted by the request, the nature of the impact, and efforts made by the requestor to discuss the request with such health care professionals.

The anticipated economic impact such an expansion will have for the system, for patients, and for other health care providers. Please see *Appendix 4: Avalon Report*

We anticipate that there will be no appreciable impact on any other healthcare professionals. The opposition to this scope expansion has yet to provide any concrete evidence that optometric procedures being performed in other states have put patients in harm's way with the exception being anecdotal stories.

(8) A summary of the known scope of practice changes either requested or enacted in the State concerning the profession in the five-year period preceding the date of the current request.

In the last five years, there have been minimal changes to State statutes. There was a large edit to Chapter 30 which was made in anticipation of ironing out exact endorsement language. This in effect took prior endorsements and rolled them into our general practice act and required 40 hours of CE for all Vermont licensed Optometrists. It also removed prohibitions against Optometric Procedures signaling a willingness to move forward with endorsement language.

(9) A summary of regional and national trends, legislation, laws, and regulations concerning licensure of the profession making the request, and a summary of the relevant scope of practice provisions enacted in other states.

Please See *Appendix 1: Scope Comparison* to review national trends.

(10) How the standards of the profession or occupation will be maintained, including whether effective quality assurance standards pertaining to the activities and practices permitted under the proposed expanded scope of practice exist in the profession or occupation, such as legal requirements associated with specific programs that define or enforce standards.

The Council on Optometric Practitioner Education (COPE) provides hundreds of hours of education covering optometric procedures, including hands-on lab training, offered each year at local and national meetings. COPE is the preferred certification for optometric education and is recognized by fifty-two licensing boards which accept COPE accredited Courses toward maintenance of licensure.

(11) A profile of the practitioners in this State, including a list of associations, organizations, and other groups representing the practitioners and including an estimate of the number of practitioners in each group.

The Vermont Optometric Association is the sole association of Optometrists within the State of Vermont. We have approximately 83 members and an additional 10 students of those 58 are full time and 16 are "life members". A life member means they are retired or nearing retirement. Lastly, Vermont has 3 part-time members who are also nearing retirement.

The Office of Professional Regulation database shows 161 active Optometry licenses, and of those 103 have addresses listed in Vermont. The rest maintain Vermont licenses for assorted reasons but do not likely practice within the state.

(12) Will exemptions be available?

OPR has already allowed an exemption to this statute to be made on behalf of The Vermont Optometric Association as we began the work with OPR prior to the enactment of this statute.

An Act

HOUSE BILL 22-1233

BY REPRESENTATIVE(S) Lontine and Soper, McCormick, Ortiz, Titone, Baisley, Bernett, Boesenecker, Duran, Holtorf, Hooton, Jodeh, Kipp, Lindsay, McLachlan, Valdez A., Valdez D., Will, Bird, Catlin, Daugherty, Ricks, Sullivan;
also SENATOR(S) Simpson and Ginal, Gonzales, Jaquez Lewis, Lee, Story.

CONCERNING THE CONTINUATION OF THE REGULATION OF OPTOMETRY BY
THE STATE BOARD OF OPTOMETRY, AND, IN CONNECTION THEREWITH,
IMPLEMENTING THE RECOMMENDATIONS IN THE 2021 SUNSET REPORT
BY THE DEPARTMENT OF REGULATORY AGENCIES.

Be it enacted by the General Assembly of the State of Colorado:

SECTION 1. In Colorado Revised Statutes, **amend** 12-275-130 as follows:

12-275-130. Repeal of article - review of functions. This article 275 is repealed, effective ~~September 1, 2022~~ SEPTEMBER 1, 2033. Before the repeal, the functions of the board performed pursuant to this article 275 are scheduled for review in accordance with section 24-34-104.

Capital letters or bold & italic numbers indicate new material added to existing law; dashes through words or numbers indicate deletions from existing law and such material is not part of the act.

SECTION 2. In Colorado Revised Statutes, 24-34-104, **repeal** (23)(a)(I); and **add** (34)(a)(VI) as follows:

24-34-104. General assembly review of regulatory agencies and functions for repeal, continuation, or reestablishment - legislative declaration - repeal. (23) (a) The following agencies, functions, or both, are scheduled for repeal on September 1, 2022:

(I) ~~The state board of optometry created in article 275 of title 12;~~

(34) (a) The following agencies, functions, or both, are scheduled for repeal on September 1, 2033:

(VI) THE STATE BOARD OF OPTOMETRY CREATED IN ARTICLE 275 OF TITLE 12.

SECTION 3. In Colorado Revised Statutes, 12-275-103, **amend** (1)(b)(X) and (1)(b)(XI); and **add** (1)(b)(XII), (1)(b)(XIII), (1)(b)(XIV), (1)(b)(XV), (1)(b)(XVI), (1)(b)(XVII), and (1)(b)(XVIII) as follows:

12-275-103. Practice of optometry defined - prescribing drugs - therapeutic optometrist - rule. (1) (b) The following are part of the practice of optometry:

(X) Debridement of corneal epithelium; and

(XI) Removal of corneal epithelium;

(XII) INJECTIONS FOR THE TREATMENT OF CONDITIONS OR DISEASES OF THE EYE OR EYELID, EXCLUDING INTRAOCULAR INJECTIONS PENETRATING THE GLOBE;

(XIII) THE USE OF A LOCAL ANESTHETIC IN CONJUNCTION WITH THE PRIMARY TREATMENT OF AN EYELID LESION;

(XIV) REMOVAL AND BIOPSY OF EYELID LESIONS WITHOUT CHARACTERISTICS OR OBVIOUS SIGNS OF MALIGNANCY, EXCLUDING LESIONS INVOLVING THE EYELID MARGIN OR LARGER THAN FIVE MILLIMETERS IN SIZE;

(XV) INCISION AND CURETTAGE OF A CHALAZION;

(XVI) SIMPLE REPAIR OF AN EYELID LACERATION NO LARGER THAN TWO AND ONE-HALF CENTIMETERS AND NO DEEPER THAN THE ORBICULARIS MUSCLE AND NOT INVOLVING THE EYELID MARGIN OR LACRIMAL DRAINAGE STRUCTURES;

(XVII) CORNEAL CROSS-LINKING; AND

(XVIII) LASER CAPSULOTOMY, LASER PERIPHERAL IRIOTOMY, AND LASER TRABECULOPLASTY.

SECTION 4. In Colorado Revised Statutes, 12-30-108, **repeal** (4)(b)(I) as follows:

12-30-108. Confidential agreement to limit practice - violation grounds for discipline. (4) (b) Subsection (1)(a) of this section regarding notification for confidential agreements does not apply to:

(I) ~~Article 275 of this title 12 concerning optometrists;~~

SECTION 5. In Colorado Revised Statutes, 12-275-110, **amend** (1)(c); and **add** (3), (4), (5), (6), and (7) as follows:

12-275-110. Application for license - licensure by endorsement. (1) A person who desires to practice optometry in the state may file with the board an application for a license, giving the information required in a form and manner approved by the board. The applicant shall demonstrate that the applicant possesses the following qualifications:

(c) The applicant has successfully passed ~~the written~~ A STANDARDIZED NATIONAL examination of the National Board of Examiners in Optometry. ~~The board shall have the authority, upon its investigation and approval of the examination standards, to approve some body other than the National Board of Examiners in Optometry as the examining body~~ APPROVED BY THE BOARD THAT TESTS THE QUALIFICATIONS OF THE APPLICANT TO PRACTICE OPTOMETRY IN THE STATE.

(3) A LICENSEE LICENSED UNDER THIS SECTION WHO PERFORMS LASER PROCEDURES OR TREATS OCULAR ADNEXA SHALL DEMONSTRATE COMPETENCY AND COMPLETE ONE OF THE FOLLOWING EDUCATION AND EXAMINATION REQUIREMENTS PRIOR TO PERFORMING THESE PROCEDURES:

(a) GRADUATE FROM AN ACCREDITED COLLEGE OR UNIVERSITY OF OPTOMETRY IN 2019 OR LATER WHERE THE LASER PROCEDURES AND OCULAR ADNEXA TREATMENTS WERE TAUGHT AND DEMONSTRATE PASSAGE OF THE STANDARDIZED NATIONAL EXAMINATION APPROVED BY THE BOARD PURSUANT TO SUBSECTION (1)(c) OF THIS SECTION; OR

(b) COMPLETE A TRAINING COURSE APPROVED BY THE BOARD AND SATISFACTORILY COMPLETE A PROCTORED CLINICAL SESSION WITHIN TWO YEARS PRIOR TO PERFORMING LASER PROCEDURES OR TREATING OCULAR ADNEXA. PROCTORING MAY BE PERFORMED BY AN OPTOMETRIST OR OPHTHALMOLOGIST LICENSED TO PERFORM THE PROCEDURES IN ANY JURISDICTION.

(4) IF A LICENSEE HAS NOT PERFORMED A LASER PROCEDURE WITHIN THE PAST TWO YEARS, THE LICENSEE SHALL SATISFACTORILY COMPLETE ANOTHER PROCTORED CLINICAL SESSION PRIOR TO PERFORMING ANY LASER PROCEDURES.

(5) A LICENSEE PERFORMING THE PROCEDURES DESCRIBED IN SUBSECTION (3) OF THIS SECTION SHALL REPORT TO THE BOARD ANY ADVERSE OUTCOMES FOLLOWING EACH PROCEDURE. THE LICENSEE SHALL DELIVER SUCH REPORTS AND ANY CORRESPONDING PATIENT RECORDS TO THE BOARD OFFICE WITHIN TEN DAYS AFTER THE DATE THAT THE LICENSEE IS AWARE OF THE ADVERSE OUTCOME.

(6) A LICENSEE SHALL MAINTAIN DOCUMENTATION EVIDENCING COMPLETION OF THE REQUIREMENTS OF SUBSECTIONS (3), (4), AND (5) OF THIS SECTION AND SHALL PROVIDE THE DOCUMENTATION TO THE BOARD UPON REQUEST. PERFORMING ANY OF THE PROCEDURES DESCRIBED IN SUBSECTION (3) OF THIS SECTION WITHOUT MEETING THE REQUIREMENTS OF SUBSECTIONS (3), (4), AND (5) OF THIS SECTION MAY SUBJECT THE LICENSEE TO DISCIPLINE BY THE BOARD PURSUANT TO SECTION 12-275-122.


(7) NOTWITHSTANDING ANY LAW TO THE CONTRARY, THE REQUIREMENTS OF SUBSECTIONS (3), (4), (5), AND (6) OF THIS SECTION DO NOT APPLY TO A LICENSEE'S PERFORMANCE OF THE PROCEDURES AND TREATMENTS SPECIFIED IN SECTION 12-275-103 (1)(b)(I), (1)(b)(V), (1)(b)(VI), AND (1)(b)(VII).

SECTION 6. Act subject to petition - effective date. This act

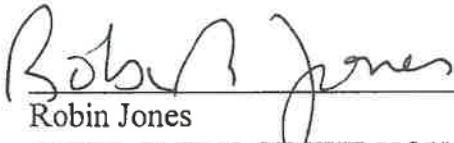
takes effect at 12:01 a.m. on the day following the expiration of the ninety-day period after final adjournment of the general assembly; except that, if a referendum petition is filed pursuant to section 1 (3) of article V of the state constitution against this act or an item, section, or part of this act within such period, then the act, item, section, or part will not take effect unless approved by the people at the general election to be held in November 2022 and, in such case, will take effect on the date of the official declaration of the vote thereon by the governor.



Alec Garnett
SPEAKER OF THE HOUSE
OF REPRESENTATIVES



Steve Fenberg
PRESIDENT OF
THE SENATE



Robin Jones
CHIEF CLERK OF THE HOUSE
OF REPRESENTATIVES

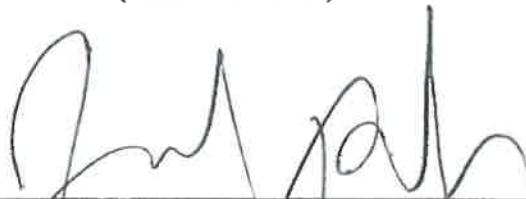


Cindi L. Markwell
SECRETARY OF
THE SENATE

APPROVED

June 7th at 3:45 *p.m.*

(Date and Time)



Jared S. Polis
GOVERNOR OF THE STATE OF COLORADO

08/07/2023

Comparison of Proposed Vermont Language to California's Passed (but not enacted secondary to governors veto) Scope Language.

As requested from OPR during 07/31/2023 meeting.

Good Afternoon,

During our meeting we discussed the recent bill that was passed by the California legislature. As the most recent legislation to be passed we wanted to provide another example of how other states have approached optometric scope expansion.

- Requires a board approved 32 hour course which requires a written examination.
- Requires passage of the National Board modules for laser and surgical procedures.
- Requires hands on education on laser procedures, including documentation of 5 completed procedures for each of the laser procedures, 5 chalazion cases, and 5 corneal crosslinking cases.
- Requires that within 3 years a total of 43 clinical cases will be completed by the optometrists a percentage of which will happen in proctored settings.
- A requirement to report any adverse events that required a referral to another health care provider.
- Instructs the Board of Optometry to review adverse events and to take action as needed to require additional training.
- Establishes the definition of a qualified educator as an Optometric instructor nominated by an Optometry school in California for the purposes of the hands on education, or an Ophthalmologist in good standing with the Board of Medicine.

The California State language has some stipulations that would not work in Vermont, namely the requirement of the in state Optometry schools to provide the required education. The VOA would support this language if OPR was willing to submit it back to Senate Government Operations. We do feel that the surgical case load is higher than is needed and certainly exceeds ACGME requirements for Ophthalmology residents.

I have attached the California bill for your consideration.

Dean Barcelow

President - Vermont Optometric Association

Shortened training would offer advantages

Physicians could begin practice brimming with ideas—and with less debt

January 15, 2007

By [Peter J. McDonnell, MD](#)

"They say that we are better educated than our parents' generation. What they mean is that we go to school longer. They are not the same thing."

—Douglas Yates

The president of my university, William Brody, MD, PhD, says we take too long to train the current generation of physicians and biomedical scientists. I agree.

Some will perceive this view as anti-intellectual, but I think we spend years of student-physicians' lives teaching them things they don't need to know and making them do things that will not be germane to their future careers.

Some examples:

- A couple of decades ago, the American Board of Ophthalmology mandated a clinical internship for those, like me, seeking to become board-eligible in ophthalmology. This ruling immediately added a year's time to that needed to become an ophthalmologist in the United States.

No evidence exists that this additional requirement elevated the quality of ophthalmologists practicing in the United States compared with those who came before us. Rather, we learned to use drugs with names primarily of historic interest today to treat diseases we no longer managed once our internships were completed.

- Despite completing the requirements for majors in both biochemistry and chemistry in college, I spent much of the first 2 years of medical school taking additional courses in these subjects. Memorizing the small bones of the hand was a challenge, and I can recall that the trapezium is the small bone supporting the thumb.

Trust me when I tell you that most of what I was taught and required to memorize in medical school has been long forgotten and never used in the practice of my profession.

- I am fortunate enough to travel outside the United States occasionally for professional reasons and have the pleasure and honor of meeting and observing ophthalmologists in their home countries. Every time, the youth of the junior ophthalmologists in those countries impresses me; sometimes they complete their training at an age close to that of my typical first-year resident.

Are these youthful trainees up to American standards? My observation is that many countries outside the United States are producing outstanding clinicians and superb surgeons. My residents, many of whom travel to other countries for elective courses, commonly tell me how impressed they are with the skills of these ophthalmologists.

People involved in designing medical school curricula tell me that they are not trying to teach medical

students to know everything, especially because biomedical science totally changes every few years. Rather, they say, they seek to teach medical students "how to think." But why does it take 4 years to teach a medical student to think? Can't someone who was tops in his or her class in high school and college be taught to think in 3 years?

In many specialties, trainees are finishing their residencies and fellowships in their mid-to-late 30s, especially if they took time to get a PhD along the way. They graduate with an average of \$250,000 in student loans, may be married and have a child or two, and suddenly are worried about paying off their debt, buying a first home, and otherwise providing for their families.

When some of these brilliant young people decide not to pursue academic careers, many academics shake their heads sadly and wonder why.

My view is that we who are doing the training may be sowing the seeds of our own extinction by virtually bankrupting the next generation, making it increasingly not economically viable for most of our graduates to accept the lower incomes of academicians.

Pedagogical scientists may prove that I am wrong and that our current lengthy training programs are appropriate and are producing better physicians than in the past.

But if I were king, we'd shave a few years off the time required for training ophthalmologists in the United States, dramatically cut the debt burden on our trainees, and get them out in the world to start their careers when they are younger and brimming with great ideas.

Peter J. McDonnell, MD is director of The Wilmer Eye Institute, The Johns Hopkins University School of Medicine, Baltimore, and chief medical editor of *Ophthalmology Times*. He can be reached at 727 Maumenee Building, 600 North Wolfe St., Baltimore, MD 21287-9278 Phone: 443/287-1511 Fax: 443/287-1514 E-mail: [\[email protected\]](#)

Laser Peripheral Iridotomy Curriculum: Lecture and Simulation Practical

Joanne C. Wen, MD*, Kasra A. Rezaei, MD, Deborah L. Lam, MD

*Corresponding author: joanne.wen@me.com

Abstract

Introduction: Approximately 20 million people worldwide are affected by primary angle closure glaucoma, which is often treated with a laser peripheral iridotomy (LPI). In the United States, at least 60,000 to 80,000 LPIs are performed annually. However, complications can arise from improperly performed LPIs. While the Accreditation Council for Graduate Medical Education requires that all ophthalmology residents perform at least four primary LPIs prior to graduating, formal training is often lacking. In an effort to standardize LPI teaching, an LPI lecture curriculum and skills practice session were introduced. **Methods:** A lecture and wet-lab curriculum was developed at the University of Washington to formally teach first-year ophthalmology residents the indications and techniques for LPI. Pre- and postcurriculum knowledge was tested, and LPI performance was assessed by comparing pre- and postcurriculum total number of shots and time needed to successfully complete an LPI on a commercially available model eye. **Results:** The course was highly rated by 10 residents (all PGY 2), with an increase in pre- versus posttest scores, an improvement in LPI performance metrics, and an increase in pre- versus postcurriculum scores for the three survey questions regarding curriculum objectives. **Discussion:** This course improved learner knowledge and confidence in performing LPI. Test scores improved following the course, as did self-assessed confidence levels of the residents. Residents made a number of positive comments about the course. We plan to continue holding this training session every year at our institution.

Keywords

Laser Peripheral Iridotomy, Nd:YAG, Ophthalmology, Clinical/Procedural Skills Training, Simulation

Educational Objectives

By the end of this session, learners will be able to:

1. List the indications for laser peripheral iridotomy (LPI).
2. Accurately explain the LPI procedure and postprocedure management to patients and obtain informed consent.
3. Become proficient in the technical skills involved with performing safe and effective LPIs.

Introduction

Glaucoma is a chronic, progressive optic neuropathy that is a leading cause of irreversible blindness. By 2020, glaucoma is projected to affect close to 80 million people worldwide. Approximately one-fourth of cases are due to a subtype of glaucoma called primary angle closure glaucoma (PACG).¹ Laser peripheral iridotomy (LPI) is commonly used as a treatment

for PACG and primary angle closure as well as a preventative procedure in patients who are primary angle closure suspects.² In the United States, 60,000 to 80,000 LPIs are performed each year on Medicare recipients.³ Given the prevalence of this disease and the high likelihood that ophthalmologists will need to perform an LPI during their careers, the Accreditation Council for Graduate Medical Education expects all ophthalmology residents to have performed at least four primary LPIs prior to graduating. However, formal teaching in proper indications and techniques for LPIs is often lacking in many institutions. While LPIs are relatively low-risk, complications can arise from them including bleeding, prolonged inflammation, intraocular pressure elevations, lens or cornea damage, and dysphotopsias.^{4,5} The University of Washington recently reviewed all resident-performed LPIs over a 5-year period and found that while total energy use and complication rates were comparable to attending-performed LPIs in the literature, there was a higher incidence of repeat laser to reopen or enlarge peripheral iridotomies.⁶ In an effort to standardize LPI teaching and decrease the incidence of repeat LPI, as well as to help maintain minimal complication rates, an LPI curriculum including a lecture and a skills practice session was introduced.

Citation:

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This curriculum was implemented at the University of Washington in 2018 and has been held annually. The target audience was primarily first-year ophthalmology residents, although residents and fellows at any level could benefit from the curriculum. The curriculum consisted of two sessions with an interval period for independent practice. During the first session, there was a pretest, followed by a lecture reviewing indications for LPI, risks and benefits, pre- and postprocedure management, and an overview of the LPI procedure. After the lecture, the learners participated in a skills practice session and took an initial LPI assessment. The learners were each given a model eye to practice with on their own time, and a later session was scheduled for a posttest.

Methods

Development

The residency program at the University of Washington included weekly time dedicated to didactics, including lectures and wet labs. Our LPI curriculum was implemented during two of these scheduled didactic sessions approximately 6 months into the academic year. The target learners were first-year ophthalmology residents who had a basic knowledge of ocular anatomy and pathology, although second- and third-year residents were encouraged to participate in the lecture. The facilitator was a glaucoma specialist who had significant experience at performing LPIs.

Equipment/Environment

The curriculum required the following:

- Access to a conference or lecture room with a projector to give the lecture.
- Access to an Nd:YAG laser used to perform LPIs.
- Laser safety goggles of appropriate wavelength for the Nd:YAG laser.
- SimulEYE LPI models (www.guldenophthalmics.com, Product Number: 17028, \$100 for two eyes):
 - For each SimulEYE LPI model eye, four LPIs could be completed.
 - Course facilitators had to order enough model eyes for learners to each complete one LPI during the initial LPI assessment and one LPI during the posttest, as well as one eye for each learner to practice on between sessions.
 - The SimulEYE LPI model eye had to be filled with water prior to mounting on the slit lamp holder (Figure 1).
- SimulEYE slit lamp holder (www.guldenophthalmics.com, Product Number: 17030, \$100 for one):



Figure 1. Example of laser simulation setup with the SimulEYE slit lamp holder and SimulEYE LPI model eye.

- This had to be mounted on the Nd:YAG laser during the setup for the curriculum (Figure 1).

Alternatively, a noncommercial LPI model eye could be constructed with materials described by Simpson, Schweitzer, and Johnson.⁷

Personnel

Given the relatively small size of ophthalmology resident classes (at the University of Washington, five residents), a single instructor gave the lecture and supervised the residents as they practiced on the LPI model. The instructor was experienced in performing LPIs.

Implementation

The curriculum was held over two sessions. The first was a 1-hour period that included a pretest, the lecture and skills practice session, and an initial LPI assessment. The second session was a 30-minute period for the posttest. The curriculum schedule was as follows:

- Session 1:
 - Pretest (10 minutes; Appendix A).
 - Lecture (20 minutes; Appendix B).

- Skills demonstration (15 minutes).
- Initial LPI assessment (15 minutes; Appendix C).
- Session 2:
 - Final LPI assessment and posttest (30 minutes; Appendices D and E).

Session 1

The Nd:YAG laser was readily accessible so that immediately following the lecture, the instructor could provide instruction on the laser to the learner to demonstrate basic setup. Because lasers manufactured by different companies may differ from the lasers used in this curriculum, instructors at other institutions should familiarize themselves with their own lasers prior to implementing the curriculum.

The instructor had set up target materials at the laser prior to initiating the skills practice session. The SimulEYE LPI model eye was filled with water per manufacturer instruction, being careful to avoid air bubbles in the anterior portion of the model. The SimulEYE slit lamp holder was mounted to the laser per manufacturer instruction and the SimulEYE LPI model eye suctioned to the slit lamp holder (Figure 1). Laser safety goggles were readily available.

Future instructors should review the lecture notes that accompany the lecture slides prior to the session to ensure adequate understanding and familiarity with the lecture material (Appendix B). Sufficient numbers of pretests (Appendix A) should be printed for the class. A sufficient number of model eyes for independent practice should be available at the end of this session.

At the beginning of the session, pretests (Appendix A) were distributed, and learners had 10 minutes to complete the test. This was followed by the lecture (Appendix B) for approximately 20 minutes. Instructor and learners then proceeded to the area where the Nd:YAG laser was set up. There, the instructor demonstrated and reviewed the following:

- Ensured proper signs or other methods for notifying others that a laser was in progress were prominently displayed.
- Ensured all observers were wearing proper safety goggles.
- Demonstrated how to turn on the laser.
- Demonstrated how to adjust slit beam and aiming beam illumination intensity.
- Demonstrated how to adjust slit beam size.
- Demonstrated how to align the target with the slit lamp beam and aiming beam.
- Demonstrated optimal appearance of aiming the beam when properly focused.
- Demonstrated how to apply the coupling gel to the LPI lens.

Then, the learner practiced doing the above steps under direct supervision.

For the initial LPI assessment (Appendix C), the learner performed an LPI on the LPI model under direct supervision (energy set at 5.0 mJ). Total number of shots and total time from laser lens contact to LPI completion were documented. Note: Air bubbles were noted to form, which could have obstructed the superior portion of the LPI model, so we recommend avoiding the superior location for LPI practice. The model can be rotated such that all LPI locations within it can be positioned along the horizontal meridian.

Each learner was given an LPI model eye for independent practice.

Session 2

The instructor prepared the laser materials and models as previously described for Session 1. Learners were taken individually to the Nd:YAG laser and asked to demonstrate all the elements on the final LPI assessment (Appendix D). Next, learners were asked to perform an LPI on the LPI model, and total number of shots and total time from laser lens contact to LPI completion were documented. Learners were then given the LPI posttest (Appendix E). Instructors used the pre-/posttest answer key (Appendix F) to grade the tests.

Assessment

Curriculum effectiveness was evaluated in a number of ways. The pre- and posttests assessed improvement in the learners' LPI-related fund of knowledge. The final LPI assessment was a checklist of tasks that we felt represented all the functions of the Nd:YAG laser a learner should know to safely operate the machine. LPI performance improvement was assessed by comparing pre- and postcurriculum total number of shots needed to complete an LPI and time to complete an LPI. A study by Kam, Zepeda, Ding, and Wen demonstrated decreasing power usage among residents performing LPI procedures with increasing resident training stage, suggesting that decreased total power to complete an LPI might represent increasing procedural proficiency.⁶ Therefore, assessing total number of laser shots in this curriculum was a way to measure procedural proficiency. Lastly, learners were asked to rate pre- and postcurriculum confidence scores for the three learning objectives and to provide feedback on the curriculum. Pre- and posttests, metrics, and ratings were compared with a Wilcoxon signed rank test. A *p* value less than .05 was considered statistically significant.

Results

There were five residents per ophthalmology residency class at the University of Washington. Since the curriculum's introduction in 2018, 10 residents had completed it. In terms of fund of knowledge, there was a significant increase in pre- versus posttest scores following the course (means of 5.1 ± 2.0 vs. 10.8 ± 0.5 , respectively, perfect score = 11, $p = .008$; Figure 2). All learners correctly performed all tasks on the final LPI assessment. With respect to LPI performance metrics, there was a significant decrease in the total number of laser shots needed to complete an LPI (mean of 29.4 ± 15.6 shots decreased to a mean of 10.9 ± 7.0 shots, $p = .02$; Figure 3) although total time to complete the LPI was not significantly changed (mean of 90.5 ± 31.2 seconds vs. mean of 89.3 ± 33.5 seconds, $p = 1.0$). There was an increase in pre- versus postcurriculum scores for the three survey questions regarding curriculum objectives (all on a scale of 1-5, with 1 = *not comfortable at all* and 5 = *very comfortable*; Figure 4):

- Survey question 1: How comfortable are you with knowing the indications for performing an LPI?
 - Pretest mean score of 1.8 ± 1.0 versus posttest mean score of 4.6 ± 0.5 ($p < .01$).
- Survey question 2: How comfortable are you with discussing the risks and benefits of an LPI with a patient?
 - Pretest mean score of 1.9 ± 1.0 versus posttest mean score of 4.8 ± 0.5 ($p < .01$).
- Survey question 3: How comfortable are you with performing an LPI?
 - Pretest mean score of 1.5 ± 0.8 versus posttest mean score of 4.4 ± 0.5 ($p < .01$).

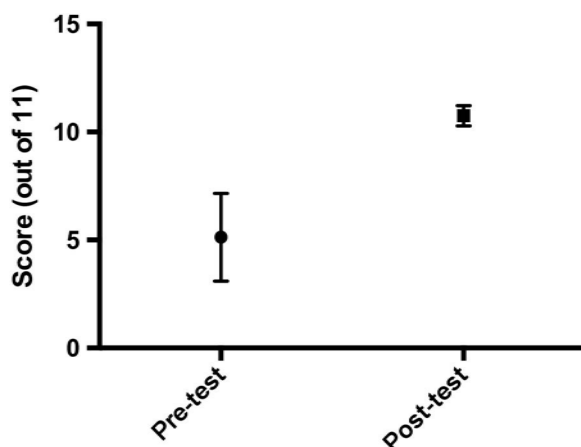


Figure 2. Pre- versus posttest scores. Means and standard deviations are shown ($p = .008$).

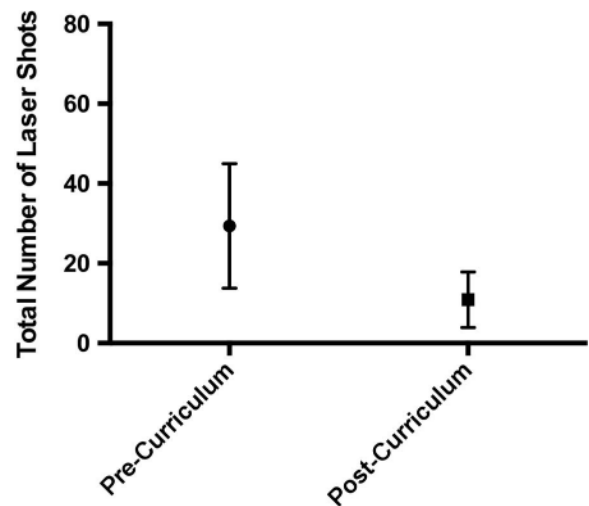


Figure 3. Comparison of total number of laser shots needed to complete a laser peripheral iridotomy pre- and postcurriculum. Means and standard deviations are shown ($p = .02$).

The course was highly rated, with the average response to the question “How would you rate this course overall?” being a 4.9 out of 5 (90% response rate; 5-point scale, with 1 = *poor* and 5 = *outstanding*).

Three participants provided qualitative feedback on the course:

- “I thought it was extremely helpful.”
- “Super good lecture!”
- “Very valuable, thank you so much!”

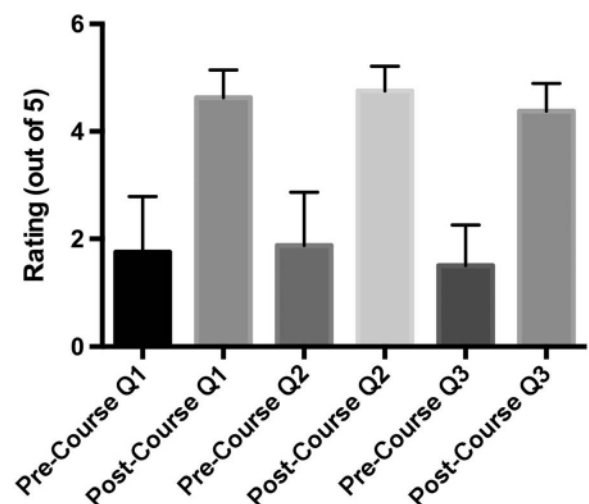


Figure 4. Pre- versus postcourse ratings for the three course objectives. Means and standard deviations are shown.

Discussion

To teach residents LPI indications, risks, and proper LPI technique, we developed this formalized curriculum with objective measures for assessing LPI knowledge and the LPI procedure on a simulation model. Learners were given pre- and posttests to evaluate improvements in LPI knowledge, and total number of laser shots to complete an LPI and total procedural time were evaluated at the beginning and end of the curriculum. Overall, we found that our curriculum improved learner knowledge about LPI, learner ability to perform a proper LPI on the practice model, and learner self-assessed confidence in the three objectives of the curriculum.

We chose a plastic eye model as it allowed the use of the focusing lens and coupling gel to best simulate real-life conditions. The use of a similar model was described in a study by Simpson and colleagues, who designed a model eye with artificial tissues to simulate common ophthalmic laser procedures including LPI, laser capsulotomy, and laser retinopexy.⁷ They compared inexperienced (PGY 2) with experienced (PGY 4) ophthalmology residents and found a nonsignificant trend towards decreased number of shots needed to complete an LPI and no difference in total time needed to complete the LPI.⁷ They attributed the nonsignificant difference in total number of laser shots to the high-power setting (9.0 mJ) they used in their simulation, which may have overcompensated for poor technique and therefore masked differences. Our simulation used a much lower energy setting of 5.0 mJ, and we did find a significant difference in total number of laser shots, supporting Simpson and colleagues' hypothesis that at lower energy levels, the importance of aiming and focusing technique may be more apparent.

Identifying an appropriate model to simulate procedures is crucial. Recent improvements in ophthalmologic simulation models have increased teaching options for ophthalmic laser education. Notably, we initially developed an LPI curriculum at the University of Washington in 2016 that was very similar to the current one except that model eye options were limited and so residents practiced lasering a tomato (this was recommended by the laser manufacturer). In this resident cohort, there was also an increase in pre- versus postcurriculum test scores following the course (means of 6.8 ± 0.4 vs. 10.6 ± 0.4 , respectively), as well as an increase in all postcurriculum survey questions. However, the postcurriculum score for survey question 3 ("How comfortable are you with performing an LPI?") achieved a mean of only 3.8 ± 0.8 . We attributed this relatively low score to the less realistic practice model and were pleased to see that learners

of the current curriculum had a mean of 4.4 ± 0.5 on that same survey question, suggesting that this practice model improved learner performance confidence.

Most ophthalmology residency programs should be able to implement this curriculum using the suggested models and materials described. However, if these models and materials are cost prohibitive, the previously mentioned model by Simpson and colleagues may provide a lower-cost alternative.⁷ In their study, the laser model was constructed with materials readily available at most craft stores, including a clear plastic sphere, white paint, a microscope slide, and blue tissue paper, for a total cost of approximately \$10.⁷ For programs that are unable to purchase or create the above models, a practice target such as a tomato, while limited in the ability to simulate using a laser focusing lens, is still useful for demonstrating laser setup and focusing on a target. As previously mentioned, our original curriculum given in 2016 used a tomato for practice, and learners still demonstrated improved postcurriculum test scores with increased confidence (assessed by rating "How comfortable are you with performing an LPI?" on a 5-point scale) in performing the LPI procedure (mean of 2.8 ± 0.8 precurriculum vs. mean of 3.8 ± 0.8 postcurriculum). Therefore, the implementation of this curriculum even with a less realistic model can still be very useful for teaching the fundamentals of the LPI procedure.

The optimal location for LPI placement within the eye is controversial, with evidence to support the temporal or superior location. Vera and colleagues randomized each eye of patients who needed bilateral LPIs to either superior or temporal LPI positions and found a significantly greater incidence of new-onset linear dysphotopsias in eyes with a superior LPI.⁸ Conversely, a study by Srinivasan and colleagues randomized both eyes of patients to either superior or temporal/nasal LPI locations and did not find a significant difference in reported new-onset dysphotopsias.⁹ Our institutional preference is to place them in the temporal location; however, given the lack of clear evidence, people who implement this curriculum may choose to recommend either location.

Of note, many of our senior residents chose to participate in the lecture portion of this curriculum. While most had previously performed LPIs, many commented that they found the lecture material informative and useful. Specifically, clarifying the importance of laser safety goggles that cover the appropriate wavelength for the laser being used was cited as particularly helpful. Also, specifying that the LPI size should be at least 150-200 μm was informative for nearly all learners as this was a commonly missed question on the pretest.

A retrospective study conducted at the University of Washington looking at the efficacy and safety of resident-performed LPI found that energy use decreased significantly with increasing resident training while complication rates were low and did not change significantly among the three classes.²

Furthermore, energy use and complication rates were comparable to what had been reported in the literature for attending-performed LPI procedures. Decreasing energy use may be a sign of improving procedural proficiency. In this curriculum, we found a significant decrease in the total number of shots (and correspondingly total energy) needed to complete the LPI, though total time to complete the LPI did not change. It appears that learners still dedicated the same amount of time for the procedure but had more effective laser technique after the curriculum. As we continue to offer this course annually, we hope to improve LPI procedural proficiency at an earlier stage in training, which will hopefully be reflected in lower total energy usage much sooner in training.

There are a few limitations of this simulation model. One limitation is that learners are unable to practice LPI using the argon laser. Additionally, when performing LPI on a patient, a gush of fluid and posterior pigmented epithelium can be seen once the iris is fully penetrated. This is not seen with the current model. We did consider using enucleated porcine eyes, as these are commonly used for practice of other ophthalmic procedures, but the biological hazard risks of contaminating lasers that are also in clinical use was too great. Models for ophthalmic procedure simulation are in constant development, so in the future, a model that allows practice with an argon laser and better simulates the visual feedback of a completed LPI may become available.

Our methods for assessing improvement were limited to the classroom setting and did not include skill assessments in actual clinical settings. While the classroom setting provided objective end points for evaluation, such as number of laser shots and time to LPI completion, additional assessments of LPI proficiency in the clinic are the goal. Additional assessments could include having the residents maintain a detailed log of their first five to 10 LPI procedures where number of shots, total energy usage, and complications are recorded. These logs could be reviewed by an attending ophthalmologist and feedback provided to the residents. At our institution, once this curriculum has been given for a few consecutive years, it is our hope to conduct a follow-up study to the one published by Kam and colleagues⁶ to assess for improvements in LPI proficiency.

Given the high average 4.9 out of 5 rating by our learners, we feel that this course is valuable in improving learner knowledge and confidence in performing LPIs. We plan on continuing this training session every year with an emphasis on ensuring participation from the newest residents and encouraging more senior residents to consider refresher course participation.

Appendices

- A. Pretest.docx
- B. Lecture and Notes.pptx
- C. Initial LPI Assessment.docx
- D. Final LPI Assessment.docx
- E. Posttest.docx
- F. Pre- & Posttest Answers.docx

All appendices are peer reviewed as integral parts of the Original Publication.

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Reported as not applicable.

References

1. Quigley HA, Broman AT. The number of people with glaucoma worldwide in 2010 and 2020. *Br J Ophthalmol*. 2006;90(3): 262-267. <https://doi.org/10.1136/bjo.2005.081224>
2. American Academy of Ophthalmology. Laser peripheral iridotomy for pupillary-block glaucoma. *Ophthalmology*. 1994;101(10): 1749-1758. [https://doi.org/10.1016/S0161-6420\(13\)31434-1](https://doi.org/10.1016/S0161-6420(13)31434-1)
3. Arora KS, Robin AL, Corcoran KJ, Corcoran SL, Ramulu PY. Use of various glaucoma surgeries and procedures in Medicare beneficiaries from 1994 to 2012. *Ophthalmology*.

- 2015;122(8):1615-1624.
<https://doi.org/10.1016/j.opthta.2015.04.015>
4. Golan S, Levkovitch-Verbin H, Shemesh G, Kurtz S. Anterior chamber bleeding after laser peripheral iridotomy. *JAMA Ophthalmol.* 2013;131(5):626-629.
<https://doi.org/10.1001/jamaophthalmol.2013.1642>
5. Jiang Y, Chang DS, Foster PJ, et al. Immediate changes in intraocular pressure after laser peripheral iridotomy in primary angle-closure suspects. *Ophthalmology.* 2012;119(2):283-288.
<https://doi.org/10.1016/j.opthta.2011.08.014>
6. Kam JP, Zepeda EM, Ding L, Wen JC. Resident-performed laser peripheral iridotomy in primary angle closure, primary angle closure suspects, and primary angle closure glaucoma. *Clin Ophthalmol.* 2017;11:1871-1876.
<https://doi.org/10.2147/OPTH.S148467>
7. Simpson SM, Schweitzer KD, Johnson DE. Design and validation of a training simulator for laser capsulotomy, peripheral iridotomy, and retinopexy. *Ophthalmic Surg Lasers Imaging Retina.* 2017;48(1):56-61. <https://doi.org/10.3928/23258160-20161219-08>
8. Vera V, Naqi A, Belovay GW, Varma DK, Ahmed IK. Dysphotopsia after temporal versus superior laser peripheral iridotomy: a prospective randomized paired eye trial. *Am J Ophthalmol.* 2014;157(5):929-935.e2.
<https://doi.org/10.1016/j.ajo.2014.02.010>
9. Srinivasan K, Zebardast N, Krishnamurthy P, et al. Comparison of new visual disturbances after superior versus nasal/temporal laser peripheral iridotomy: a prospective randomized trial. *Ophthalmology.* 2018;125(3):345-351.
<https://doi.org/10.1016/j.opthta.2017.09.015>

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VA Directive Understanding

The laser ban (Directive 1132) had been in effect for 15 years was recertified on May 27, 2020 (attached) and included new background saying (wrongly) that policy was created due to safety concerns. VSOs reached out to VA, explained our concerns, and VA moved very quickly (in VA terms) to rescinded Directive 1132 on August 18, 2020 (eye care handbook link below shows that on page 1). In doing so, VA removed the outright ban (Directive 1132) on optometrists providing lasers within VA and instead included language within the VA eye care handbook (Directive 1121 - https://www.va.gov/OPTOMETRY/docs/VHA_Directive_1121-2_VHA_Eye_and_vision_Care_10-02-2019_Amended_08-19-2020.pdf) stating that “therapeutic laser eye procedures in VHA are currently performed by only ophthalmologists and ophthalmology residents.” VA ophthalmology has said that the VA simply rescinded the last ban directive (1132) into the eye care handbook (1121) but VA had just recertified the ban two months earlier and then quickly rescinded it and put in place of a multi-page ban that “currently” ophthalmologists are the providers of this care.

As for the community care program changes, below, is the copied changed SEOCs below (VA does not make these publicly available)– the language was stripped from two of the SEOCs that had that language (“only ophthalmologists should perform invasive procedures, including injections, lasers, and eye surgery.”) and it was replaced with “an optometrist or ophthalmologist can perform these procedures based on state license).

“Red” is what the SEOCs used to say and black is what they say now...highlighted the new add that we should focus on.

VHA Office of Community Care - Standardized Episode of Care

Eye Care Comprehensive 12M

CAT-SEOC CoC: OPHTHALMOLOGY

SEOC ID: SSC_EYE CARE COMPREHENSIVE 12M_1.0.9_PRCT

Description: This authorization covers services associated with all medical care listed below for the referred condition on the consult order. These services may be provided by an optometrist or ophthalmologist in some cases. Only ophthalmologists can perform invasive procedures, including injections, lasers, and eye surgery. Note: VA authorization excludes coverage of premium intraocular lens (IOL) (multifocal, accommodating), and refractive and cosmetic surgery that does not correct a functional disability.

Duration: 365 days

Procedural Overview:

1. Initial outpatient evaluation and treatment for the referred condition on the consult order.
2. Diagnostic studies relevant to the referred condition on the consult order.
3. Labs and pathology relevant to the referred condition on the consult order.
4. Diagnostic imaging relevant to the referred condition on the consult order.
5. Procedures relevant to the referred condition on the consult order including but not limited to: cataract surgery, intraocular injections, iridotomy, etc.

Note about cataract surgery:

Cataract surgery, including surgery with monofocal toric lenses, as clinically appropriate.

a. Monofocal toric lens pre-operative contraindications: Pre-Operative Astigmatism outside of manufacturer IOL guidelines, pre-operative irregular astigmatism not correctable with an IOL, and previous trabeculectomy.

b. Monofocal toric lens intra-operative contraindications: Posterior capsule tear and capsule zonular instability.

NOTE: Multifocal IOLs are specifically excluded and are not currently available within VHA.

6. Anesthesia consultation related to the procedure.
7. Pre-procedure medical and basic cardiac clearance, as indicated (including H+P/labs, EKG, CXR, echo).

**Note: cardiac testing or evaluation outside of the above CXR, EKG and echo will require an RFS for a cardiology referral
8. Inpatient or observation admission for procedure and/or surgery and related procedure and/or surgery complications, if medically necessary.

Note: Notify the referring VA of admission status to initiate and facilitate care coordination and discharge planning.

9. Follow-up visits for this episode of care.

* VA (and Veterans) will not pay extra for laser-assisted cataract surgery with conventional IOL implant in accordance with Medicare policy and CMS rulings.

*Please visit the VHA Storefront www.va.gov/COMMUNITYCARE/providers/index.asp for additional resources and requirements pertaining to the following:

- * Pharmacy prescribing requirements
- * Durable Medical Equipment (DME), Prosthetics, and Orthotics prescribing requirements
- * Precertification (PRCT) process requirements
- * Request for Services (RFS) requirements

VHA Office of Community Care - Standardized Episode of Care

Eye Care Comprehensive 12M

CAT-SEOC CoC: OPHTHALMOLOGY

SEOC ID: SSC_EYE CARE COMPREHENSIVE 12M_1.0.10_PRCT

Description: This authorization covers services associated with all medical care listed below for the referred condition on the consult order.

Duration: 365 days

Procedural Overview:

Note: Services may be provided by an ophthalmologist or optometrist based on state licensure of the provider.

Note: VA authorization excludes coverage of premium intraocular lens (IOL) (multifocal, accommodating), and refractive and cosmetic surgery that does not correct a functional disability.

1. Initial outpatient evaluation, treatment and follow-up visits for the referred condition on the consult order.
2. Diagnostic studies relevant to the referred condition on the consult order.
3. Labs and pathology relevant to the referred condition on the consult order.
4. Diagnostic imaging relevant to the referred condition on the consult order.
5. Procedures relevant to the referred condition on the consult order including but not limited to: cataract surgery, intraocular injections, iridotomy, etc.

Note about cataract surgery:

Cataract surgery, including surgery with monofocal toric lenses, as clinically appropriate.

a. Monofocal toric lens pre-operative contraindications: Pre-Operative Astigmatism outside of manufacturer IOL guidelines, pre-operative irregular astigmatism not correctable with an IOL, and progressive corneal thinning disorder.

b. Monofocal toric lens intra-operative contraindications: Posterior capsule tear and capsule zonular instability.

NOTE: Multifocal IOLs are specifically excluded and are not currently available within VHA.

6. Anesthesia consultation related to the procedure.

7. Pre-procedure medical and basic cardiac clearance, as indicated (including H+P/labs, EKG, CXR, echo).

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* Durable Medical Equipment (DME), Prosthetics, and Orthotics prescribing requirements

* Precertification (PRCT) process requirements

* Request for Services (RFS) requirements

Eye Care Comprehensive 6M

CAT-SEOC CoC: OPHTHALMOLOGY

SEOC ID: SSC_EYE CARE COMPREHENSIVE 6M_1.1.9_PRCT

Description: This authorization covers services associated with all medical care listed below for the referred condition on the consult order. These services may be provided by an optometrist or ophthalmologist in some cases. Only ophthalmologists can perform invasive procedures, including injections, lasers, and eye surgery.

Note: VA authorization excludes coverage of premium intraocular lens (IOL) (multifocal, accommodating), and refractive and cosmetic surgery that does not correct a functional disability.

Duration: 180 days

Procedural Overview:

1. Initial outpatient evaluation and treatment for the referred condition on the consult order.
2. Diagnostic studies relevant to the referred condition on the consult order.
3. Labs and pathology relevant to the referred condition on the consult order.
4. Diagnostic imaging relevant to the referred condition on the consult order.
5. Procedures relevant to the referred condition on the consult order including but not limited to: cataract surgery, intraocular injections, iridotomy, etc.

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b. Monofocal toric lens intra-operative contraindications: Posterior capsule tear and capsule zonular instability.

NOTE: Multifocal IOLs are specifically excluded and are not currently available within VHA.

6. Anesthesia consultation related to the procedure.

7. Pre-procedure medical and basic cardiac clearance, as indicated (including H+P/labs, EKG, CXR, echo).

****Note:** cardiac testing or evaluation outside of the above CXR, EKG and echo will require an RFS for a cardiology referral

8. Inpatient or observation admission for procedure and/or surgery and related procedure and/or surgery complications, if medically necessary.

Note: Notify the referring VA of admission status to initiate and facilitate care coordination and discharge planning.

9. Follow-up visits for this episode of care.

* VA (and Veterans) will not pay extra for laser-assisted cataract surgery with conventional IOL implant in accordance with Medicare policy and CMS rulings.

*Please visit the VHA Storefront www.va.gov/COMMUNITYCARE/providers/index.asp for additional resources and requirements pertaining to the following:

* Pharmacy prescribing requirements

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* Request for Services (RFS) requirements

VHA Office of Community Care - Standardized Episode of Care

Eye Care Comprehensive 6M

CAT-SEOC CoC: OPHTHALMOLOGY

SEOC ID: SSC_EYE CARE COMPREHENSIVE 6M_1.1.10_PRCT

Description: This authorization covers services associated with all medical care listed below for the referred condition on the consult order.

Duration: 180 days

Procedural Overview:

Note: Services may be provided by an ophthalmologist or optometrist based on state licensure of the provider.

Note: VA authorization excludes coverage of premium intraocular lens (IOL) (multifocal, accommodating), and refractive and cosmetic surgery that does not correct a functional disability.

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2. Diagnostic studies relevant to the referred condition on the consult order.
3. Labs and pathology relevant to the referred condition on the consult order.
4. Diagnostic imaging relevant to the referred condition on the consult order.
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b. Monofocal toric lens intra-operative contraindications: Posterior capsule tear and capsule zonular instability.

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**Note: cardiac testing or evaluation outside of the above CXR, EKG and echo will require an RFS for a cardiology referral
8. Inpatient or observation admission for procedure and/or surgery and related procedure and/or surgery complications, if medically necessary.

Note: Notify the referring VA of admission status to initiate and facilitate care coordination and discharge planning.

* VA (and Veterans) will not pay extra for laser-assisted cataract surgery with conventional IOL implant in accordance with Medicare policy and CMS rulings.

*Please visit the VHA Storefront www.va.gov/COMMUNITYCARE/providers/index.asp for additional resources and requirements pertaining to the following:

- * Pharmacy prescribing requirements

- * Durable Medical Equipment (DME), Prosthetics, and Orthotics prescribing requirements

- * Precertification (PRCT) process requirements

- * Request for Services (RFS) requirements

Appendix 3

Comments from Patients and the Public

Comments from Patients and the Public

From	Substance
Elisabeth Waltz	“My eyecare provider, Junction Eye Center in White River Junction, has been great and I would love to be able to access a greater variety of services through them.”
Sheila Warren	“My mother has Macular Degeneration and has to have the shots every 10 weeks. She was going to DHMC in Lebanon to get those shots, but the Doctor that she had moved and is no longer there. They have two other doctors that do the shots there, but they are so booked that they won't take on any of the patients that the doctor that left had. We tried desperately. We were told that we had to make other arrangements and they referred us to either Concord, NH or Burlington, VT. We were referred to the Burlington, VT office because they could get us in within 10 weeks. Burlington, VT is an hour and a half drive one way just to get there on a good day. Winter is approaching with bad weather.”
Jennifer Rathburn	“I have personally received the utmost quality of professional care at Junction Eye Center and would encourage their expansion of services.”
Helen Skunca	“We found amazing, competent, professional eye care at Junction Eye Center in White River Junction and we are of the opinion that they are an absolute asset to our local community... I trust them with the entirety of my family's eye care and would be delighted to see them expand their services.”
Brigitte Smith	“I believe this is a great idea for eyecare providers to have the opportunity to expand their scope of practice responsibly. So I agree for anyone who needs enhanced eyecare services in this state will dually help patients. I love going to Eyecare for you in Bethel, VT. My parents have been going for years and provide them with the care they need and more. So it's a go for this family.”
Trina Young	<p>I was on the public meeting today, but had called in and was unable to comment. For the record, I am on the board for VABVI, but am not speaking as a representative. I am also Dr. Jeffery Young’s wife, but am not speaking for him. Here are my thoughts:</p> <ol style="list-style-type: none"> 1. The request for a broader scope of care should not be seen as a “higher” level of scope (as mentioned). Ophthalmologists and optometrists have DIFFERENT scopes of care. And that is good. We need both. 2. Dr. Barcelow mentioned allowing optometrists to do “easy” surgeries. I am not convinced I would consider any surgery near or on the eye “easy”. 3. Dr. Howell mentioned there being no adverse events in states that have approved a broader scope of care. That worries me. Even the best medical professionals and medical institutions face adverse events occasionally. Either they are not being reported or they are being overlooked or patients are not

	<p>returning - Or optometrists have been granted a broader scope of care, but are not actually practicing. I would be interested in knowing more.</p> <p>4. Often the public does not know the difference between an ophthalmologist and an optometrist. Both are called eye doctors. That is scary. I am frequently asked to explain what my husband does and what his training entailed. It is important to BOTH educate the public AND uphold the standard of care Vermonters have come to expect.</p> <p>5. It is hard for Vermont to recruit ophthalmologists and optometrists because it is hard for Vermont to recruit ANYONE - let alone medical specialists. I do not believe it is because of the scope of care. I would be interested to see data. Are optometrists flocking to Oklahoma because they can perform certain procedures??</p> <p>6. Hospitals do make money on surgeries, but - as I understand it - it is GOOD to have hospitals. They have emergency rooms that are open 24 hours, they have access to a wide range of on-call specialties and are required to provide care for anyone who walks in. To suggest a hospital is after money (as Dr. Barcelow mentioned) and that private clinics are cheaper is skewed. The cost difference many exist, but it is often both minor and covered by insurance. It is really suggesting money be taken from an institution that supports a community and given it to a private company.</p> <p>7. I also do not like the idea of Vermont being used as a doorway to New England, it seems the drive for expansion of care for optometrists is not about what is best for Vermont, but passionately pursued by national representatives to check another state off a list.”</p>
Mary Nadeau	<p>“I had a painful intra-dermal nevis on my eyelid, and the surgeons at DHMC were so overbooked that I would have been unable to get an appointment for an entire year. My optometrist in White River Junction had to send me an hour and 45 minutes away to a surgeon near Burlington. My husband now needs minor surgery on his eyelid. I have a skin tag on my upper lid that is enlarging over time. We are 80, and driving that far is difficult for us.”</p>
Jim and Sheryl Tewksbury	<p>“Living in a rural area of a small agrarian state, I believe that it is so important that advanced procedures are readily available to optometry patients, especially to elders like myself who find it very difficult to travel long distances for procedures that optometrists are initially trained to perform and required to update with continuing education. I am in such a situation currently, and recently learned about the OPR review and potential updated regulations. It seems that in 2023, almost 2024, the allowance of and monitoring of optometrists to perform these advanced procedures should be enacted.</p>

	<p>The Vermont Division of OPR entails necessary oversight that is particular to the needs of a rural population. Accessibility is key. The opportunity to receive such procedures as removal of cancerous lesions, Laser treatment for glaucoma and cataract surgery, and injections that optometrists have both training and applied experience in performing acquired while completing their studies and certification should be allowed and would be greatly appreciated. Valuing them as the professionals they are is quintessential. The advancement of the profession over my life is so apparent. Patients as customers are savvy as well and advancement of services is expected in this modern age and should be readily available locally.</p> <p>It is evident to me that Eye Care For You is a conscientious business that constantly updates its equipment, system of providing customer services, number of professional staff, and number of optometrists available. I am confident that other optometrists in the state do so as well. In fact, I appreciate the respect shown to me by providing me with an understanding as to why It is expected that I travel to Burlington to have a bump on my eyelid removed. As a professional educator, I like to fully understand the current status of such situations as this.</p> <p>In closure, I urge the OPR team to sincerely consider the benefits to both optometrists and ophthalmologists to collaborate together on improving their services and accessibility for advanced procedures for all Vermonters. I believe that optometrists deserve a decision in favor of their request(s) for the allowance to perform advanced procedures.”</p>
Patricia Warren	<p>“I have been a patient of Eye Care For You, for almost two decades now. I first went for a routine eye exam, when they discovered I had glaucoma. I was extremely worried about going blind, and considered finding an ophthalmologist, but to do so meant I would have to travel out of state, and quite far. I decided not to go to an ophthalmologist but to stick with Dr. Barcelow. I am so glad that I did.</p> <p>Over the years I have been exceedingly impressed with the care I have received.</p> <p>The diagnostic and imaging equipment is "state of the art". Putting my trust in them has prevented future decline of my optic nerve.</p> <p>The treatment options were carefully explained to me. Prescription drops, laser, or surgery, were the traditional treatments, also minimally invasive surgeries are available. I was told that if I decided to do anything except prescription drops, I would have to go to a specialist, an ophthalmologist. I considered the Barcelows "specialist", and did not want to start a new relationship with a new doctor. I have been using prescription drops and so far my glaucoma has not progressed.</p> <p>Some day, I will need laser surgery for cataracts that I am developing. Hopefully with the new technologies and tools that have</p>

	<p>emerged, I will be able to go to Dr. Barcelow for that surgery. I know he is capable and I trust him.”</p>
Betty LaWhite	<p>“Perhaps the opinion I'm about to express is not exactly what you are considering BUT after visiting a eye surgeon, Dr.Doyle, in early JUNE where I had an exam and it was determined that I need cataract surgery. (COVID had delayed it for 3 years previously).</p> <p>MY SURGERY APPOINTMENT WAS SCHEDULED FOR FEBRUARY. Plus It requires an exam by my PCP 10 days prior AND surgery be performed in a hospital setting!! Doesn't that strike you as excessively increasing Costs to the Medicare System? And at my age, 87, with eyesight that can barely read, I wonder whether I will have any time left to enjoy my improved sight.</p> <p>Anything you can do to improve a faulty system would be appreciated by many.”</p>
Bob Frenier	<p>“The longer I live in Vermont, the more I see the need to expand the scope of practice of many medical professions. Here in remote Orange County, there are almost no ophthalmological services available and anything you can do to safely expand the scope of practice for optometrists will have a positive effect.”</p>
Jeff Mobus	<p>“I am writing in support of allowing optometrists to perform minor outpatient surgical procedures that they are both educated and trained to perform. Being in a rural area with very few providers, Springfield (and Vermont in general) has a dire need for enhanced eyecare services.</p> <p>This is important to me for a couple of reasons. First, I have a complicated vision situation. I had radial Keratotomies performed on both my eyes back in 1966. The procedures were wonderful, especially for the first 25 years or so. More recently, my vision has needed correction. In addition, I have a detached vitreous in each eye. I am also a diabetic. The ophthalmologist who had been seeing and who treated me locally retired prior to my diabetic diagnosis. When I tried to get an appointment with his successor after my diagnosis, I was told that she wasn't taking more patients. I'm not upset with the new ophthalmologist; I'm just using this example to demonstrate that our area needs better access to eyecare services.</p> <p>I reached out to a local optometrist and received an appointment very quickly when I explained by situation, especially being diabetic. I've found my optometrist to be very knowledgeable. More importantly, I found her to truly care about not only my eyesight, but me as a person. I've continued seeing this optometrist because I've come to genuinely trust her around my eyes. To put this level of trust in perspective, my wife of 34 years tells me before she will be reaching near my eyes to brush away a hair or any other reason because I'm so protective of my eyes and react (maybe overreact) to anyone near my eyes. I can't even consider wearing contacts because I don't want even my hands near my eyes. I know that sounds extreme, but it is accurate. I'm a terrible patient.</p>

	<p>I'm not saying that all optometrists should be allowed to do all procedures. I'm saying that optometrists should be allowed to perform minor outpatient surgical procedures that they are qualified to perform. Optometrists are medical professionals who care about their patients. Allowing them to do minor outpatient surgical procedures would benefit the patients who are able to obtain enhanced eyecare services locally from someone they know and trust. People who genuinely need to see ophthalmologists will also benefit as ophthalmologists will have time to help them instead of doing procedures that can be done by other trained health care providers.</p> <p>The other reason that I think that this is important is that transportation is a real barrier for far too many people in need of health care services. I am the Town Manager of Springfield. I receive regular calls from town residents who have no reliable way to get to the supermarket, the drug store, or medical appointments. Allowing more services to be done in our community will greatly benefit those without reliable transportation.”</p>
Chuck Moses	<p>“I’m 76 years old and I have spent lots of time in the offices of ophthalmologists, optometrists, and opticians in the states of Connecticut, Vermont, and New Hampshire. I grew up in Connecticut and moved to an apartment in Norwich, Vermont to attend graduate school at Dartmouth College in 1979, then moved back and forth between Vermont and New Hampshire. My mother suffered from glaucoma most of her adult life and as a small child I remember the endless trips from Danbury, Connecticut to the Yale Eye Clinic in New Haven, Connecticut for her to be examined and cared for by ophthalmologists. By the time I was in the fourth grade, I was also a patient at the Yale clinic and the rides home were highlighted by blurry scenery and car-sickness from my still dilated eyes. My glaucoma issues did not surface until years later after my cataract surgery in 1999.</p> <p>The cataract surgery and implants (both eyes) was done by Dr. Patrick Morhun at Alice Peck Day in Lebanon, New Hampshire. His work was complimented by all who looked at my eyes. At that point, all my optometrist eye care was done in White River Junction, Vermont with Dr. Thomas Terry and eventually the Junction Eye Center. Other ophthalmologist appointments were done in New Hampshire in Lebanon at Dartmouth-Hitchcock and privately with Dr. Arthur Walsh. All of my ophthalmological care was (and still is) recommended and directed by my optometrists in Vermont. Frankly, I have received very good care from my Vermont optometrists and I have benefited from their advice.</p> <p>Dr. Terry referred me to Dr Walsh so he could regularly check the condition of my retinas and also watch my eye pressures. My diagnosis before cataract surgery was high myopia. Dr. Walsh was mainly responsible for establishing my eye-drop regimen. My eye pressures are kept very low which has contributed to keeping my condition stable for many years. However, Dr.</p>

	<p>Walsh and my optometrists always wanted me to see, at least once a year, the glaucoma specialists at Dartmouth-Hitchcock Ophthalmology. As the years have gone by since my cataract surgery, getting appointments at Dartmouth-Hitchcock at a date and time that were possible for me got more and more difficult. I have had to cancel appointments reluctantly because getting rescheduled meant waiting eight months.</p> <p>Soon after my cataract surgery it became clear that the lens capsule in my left eye was adding to other vision problems. Although there was no way to detect this ahead of time, I am a steroid responder in the eyes and my left eye optic nerve was damaged because the steroid anti-inflammatory drops used after surgery shot my eye pressure up so high my eye went white—a “snuff” as Dr Terry called it. I ended up having a YAG Capsulotomy done by Dr. David Campbell at Dartmouth-Hitchcock Ophthalmology. Dr. Campbell also used Laser surgery to attempt to improve the left eye drain opening. It would have been easier to have these procedures done by my optometrist. I have no doubts that my optometrists would direct me to ophthalmologists if they thought it was necessary.</p> <p>At this point, Dr. Dean Barcelow at Junction Eye Center in White River, my current optometrist, and I have agreed to not try to reschedule appointments at Dartmouth-Hitchcock, rather he will intervene to get me an appointment much sooner if he feels it necessary. This has worked very well so far. Instead of having to make appointments to see ophthalmologists, I would prefer to have more care done by my optometrists. After all, they are the doctors who see me the most and know my circumstances best.”</p>
<p>Amy Lynn West, Employee of UVMHC Ophthalmology</p>	<p>“I write to you as an employee of UVMHC Ophthalmology. I have been with our facility for ten years. Prior to this I was a lead surgical technician for an Oral and Maxillofacial surgeon’s office, for which I worked the 10 years prior, until the practice closed due to retirement. I bring up this fact because working for an Oral Surgeon, our practice often ran into having to fit in many emergency appointments from dentists who tried to perform a variety of procedures outside of their scope of practice, including but not limited to, extractions and excisions. Almost daily we had to fit in and correct emergent patient conditions that were caused by having an underqualified DMD attempt a procedure that clearly should have been solely treated by a specialized oral surgeon (whom I am sure you are aware has to also complete 4-6 years of additional schooling and training, as well as a surgical residency after obtaining their DMD to become qualified themselves). This had such an effect not only on the practice as a whole, but also to the unfortunate patients who suffered long term and often permanent side effects due to an attempted medical procedure by an unqualified professional who thought they knew what they were doing because they had done some online trainings and had gone to a few in person conferences. And the patient really had no clue to question their care when they were told the procedure was offered by their</p>

trusted DMD. They assumed if the procedure needed to be performed by a specialist, they would have been referred outside of the practice. Patients hope that when they entrust their care with a provider, they will receive the very best, safest and most ethical care possible. Most would never question anything less. It should be our jobs as medical professionals to ensure that they DO trust us with their care. That should include only offering services that the professional has been thoroughly and completely trained to perform. And being honest with them about being qualified. Anything less should be considered unethical.

So, I have experienced many times the consequences of allowing an unqualified professional perform a MEDICAL procedure outside of their scope of practice and training. It does have an effect. And most commonly those consequences are paid out by patients that knew no better. I am seeing this same problem happen now with optometrists' vs ophthalmologists in this scope expansion proposal. You want to let underqualified optometrists perform medical procedures/surgeries that an ophthalmologist had to complete 4-6 years of additional schooling and training, as well as a surgical residency before becoming qualified themselves. Do you see the similarities in this situation as in my above mentioned experience? They are completely the same.

I have heard that optometrists are stating that ophthalmology offices have a long wait time to get into our office for an evaluation, and that is what is stimulating some of this proposal- I can assure you this-If a referring provider specifically requests that a patient should be seen in a certain time frame, we ALWAYS accommodate that request. We triage each and every concern with each and every patient who feels like they are having an urgent eye issue to rule out any emergent condition that should be seen sooner than the next available appointment. We ALWAYS have a provider on call to patients, and frequently cover emergency call for the optometry offices' patients when it is after hours, or a weekend, or they are closed for vacation. We are here and available 100% of the time. I am not aware of any optometry office that can claim the same. I also know after speaking in length with several local optometry offices that they are booking new patient visits out as far as 6 months- some even stopped taking new patients as they are at capacity regardless of the issue. If this is the case, shouldn't these offices open their schedules to accommodate the extremely high needs of optometry services, and allow the ophthalmologists to treat the medical conditions that they are trained for, rather than add these proposed services into an already overcrowded schedule? These are medical procedures, not optometry services and should therefor ONLY be evaluated and treated by a medical doctor. Not an optometrist.

I do believe it is your job to protect the people. You have the power to allow the people of Vermont to continue to trust that their medical care is being provided by fully qualified and appropriate medical doctors. Would you, honestly, given the choice for your own treatment and knowing it's your personal vision on the line, go to an optometrist or an ophthalmologist for a

	<p>medical procedure that may permanently effect your eye sight? Who would you send your parent or your child to for medical treatment? I'm 100% sure I know what your answer would be. I hope that answer will reflect in your decision regarding the proposed expansion of optometry scope of practice."</p>
Kelly Armbrust	<p>"As someone with a degenerative eye disease I have found it challenging to get the care I need locally. And frankly, I would prefer that my optometrist, Dean Barcelow, be able to provide more of my care. He knows my situation better as he is able to spend more time with me. He is easy to access. And I fully trust him. He is able to hold a fuller picture of what is going on and what is needed than any specialist I have seen. If optometrists are educated and trained to perform more advanced procedures and these procedures are needed by patients, we should do what is best for all involved and allow optometrists to expand the scope of their practice to better meet the needs of our communities."</p>
Julie Derksen	<p>"I am writing to ask you to support the ability of optometrists in Vermont to provide more services, for which they are trained, to their patients. It can be hard for people to access care and expanding the services easily available locally would help many people."</p>
Cecy Lincoln	<p>"I am writing you all to encourage you to pass medial legislation expanding the legal right for Optometrists to perform more eye vision care to their patience. Our medical system is already overwhelmed with demand. And Optometrists could provide a very valuable addition in relieving the overwhelming demand for quality eye care, especially for our ever aging State! Thank you for your time."</p>

Appendix 4

Comments from Professionals

Comments from Professionals

From	Substance
<p>Dr. Jeffrey Young, M.D.; Associate Professor, Division of Ophthalmology; The University of Vermont Medical Center</p>	<p>“I have attached the recent JAMA ophthalmology study looking at access to laser procedures in states that have expanded scope (as I mentioned in my testimony).</p> <p>I also had great interest in what Dr. Mitchell said. He was <u>implying</u> that he personally <u>performed</u> these procedures at his optometry school (Pacific University school of optometry if I'm not mistaken). As far as I know when he trained these procedures were only allowed for optometrists in Oklahoma. Optometrists are still not allowed to perform any kind of surgery or lasers in Oregon. So, if he was performing these procedures as he implied, he must have done them elsewhere, or just observed them (or was overtly breaking the law in that state, which I doubt). I am not questioning his integrity, I consider him a personal friend and an excellent Optometrist; but I do think that some of what he said may be misconstrued to imply that his optometry school experience involved actually performing lasers and incisional procedures in a state that specifically prohibits them.</p> <p>The problem remains the inconsistency of this training in optometry schools. Do optometry students in a states that does not allow these procedures (Massachusetts, Oregon, California, Ohio, etc.) get the same procedural training as a student in Oklahoma? This to me is the central question, there is no way to ensure this, especially with people who graduated years ago (for whom we have no documented curriculum and no procedure logs, and no certification). Should they just be able to take a 32 hour course and get certified?</p> <p>Also, to think that being able to perform these procedures will result in a large influx of new optometrists to Vermont seems like wishful thinking. Expansion of scope will not be a panacea for access to eye care. I would love for you to look into whether there has been an influx of optometrists into Oklahoma, Arkansas, Kentucky or Louisiana as a result of their scope expansion. There have been enough years that I'm sure some data exists. Really, optometrists and ophthalmologists alike are going to practice where they want to live (often where they have family or other ties), not just where they can do procedures. As you know the states that have expanded scope for optometrists are mostly in the South and overwhelmingly rural. The dream of unlimited access to non-urgent procedures and an abundant supply of eye care providers is certainly tantalizing and undoubtedly plays a significant role in legislatures approving these bills. But, as the attached study suggests, this does not happen (even after many years). Right now in Vermont we need access to regular, routine eye exams, not a theoretical increase in access to <u>non-urgent</u> procedures (that are already widely available).”</p>
<p>Reg Jones, O.D.; Retired Optometrist in VT</p>	<p>“We find that eyecare is limited for those who do not live in a larger town or city. I have retired from my practice in Bradford, Vermont. There was no eyecare available for 30 miles North, South or West of my office and that situation still exists. It is in the patient's best interest to allow optometrists to</p>

	practice to the level of their training. That would need an increase in scope of practice law for all patients and residents health benefit.”
Mitchell Styczynski, O.D.; Optometrist in VT	<p>My name is Mitchell Styczynski and I am an Optometrist currently practicing with White River Family Eyecare. I have attached a statement concerning the inconsistencies and contradictions in our opposition's stance on our education and patient's safety.</p> <p>Attachment available on request.</p>
Steven St. Marie, O.D.; Optometrist in VT; Diplome, American Board of Optometry	<p>Attached, you will find the Cost Comparison information you requested this past Wednesday during the online public hearing regarding Optometric Scope Update. I took the liberty of adding a few additional attachments I believe you will find useful.</p> <p>Attachment available on request.</p>
Kayla Brenden	<p>“I absolutely see the need in my practice and would plan on learning and performing the procedures that are expanded to optometry. I know two of my associates would go through further training and plan on practicing within the expanded scope as well. This would greatly benefit our patients in terms of cost, time, and improved eyesight.</p> <p>This article came out this week and I wanted to share with the committee about safe efficacy and practice outcomes with YAG laser performed by optometrists.”</p> <p>https://journals.lww.com/optvissci/abstract/9900/nd_yag_laser_capsulotomy_efficacy_and_outcomes.143.aspx</p> <p>Attachment available on request.</p>
Lacie Thompson, Certified Ophthalmologist Assistant	<p>“I have worked in ophthalmology now for about eight years and have been privileged to assist in many aspects of ophthalmology including minor procedures as well as cataract and strabismus surgery. One topic that has been discussed for a number of years now is the current debate of whether or not the optometrists in the state should be granted access to perform minor procedures and/or laser treatments in their practices instead of referring patients to ophthalmologists for evaluation and treatment if appropriate. As a certified ophthalmic assistant I can say that from my experience the level of education required to perform these tasks is that of a medical doctor who specializes in ophthalmology.</p> <p>As a group, we feel that the public and even our own patients do not understand the difference between optometrists and ophthalmologists, which could be one reason this discussion has been so complicated. The optometrists have not had the schooling, training or experience that comes with becoming a medical doctor graduating and passing the board examination from an</p>

accredited medical schooling degree. These doctors then specialize in the surgical subspecialty of ophthalmology making it their sole focus to examine and treat a wide array of diagnoses, injuries and diseases of the eye(s). In my experience one of the most admirable qualities of the many doctors that I have worked with over my many years of working in healthcare, is knowing when something is outside of their scope of practice and referring to the appropriate medical doctor or specialist for evaluation and treatment. The eye is a very complex part of the body that can often be the gateway to other medical concerns and diagnoses by performing a dilated eye examination and can tell us much more than if someone has refractive error or has the beginnings of an eye disease, such as glaucoma or macular degeneration. As an assistant of medical doctors I would recommend you do further research into these differences before considering that the optometric society to be allowed to perform lasers and minor surgical procedures without medical degrees. Their current education does not give them enough training or experience to perform these tasks in a safe manner for themselves or the patient. It would be best practice for our patients if minor surgical and laser procedures were continued to be done by the ophthalmology community and not by the optometric community. Even with a revamp of their current education and training the medical background is not comparable to that of a medical doctor who then specializes in ophthalmology.”

Appendix 5

Comments from Educational Institutions

Comments from Schools and Colleges

From	Substance
<p>Lindsay Elkins, O.D., F.A.A.O.; Chair of Optometric Education, Southern College of Optometry, Memphis TN;</p> <p>David Hall, O.D., F.A.A.O.; Associate Professor, Southern College of Optometry</p> <p>Jason Duncan, O.D., F.A.A.O.; Chief, Optometric Surgical Services; Southern College of Optometry</p>	<p>“As the Chair of Optometric Education at Southern College of Optometry (SCO) I can attest to the current curriculum including substantial anterior segment laser and minor surgical procedure training, and have provided documentation previously to this office. The level of training received as part of requirements for graduating Southern College of Optometry are typically on par with post-degree course requirements for states that have successfully expanded scope of practice to include anterior segment laser and minor surgical procedures with minimal additional requirements. Multiple states utilize post-graduate courses developed and provided by SCO faculty members that are also providing this education to SCO students as part of curricular requirements. Please consider this level of optometric education in regards to the level of additional training required for laser and surgical procedure licensure qualifications.</p> <p>Over the course of the four-year curriculum resulting in the degree of Doctor of Optometry, graduates of Southern College of Optometry will perform a minimum of four YAG capsulotomies, 4 YAG iridotomies, and 4 SLT laser procedures on model eyes as well as passage of an Anterior Segment Ophthalmic Lasers (ASOL) practical examination on all three procedures as proctored by an ASOL trained SCO faculty member. SCO graduates have also performed a minimum of three intramuscular, intravenous, and infiltrative (local anesthetic) injections, and two chalazion incision and curettage simulations with required proficiency in injection skills exam and surgical exam procedures demonstrated in order to pass their didactic courses. Students also have the opportunity for performance of anterior segment laser procedures and advanced injection and eyelid surgical procedures on live patients during on site clinical assignments as well as potential additional exposure during externship rotations.</p> <p>The curriculum of Southern College of Optometry meets educational requirements for most states with expanded scope of practice that includes anterior segment laser and surgical procedures and the SCO faculty routinely provide post-graduate continuing education training for practicing optometrist to meet their state's scope expansion requirements. SCO would not be able to provide support for live procedure applications for post-graduate education including preceptorship qualifications listed in the current Vermont qualifications report. Recommended qualifications for licensure should consider the level of current optometric education, parity with current requirements for states with similar scope of practice, and feasibility of post-graduate course training.”</p>
<p>Angela Howell, O.D.; Optometrist in AR, MO, and</p>	<p>“As a doctor with multiple licenses in Arkansas, Missouri and Vermont I can share my experiences in other states during that process.</p>

<p>VT, Preceptor for Southern College of Optometry</p>	<p>New graduates are required to obtain the broadest scope of licensure. All optometry schools are preparing students to pass their national boards and specifics for state boards that grant advanced procedures. As a preceptor for Southern College of Optometry I am aware of students being supervised to perform advanced procedures on patients during their fourth year. In Arkansas to obtain the advanced procedures, an additional practical showing skill level is required.</p> <p>Gaining competence and experience serves everyone, and I am confident the demand for advanced procedures in Vermont will guide the development of optometrists providing continued care for their patients.”</p>
<p>Nimesh Patel, O.D.; Optometrist licensed in TX, GA, OK, LA; Professor at University of Houston</p>	<p>“I am an Optometrist with 15 years of experience teaching lasers and minor surgical procedures in an academic setting. The course I teach in the third year of the optometry program has a classroom (3 credit hour, University of Houston OPTO 7330) and laboratory component (1 credit hour, University of Houston OPTO 7130). All my students are trained on performing both SLT and YAG procedures, and many minor eyelid procedure. Further, I have had the opportunity to observe many perform these procedures on patients prior to graduation. Because of my expertise, I have helped proctor and train practitioners in states where these procedures are within the scope of practice.</p> <p>Dear OPR, in all, graduating optometrists are well qualified to perform these procedures. They require minimal observation, and I urge you to accept hands-on training with 3-5 procedures prior to licensure. It is my professional experience that this is sufficient for the majority of whom will perform these.”</p>
<p>Rich Castillo, O.D., D.O.; Optometrist and Ophthalmologist in OK; Professor at Northern State University, Oklahoma College of Optometry; co-chair of the American Optometric Association’s (AOA) Contemporary Practice Force, and Senior Director for</p>	<p>“As a practicing ophthalmologist and optometrist, professor and assistant dean for surgical training and education at the Northeastern State University Oklahoma College of Optometry, co-chair of the American Optometric Association’s (AOA) Contemporary Practice Force, and Senior Director for Clinical Examination Development and Administration at the National Board of Examiners in Optometry (NBEO), I feel I can add perspective to your information gathering efforts and analysis as you formulate your recommendations.</p> <p>I respectfully submit the following for your consideration after reviewing the document titled Proposed Recommendations: Optometric Scope of Practice, dated September 14, 2023.</p> <p>Qualification for credentialing in advanced optometric procedures would be based on:</p> <ul style="list-style-type: none"> • An unrestricted license to practice optometry in Vermont. <p>Successful completion of the NBEO’s Laser and Surgical Procedures Examination (LSPE™). Note this examination is administered by the National Board of Examiners in Optometry, an independent, non-profit, professional testing organization established in 1951, whose examinations are required for</p>

<p>Clinical Examination Development and Administration at the National Board of Examiners in Optometry (NBEO)</p>	<p>licensure in all 50 states and US territories and accepted internationally in some jurisdictions.</p> <p>The LSPE™ examination was developed to assess entry-level knowledge and <i>technical competency</i> in optometric laser and office-based surgical procedures.</p> <p>The LSPE™ examination is overseen by optometrists and ophthalmologists, using industry-wide standards of care and psychometric best-practices.</p> <p>Successful completion of the NBEO's Injection Skills Examination (ISE™).</p> <p>And either a:</p> <ul style="list-style-type: none"> • Post-2019 Residency with residency logs documenting experience in the included procedures (5 SLT, 5 Laser PI, 5 YAG Capsulotomies, 3 eyelid excisions, 3 chalazion excisions, and 2 corneal cross-linking procedures). <p>Or, in leu of an accredited residency:</p> <p>Transcript-quality post-graduate COPE-certified CE coursework approved by the Vermont Board of Optometric Examiners with successful completion of a procedural skills component.</p> <p>5 Anterior segment laser procedures 3 Eyelid lesion removals/biopsies 3 Chalazion excisions 2 Corneal cross-linking procedures</p> <p>AND</p> <p>Tracked procedures* overseen and attested to by a licensed ophthalmologist or a licensed and credentialled optometrist appointed by the Vermont Board of Optometric Examiners with successful completion of:</p> <p>(*Tracked procedures would need to be completed within 18 months of initial application and require submission of post-op records for a period of 1-year. This credentialling paradigm is consistent with successful models utilized in the states of Oklahoma (1996), Kentucky (2011), and Louisiana (2014). These recommendations are based on my decades of direct experience in optometric education and with regulatory boards and credentialing entities and may not necessarily reflect the opinions of the NBEO or the AOA.”</p>
<p>Nate Lighthizer, O.D., F.A.A.O.; Associate Dean and Professor, NSU Oklahoma College of Optometry; Leader of the Laser and Surgical Procedures Certification and</p>	<p>“I am an optometrist that practices at a College of Optometry and teaches and leads the Laser and Surgical Procedures Certification and Training Course all across the country. We have put on the Laser and Surgical Procedures Certification and Training Course in 35 states, 2 Canadian Provinces, and in the UK in London. I have lectured and taught on lasers and surgical procedures in 47 states, 5 Canadian Provinces, the UK and Australia. I have supervised hundreds and hundreds and hundreds of students and residents from many optometry schools do laser procedures, injections, and surgical procedures.</p> <p>Optometrists are well qualified and trained to perform laser procedures, injections, and surgical procedures as described in the Vermont document that I have attached.</p>

Training Course
("32-hour"
course)

I do have some comments and concerns regarding the document:

1. The number of simulated procedures (5) is very high. As someone who has trained optometrists in OK, KY, LA, AK, AR, IN, MS, VA, WY, CO (every state that has laser procedures for optometrists), that number is excessively high and not needed. One simulated procedure on a model eye (two at most) is all that is needed based on the extensive 4-5 years of training that optometrists have during optometry school and residency. This comes from someone who has watched hundreds of optometrists successfully implement these laser procedures in their practice after our training.
2. The number of live procedures performed on patients is incredibly high. 44 procedures when you add up all the individual procedures is simply not attainable. Especially when the procedures have to be performed in the state where the preceptor is located in (a state other than Vermont likely). I have watched optometry students perform their 1st procedure thousands of times on patients, and I can tell you from experience that it takes 1-3 laser procedures for someone to be comfortable with a laser procedure. I would be supportive of 1-3 laser procedures total. It is my opinion it doesn't have to be 1-3 of each procedure. Once you are comfortable performing a YAG capsulotomy, it is easy to step into an SLT. So in my opinion you don't need to demonstrate 5-8 of each procedure. I would be supportive of a doctor having to do 1-3 total laser procedures under a Vermont OD or MD. once they successfully demonstrate 1-3 laser procedures, they are ready to perform procedures on their own. having to do 4-8 of multiple procedures is simply not realistic or attainable. no one will likely be able to line up the patients to complete all of those requirements.
3. Again having to travel to a state where the preceptor is located in (likely OD or KY or LA or MS, etc) simply is not feasible. Where are the patients going to come from? Vermont patients are not going to be willing to fly to another state. Colleges of optometry can't have their patients be used for this. Our patients are treated by our students and residents under faculty supervision. It is just not feasible to require this to be done in another state. It has to be done in Vermont. I think 1-3 laser procedures is all that is required to be demonstrated as discussed in point #2, if any procedures at all. OK doesn't require any procedures, neither does LA, and they have had exemplary outcomes. Optometrists are well trained through 4-5 years of training. Doing a new procedure for the first time on a patient is not a new thing. Ophthalmology, dentistry, medicine, etc all do the same thing. Are medical providers limited to only procedures that were available during their training (school and residency)? The answer is no. How did an ophthalmologist that finished their formal training prior to laser assisted cataract surgery get trained on that procedure? they did their first case on a live patient. their residency attending doctor didn't come back to train them again. doing 1st procedures on live subjects is part of being a doctor. We continually learn and build upon our formal education (school and residency) whether that was 3 years ago or 30 years ago. So if you are looking for my recommendation, I don't think any live procedures should be required. Again

	<p>no one makes an ophthalmologist go to another state to do procedures under supervision when a new procedure comes out for ophthalmology.</p> <p>4. Requiring doctors to travel to Charlotte, NC for a board exam is an unnecessary step. The National Board of Examiners in Optometry (NBEO) offers a laser and surgical procedures exam (LSPE) and an injections skills exam (ISE). it is fine if doctors choose to take that. But requiring doctors from Vermont to travel to another state to get this is not necessary. It has not been done in any other states that have laser procedures. Again it is a fine test, and a feather in the cap of the doctors if they want to do it. But it shouldn't be required to be done.”</p>
<p>Kyle A. Sandberg, O.D., F.A.A.O.; Optometrist in TX and LA; Associate Professor and Assistant Dean for Professional Advancement at the Incarnate Word Rosenberg School of Optometry</p>	<p>“I have taught at the School for the past 11 years. Ten of those years as the Chief of Refractive Surgery and Laser Services and 5 years as the lead instructor for our Peri-Operative Management and Techniques Course. In this capacity, I have been responsible for ensuring that our graduating optometrists are prepared to practice to the fullest extent of their license in whichever state they choose.</p> <p>In our curriculum, lasers, injections and surgical procedures are first taught in the classroom where surgical technique, laser theory and physics and patient selection are emphasized. After over 350 hours of practice and proctored evaluation on slit lamp mechanics, and extensive laboratory training on models, students have an opportunity to utilize these skills on real patients in partner clinics in our surrounding states. Each step takes place under the one-on-one supervision of a licensed doctor. Our graduates are exceedingly well prepared to take the NBEO’s Laser and Surgical Procedures Examination (LSPE™) and the Injection Skills Examination (ISE™) after completion of our training program. This training model is not only adequate, it has produced a staggering safety record since optometrists first began performing ocular surgeries in Oklahoma in the 1980s. We recognize that education should precede legislation, and I am writing to reassure the state of Vermont that training in these procedures are a standard in Schools and Colleges of Optometry across the country.</p>
<p>Michael Sullivan-Mee, O.D., F.A.A.O.; Professor and Chair of Clinical Education at SUNY College of Optometry</p>	<p>“...I oversee the clinical curriculum that includes didactic and laboratory instruction on the procedures being considered in Vermont. I also oversee basic and clinical science courses that support our students’ educational foundation on the underlying diagnoses, disease pathophysiology, and available treatment options for the conditions being treated by these procedures. It is very important to understand that the specific training to properly and safely perform the procedures under consideration is only one part of the education that permits Optometrists to effectively and safely accomplish these treatment techniques. Surgery training programs have long emphasized that a primary key to successful surgery is choosing the right patient, a process that involves correct diagnosis and comprehensive risk analysis for each patient. Optometric training emphasizes the same tenet which may explain why Optometrists that are doing these types of</p>

procedures have had such remarkable success in other states that grant these privileges.

Amending the Optometry statutes to include minor surgical and anterior segment laser procedures in Vermont would be expected to have several benefits to the citizens in your state. First, as the ophthalmology workforce both dwindles and gravitates toward subspecialty practice, permitting Optometrists to provide care at their fullest level of training will result in improved access and timeliness for care. This issue becomes ever more important as your population in Vermont ages, given that conditions such as glaucoma and cataract prevalence increase with rising age. Furthermore, a specific laser treatment (selective laser trabeculoplasty) is currently evolving toward becoming the preferred initial treatment for glaucoma due to its safety, efficacy, and cost-effectiveness. It is likely that keeping up with the demand for this procedure alone will require additional providers capable of delivering this procedure going forward.

As Optometry evolves, so does ophthalmology. Most newly trained ophthalmology providers now choose a subspecialty that focuses on one specific area of the eye, such as the cornea or retina, and these providers do not generally provide care outside of their specialty area. For example, vitreoretinal specialists do not generally provide laser trabeculoplasty to treat glaucoma or do cataract surgery. This trend results in fewer general ophthalmologists available who have traditionally been the providers for the procedures being requested in Vermont. Accordingly, the availability of these procedures will or may already be increasingly difficult to obtain.

Prior to my current appointment, I served as a full-time faculty member at the Northeastern State University Oklahoma College of Optometry. While there, I was trained to perform anterior segment laser and minor surgical procedures. Subsequently, I proceeded to perform, teach and supervise students on these techniques. During my tenure, I successfully completed over 100 anterior segment laser procedures without even one significant complication. I also completed several hundred minor surgical procedures (generally benign eyelid lesion excisions and chalazion drainage) both during my time in Oklahoma and while serving in the VA Medical Center in Albuquerque, New Mexico. At no time was I faced with any significant complications which I attribute to the comprehensive and effective training I received. Notably, while I did have experienced mentors available to answer questions when they arose, I had no formal preceptorship requirements after my initial training. This approach matches the training I have witnessed for ophthalmology residents. Thus, it is my opinion that while incorporating preceptorship requirements may have potential benefit, the associated obligations should be limited in scope and reasonable to accomplish. Unnecessarily onerous conditions will prevent the success of this initiative, effectively precluding wider access to care. Please feel free to contact me if you have questions.

<p>Sarah MacIver, O.D., F.A.A.O.; Director, Continuing Professional Development, Associate Clinical Professor, University of Waterloo, School of Optometry and Vision Science, Ontario, Canada</p>	<p>“This letter is to speak to the current education of optometrists in Canada toward graduating practitioners with competency in the advanced procedures being discussed in Vermont.</p> <p>As the current director of continuing professional development and a clinical professor on the curriculum committee at the University of Waterloo, School of Optometry and Vision Science in Canada, I have aided in the development and maintenance of the curriculum including the didactic and laboratory instruction to both students and Canadian licensed optometrists on all procedures being considered in Vermont. The University of Waterloo, School of Optometry & Vision Science is one of the North American ASCO accredited Optometry programs and the only English speaking optometry school in Canada.</p> <p>Our curriculum has a strong foundation in medical anatomy, physiology and disease in addition to medical clinical procedures and techniques, including laser therapeutics and minor surgical procedures. The program graduates optometrists not only capable of practicing to the highest level of scope of practice of Optometry in Canada but also in North America, which means the practice of laser therapeutics and minor surgical complications. The current curriculum at the UW School of Optometry& Vision Science adheres to all the competencies listed in the ASCO Framework for Developing Optometric Curriculum Guidelines and Educational Standards for Ophthalmic Surgery. Our students have been successful at challenging all parts of the NBEO board exams when they attempt them in North Carolina, including the Laser and Surgical Procedures Examination (LSPE).</p> <p>The procedures being discussed in Vermont are a natural progression of the skills that all optometrists educated and trained across North America are already highly trained in and practicing daily. While there are specific areas of the school curriculum designated to these procedures in particular, they are not a new skill set and are extensions of what has already done and taught for decades. There exists numerous evidence supporting safety and efficacy of these procedures with minimal to no side effects regardless of whether they are trained in medicine or optometry. In addition, many optometrists are already managing the minimal side effects when these procedures are done by ophthalmologists since they are within the scope of practice (Konstantakopoulou, 2022, Lighthizer, 2023).</p> <p>In addition, there is a need for optometrists to have the scope of practice that allows patients to have access to best practice of care for all conditions. This includes the addition of selective laser trabeculoplasty (SLT) treatment for glaucoma, which is one of the ophthalmic procedures included for consideration. Recent</p>
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	<p>evidence suggests that early glaucoma treatment with SLT prior to using glaucoma eyedrops leads to better visual outcomes, less cataract and glaucoma surgery, less overall drop use and better IOP control compared to eyedrops (Gazzard, 2023).</p> <p>There is currently not enough manpower in ophthalmology to create a paradigm treatment shift towards SLT but access to optometrists, who already have scope of practice rights to treat glaucoma, would be in a much better position to do so. I can speak confidently to the point that the optometry education puts graduated optometrists in a position to easily transition to a scope of practice that includes ophthalmic laser therapeutics and minor surgical incisions with some additional training prior to the transition. This improvement in optometry scope of practice would further be in the best interest of patients for improvement in treatment outcomes and access to care.”</p>
<p>Alissa Coyne, O.D., M.S., F.A.A.O., F.A.S.O.S.; Associate Professor, Course Coordinator, Ophthalmic Lasers and Minor Surgical Procedures, Pennsylvania College of Optometry at Salus University</p> <p>Melissa E. Trego, O.D., Ph.D.; Dean and Associate Professor, Pennsylvania College of Optometry at Salus University</p>	<p>“At the Pennsylvania College of Optometry at Salus University, ophthalmic lasers and minor surgical procedures courses are part of the curriculum for every student. Both courses explain surgical evaluation and management, including pre-operative candidate selection, pre-surgical testing, and patient counseling and preparation. The surgical procedures process and technical steps are taught and performed in a laboratory setting. Post-operative management and complications are also presented. Ophthalmic laser topics include essential laser physics and tissue interactions, safety and hazards, indications, contraindications for specific laser procedures, protocols, and post-operative management. Periocular surgical procedure topics include informed consent, OSHA guidelines, aseptic and sterile techniques, types of lesion removal, and post-operative care. Head and neck anatomy and evidence-based practice are applied in surgical planning, procedures, and anesthesia. Injection topics, including indications, contraindications, side effects, complications, and techniques, are taught, and our students are highly encouraged to take the Injections Skills Examination (ISE) at the National Board of Examiners in Optometry (NBEO). Specific injection types include periocular injections, intravenous, subcutaneous, intramuscular, intradermal, subconjunctival, and intralesional injections. The associated laboratory provides hands-on experience in performing various injections, simulated removal of lesions using multiple techniques, and suturing procedures. These techniques are further solidified through practical experience during students' internships at The Eye Institute and their externships at various locations across the United States. It is imperative to note that the training and skills required for these procedures occur throughout the entire optometric curriculum to build an educational foundation, including ocular anatomy and physiology, underlying disease pathophysiology, and the treatment and management of ocular conditions treated by proposed procedures. Upon examining the document titled "Proposed Recommendations: Optometric Scope of Practice," dated September 14, 2023, the Pennsylvania College of Optometry respectfully suggests adopting a credentialing model that has proven effective in states such as Oklahoma, Kentucky, and Louisiana. Those</p>

	<p>credentialing paradigms utilized tracked procedures overseen by a licensed and credentialed doctor of optometry by the respective state or licensed ophthalmologist. Since no other procedure taught in optometric education necessitates a prescribed minimum for competency demonstration, assigning a specific number to these procedures may not be appropriate. Nevertheless, if a specific numerical value is deemed necessary, we endorse the recommendations of Dr. Richard Castillo based on his expertise.”</p>
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Appendix 6

Comments from Other State Boards

Comments from Other State Boards

From	Substance
<p>Bill Reynolds, O.D.; President, Kentucky Board of Optometric Examiners</p>	<p>“In 2011 the Kentucky Legislature passed Senate Bill 110 or the "Better Access to Quality Eye Care" bill. The Kentucky law became effective on June 8, 2011 and constituted an expansion of Optometrists' scope of practice which allowed Kentucky Optometrists to perform certain laser procedures, remove benign lesions from the eyelid and granted increased authority to allow medicines to be delivered by injections or other appropriate forms. The law also allowed the Kentucky Board of Optometric Examiners the authority to determine the scope of optometric practice in Kentucky outside of the procedures excluded in KRS 320.210. To date the Kentucky Board of Optometric Examiners has credentialed over 430 Optometrists to perform expanded therapeutic procedures. This law has been successful in delivering much needed medical eye care to underserved areas of the state as Optometrists credentialed in expanded therapeutic procedures practice in over 75% of Kentucky's 120 counties.</p> <p>To date, there have been over 60,000 laser and surgical procedures performed in Kentucky by Optometrists. While there are potential complications to any procedure regardless if the procedure is performed by an Optometrist or Ophthalmologist, the Board of Optometric Examiners has received no complaints and has not been notified of any adverse outcomes relating to the performance of this expanded scope of practice.</p> <p>Furthermore, there was no increase in malpractice rates with the passage of SB110. There is no difference in malpractice rates between Optometrists in Kentucky who have extended therapeutic privileges and those who do not and there is no difference in malpractice rates between Kentucky Optometrists and Optometrists in surrounding states without extended therapeutic privileges.”</p>
<p>Christopher Wroten, O.D.; Member, Louisiana Board of Optometry; Optometrist in LA; Adjunct Professor; Fellow, American Society of Optometric Surgeons; Diplomate, American Board of Optometry</p>	<p>“As a practicing Doctor of Optometry who has successfully performed hundreds of these procedures on live patients; clinically taught and supervised scores of optometric student externs and residents as Adjunct Faculty for several schools and colleges of optometry; lectured to countless students and colleagues in numerous settings on these and other eye care topics over the past decade; and served for the past 7 years on the Louisiana State Board of Optometry Examiners, I offer several personal comments for your consideration which may or may not necessarily reflect the opinions of any of those organizations.</p> <p>I applaud you for your proposed updates to the Vermont Optometric Scope of Practice to better reflect the profession’s current level of training and education, and to bring Vermont optometry up to par with numerous other state optometry scope of practice acts.</p> <p>The proposed Qualifications: Education Graduated After 2019 and proposed Qualifications: Education Graduating Before 2019 are both reasonable and appropriate.</p> <p>In my opinion, however, the proposed Qualifications: Preceptorship, are not consistent with several other states that have successfully enacted this same scope of optometric practice over the past two decades. I would strongly encourage</p>

Comments from Other State Boards

consideration to reduce the number of required procedures on live humans and/or allow simulated procedures. These numbers exceed all of the ophthalmology residency program requirements I am aware of (which is admittedly not extensive), and have been proven to be unnecessary for the safe and effective implementation of these procedures by Doctors of Optometry in numerous other states, including my state of Louisiana, where such preceptorship is not required and where Doctors of Optometry have safely and effectively performed over 25,000 laser procedures alone over the past decade. Keep in mind that when the laser procedures were originally approved, to my knowledge ophthalmologists were not required to take additional courses or perform any similar preceptorship requirements to begin performing them, nor should they have been. Just as with optometry, the requisite knowledge of the eye, its anatomy, and the related pathology already existed, along with the skills necessary to safely and effectively perform these procedures. Creating unnecessary barriers to implementation limit access to these needed healthcare services for patients, while simultaneously increasing costs to healthcare systems and healthcare providers. Case in point, I was at a meeting with an ophthalmologist from Massachusetts last month who shared with me that he had only performed 1 selective laser trabeculoplasty in his entire career (and he had completed his residency well after that procedure had become mainstream). Yet if we were to follow the proposed logic, should he also have to perform similar preceptorship requirements if obtaining a Vermont medical license in order to perform that procedure? Of course not, and neither should Doctors of Optometry.

Additionally, I would strongly encourage you to reconsider your proposed Ongoing Requirements. I understand the enduring desire to ensure safe outcomes, which is paramount to all Doctors of Optometry, but an ongoing 5 hour continuing education requirement for these procedures is extraneous and unprecedented. These procedures have existed for decades, with techniques, surgical considerations, and equipment that remained largely unchanged over the entire time. There's only so much one can learn about these procedures, and an annual 5 hour requirement will not ensure additional expertise or safe outcomes and will instead potentially force Vermont Doctors of Optometry to choose between attending redundant courses on these topics for license renewal versus other courses from which they and their patients may gain even more benefit. If there is no appetite to remove this requirement entirely, I would encourage allowing the Vermont Board of Optometry to determine appropriate course content and the number of hours required.

In summary, thank you for your thoughtful consideration and deliberation on the entire issue, as we all desire to see patients have access to excellent eye care and safe, effective outcomes. Please feel free to contact me should you have questions or need any additional information."

Appendix 7

Comments from Professional Associations

Comments from Professional Associations

From	Substance
Michael Jones, O.D.; Optometrist in AR; Legislative Chair, Arkansas Optometric Association; Diplomate, American Optometric Association	<p>“I am an optometrist in northeast Arkansas, a very rural part of Arkansas where I serve the impoverished and underprivileged every day. In 2019, the Arkansas legislature overwhelming passed a laser scope of expansion bill which became Act 579. This law has been life-changing for my patients and their families. It took nearly two years of lawsuits and misinformation from organized medicine and organized ophthalmology for my colleagues and myself to finally be able to take care of our patients fully, as trained to do throughout my doctorate education and continued education.</p> <p>To date, Arkansas doctors have performed 2956 reported laser procedures to help treat glaucoma and post-cataract haze...with zero reported negative outcomes. have performed over 400 of those in my clinics on my patients who would otherwise have to travel over 30 minutes to an hour. That is time, money, redundancy of care, and wasteful. Optometrists perform minor surgical procedures every day in their clinics. I have been active in my state legislative agendas as well as within the American Optometric Association. You will hear the same scare tactics that have been used for years but they just aren't true. States that have advanced scope of practice and laser privileges have t h e same malpractice insurance fees as those that can't perform these procedures. Frankly, we are the primary eye care providers across the U.S. and are readily accessible. Our education and training in ocular disease and vision science is vast, and intense.</p> <p>Optometrists everywhere are managing the pre-operative and post-operative care of our patients who have these laser procedures performed. In general, there aren't very many complications that arise from the laser procedures, but if so, we treat and manage those complications. The procedure itself is performed behind a microscope that we use on every single patient, every single day.</p> <p>in short, I write in support of the Vermont Optometric Association's petition to modernize optometry in the state. In Arkansas, our rules and regulations to become laser certified include a written exam and a proctored clinical exam. We do not have any statute of clinical proctoring by medicine or ophthalmology of a certain number of procedures, because we are already trained to perform the procedures. Unnecessary stipulations on licensing and proctoring would delay the care that our citizens need and deserve.”</p>
Craig Volpe, O.D.; Optometrist in VT; Vermont Optometric Association Treasurer	<p>“Hello, my name is Craig Volpe and I'm optometrist in Morrisville. I would like to thank you for supporting optometry this afternoon. I am unfortunately unable to attend the meeting because I'm still in clinic.”</p>
Heather Gitchell, O.D.;	<p>“I believe optometrists in every state should be able to practice to the highest level of their training and education, including in-office laser and eyelid</p>

<p>Optometrist in CO; Legislative Co-Chair, Colorado Optometric Association</p>	<p>procedures, to promote the optimum use of healthcare personnel. I graduated from Pacific University College of Optometry in 2005 and part of that training, even 20 years ago, included supervised administration of injections (done on living fellow classmates), laser procedures (done on models), and eyelid lesion excision (done on actual patients during clinical externships). These procedures have long been a part of an optometrist's education much like the other surgical procedures, such as corneal foreign body removal, currently allowed in all states. The skills required to do the proposed procedures are no different than those required for procedures that Vermont optometrists are already doing. Additionally, optometrists have long provided pre- and post-operative care, including treating complications, for patients who have had these very procedures done by an ophthalmologist. The most challenging part of the procedures in question is knowing when and on whom to do them. An optometrist's entire 4+ year post-graduate curriculum focuses on accurate assessment and clinical diagnosis of each patient and providing an effective treatment, including making a recommendation for a procedure when indicated. Historically, the actual procedure would have been done by an ophthalmologist, but the decision to do the procedure has frequently been made by the optometrist and patient.</p> <p>I completed a post-graduate clinical residency in ocular disease and surgical co-management and have practiced in Colorado for the past 18 years. We passed legislation in 2022 that allows Colorado optometrists to perform 3 laser procedures, injections of medications and excision of adnexa lesions. While we did put some training requirements in statute, we left the specifics to be determined by the State Board of Optometry. We worked to not create undue barriers for optometrists to complete the necessary requirements as our legislation was meant to increase access to care for Coloradans, in both rural and urban areas and make the best use of highly trained personnel. Colorado optometrists have been safely performing laser and adnexa procedures since January of this year.</p> <p>All licensed professions in Colorado undergo a review roughly every decade. A thorough study done by an impartial analyst concluded that the regulation of Colorado optometrists prior to 2022 was too restrictive and it was recommended that optometrists should be allowed to practice according to their qualifications as determined by the State Board and national examinations.</p> <p>I would encourage your office to similarly allow optometric educators and examiners along with the Board of Optometry to set the guidelines that ensure minimum competency, as they have for many other procedures, for Vermont optometrists to safely and effectively perform the laser and eyelid procedures already being done in other states."</p>
<p>Brendan Marr, Director, State Governmental Affairs,</p>	<p>"We are writing on behalf of the American Academy of Ophthalmology, the world's largest association of eye physicians and surgeons, and our members in Vermont. As a global community of 32,000 medical doctors, we protect sight and empower lives by setting the standards for ophthalmic education,</p>

American Academy of Ophthalmology	supporting research, and advocating for our patients and the public. We innovate to advance our profession and to ensure the highest standards of patient safety and ensuring the delivery of the highest quality eye care.
Daniel J. Briceland, M.D., President, American Academy of Ophthalmology	It is for these reasons that we express our deep concern over the Office of Professional Regulation's (OPR) draft proposal to authorize optometrists to perform eye surgery.
John Peters, M.D.; Secretary for State Affairs; American Academy of Ophthalmology	<p>In forty-one states, representing the overwhelming majority of the U.S. population, optometrists are prohibited from performing eye surgery. In the case of YAG capsulotomies, the most common surgery performed by optometrists, Medicare Part B claims data shows that they perform approximately 0.66% of the total number of these procedures. Optometrists performing the surgeries in the current OPR proposal are not the norm in any state in the United States. In the interest of patient safety, it should not become the norm in Vermont.</p>
	<p>We are also concerned that Colorado's Division of Regulatory Agencies' sunset review and the Washington Department of Health's sunrise review of their respective optometric practice acts may have played a role in persuading OPR that optometrists can perform eye surgery safely with minimal training. Unfortunately, these two reports are largely based on misinformation and misrepresentations provided by those states' optometry lobbies. For instance, claims were made by state optometry boards to these agencies that suggest there have been no negative or adverse outcomes from optometrists from the surgeries in the OPR proposal - the same claims made to OPR. Some of those optometry boards even lack reporting requirements in their statutes and regulations to measure adverse outcomes. Complications and adverse outcomes from optometrists performing surgery have been documented and provided to refute optometry's false assertions.</p>
	<p>Moreover, a recent study published in Ophthalmology, the Journal of the American Academy of Ophthalmology using data from France, which examined complications rates from YAG capsulotomies in nearly 8,000 eyes, found that 13% of cases had at least one adverse event within 12 months. (These surgeries were performed by ophthalmologists. Optometrists are prohibited from performing surgery in France). Several of the complications examined in the study are those in which optometrists simply do not have the education and training to manage or treat. This study definitively demonstrates that claims of a lack of any adverse or negative outcomes are statistically and clinically impossible. Such statements to state agencies raise serious questions about optometry's ability to detect and willingness to report adverse outcomes, as well as their surgical competence and training. In fact, a fundamental part of surgical education is to learn to manage and treat complications, including complications from anterior segment laser surgeries. We are concerned that</p>

Vermont optometrists may not be able to recognize the full spectrum of surgical complications, much less treat them. That would be a clear detriment to surgical eye care patients in Vermont.

The Washington and Colorado reports lacked the critical examination and scrutiny that OPR's 2020 optometric scope of practice report to the Vermont legislature clearly demonstrated and influenced policymakers who are serious about protecting patient safety in Vermont as well as other states. Furthermore, there is no data available on whether any of the purported safeguards and training requirements that were amended into legislation enacted by Washington and Colorado state legislatures are adequate to protect patient safety. In fact, the Washington regulations are still being drafted.

Still, OPR's draft proposal is unprecedented in making specific recommendations to state legislatures regarding what they deem to be the appropriate education and clinical training requirements to safely perform eye surgery. We ask you to closely consider whether OPR has the expertise in medical and surgical education and training that will protect the citizens of Vermont. Conspicuously, no ophthalmologist licensed to practice medicine in Vermont would be authorized and considered competent to perform the same procedures in the OPR draft proposal with the level of training described, yet OPR appears to deem this sufficient for optometrists who have far less training and experience.

Similar education and training requirements being considered by OPR have recently been rejected twice in California. It is our observation that the education and training requirements in OPR's draft proposal closely tracks the provisions of [CA AB 1570](#), a bill that died in the California legislature in 2023. In 2022, a virtually [identical](#) bill was [vetoed](#) by California Governor Gavin Newsom. Governor Newsom wrote unequivocally in his veto message, "I am not convinced that the education and training required is sufficient to prepare optometrists to perform the surgical procedures identified. This bill would allow optometrists to perform advanced surgical procedures with less than one year of training. In comparison, physicians who perform these procedures must complete at least a three-year residency program." We do not understand why OPR seems to believe a similar proposal will be adequate to protect Vermont patients.

We respectfully ask you to reconsider OPR's draft proposal allowing optometrists to perform surgery in Vermont, and instead, work closely with the Vermont Ophthalmological Society to propose substantive and meaningful steps to improve the delivery of eye care in Vermont that excludes optometrists performing surgery. It is in the manifest best interest of the people of Vermont."

Linda Feero,
M.D.; Past
President, Maine
Society of Eye
Physicians and
Surgeons,
Submitting on
behalf of Maine
Society of Eye
Physicians and
Surgeons

“The Maine Society of Eye Physicians and Surgeons would like to register strong opposition to the proposed recommendations for optometric practice expansion. For anyone who has read OPR’s report of 2020 the marked shift in the current proposal raises many questions. Since the state of optometric education has not changed in the intervening period, what other influences have resulted in this revision of recommendations. The multiple errors in the slides that are obvious to any ophthalmologist (ionizing radiation, not iodizing and chalazia are excised as an exuberant tissue response and are not repaired, as two examples) but that have been present in materials provided by optometrists in other states. The acceptance by OPR of such incorrect sources of information calls into question the qualifications of its membership to develop educational curricula for the training of non-physicians to perform surgical procedures. It is unclear where the numbers of suggested simulated and live procedures recommended came from. The numbers are slightly higher than the minimum required for ophthalmic residents, but ignores that ophthalmic residents already have 4 years of medical school education and a minimum of 1 year of medical or surgical residency training before beginning a minimum of 3 years of training in surgical eye care. Ophthalmologists have had extensive training in medical and surgical care before they ever begin to treat eye disease. The same is not true for optometrists and cannot be compensated for by a weekend course or even several months of preceptorship. Determining whether a skin lesion is a malignant tumor can be very difficult even for experienced surgeons and will inevitably result in harm to citizens of Vermont who receive care from an inexperienced optometrist. Ophthalmic residencies are also designed to cover not just the procedure, but post-operative care for routine and complicated cases. Performing half a dozen lasers does not provide adequate exposure to uncommon complications and adverse outcomes and teach appropriate management to prevent or reverse harm. It is incumbent on a provider who performs surgical procedures that they be available 24/7 to their patient to ensure safety. There does not appear to be any patient safety consideration in the current OPR draft. It is perplexing as well that optometrists would need to do fluorescein angiography for any reason. What treatment decisions for diseases which they are qualified to treat would be changed by the information obtained through performing angiography? Furthermore, corneal crosslinking is a procedure that is generally performed by corneal specialists who have additional year of fellowship training. The difficulty here is not so much in performing the procedure but in interpreting the pre-procedure data correctly and knowing which patients the procedure is appropriate. The ability to formulate an appropriate clinical judgement is not something which can be acquired without investing the time and effort of an additional year of training after the baseline 8 years of education. In addition, cross linking is done frequently for keratoconus, a disease that has the highest progression rate during childhood and young adulthood. Surgical procedures on children should be very carefully considered as the most routine procedure becomes extremely difficult on a patient who cannot sit still. Needles and scalpels near

	<p>the eyes of uncooperative children are a recipe for blindness unless the provider is experienced in techniques to make surgery safe.</p> <p>The inadequacy of optometric training to perform surgical procedures has been shown in higher complication rates for optometrists in the states that do permit a limited number of procedures. Expanding surgical privileges to optometrists has not been shown to save money nor has it expanded access in the 9 states where it is currently allowed. These are all very good reasons why permitting ophthalmic surgery by optometrists is not permitted in the remaining 40 states. If OPR wants to create a new curriculum for optometric surgical training, they should be very transparent about the sources of their expertise and be held accountable for the outcomes of their decision to proceed with recommending surgical expansion.”</p>
<p>Kimberly Licciardi, M.D.; President, New Hampshire Society of Eye Physicians and Surgeons</p> <p>Nancy Efferson-Bonachea, M.D.; New Hampshire Councilor, American Academy of Ophthalmology</p>	<p>“As compared to the OPR’s report of 2020, there is a marked shift in the current proposed procedures which raises many questions and concerns. Since the state of optometric education has not changed in the intervening period, what other influences have resulted in this revision of recommendations? There are multiple errors in the submitted slides that are obvious to any eye surgeon (ionizing radiation, not iodizing and chalazia are excised as an exuberant tissue response and are not repaired, as two examples), but reflect errors present in materials provided by optometrists in other states. The acceptance by OPR of such incorrect sources of information calls into question the qualifications of its membership to develop educational curricula for the training of non-physicians to perform surgical procedures. It is unclear where the numbers of suggested simulated and live procedures recommended came from. The numbers are slightly higher than the minimum required for ophthalmic residents, but ignores that ophthalmic residents already have 4 years of medical school education and a minimum of 1 year of medical or surgical residency training before beginning a minimum of 3 years of training in surgical eye care. Ophthalmologists have had extensive training in medical and surgical care before they ever begin to treat eye disease. The same is not true for optometrists and cannot be compensated for by a weekend course or even several months of preceptorship.</p> <p>Determining whether a skin lesion is a malignant tumor can be very difficult even for experienced surgeons, and allowing surgical excision of a potentially malignant tumor could result in permanent harm or even death to citizens of Vermont who receive care from a non physician, non surgeon optometrist. Ophthalmic residencies are also designed to cover not just the procedure, but post-operative care for routine and complicated cases. Performing half a dozen lasers does not provide adequate exposure to uncommon complications and adverse outcomes and teach appropriate management to prevent or reverse harm. For example, non surgeons lack training to assess and correct uncontrolled bleeding from skin excision or complications related to periorbital anesthesia. These can result in sight and life complications. It is</p>

	<p>incumbent on a provider who performs surgical procedures that they be available 24/7 to their patient to ensure safety. There does not appear to be any patient safety consideration in the current OPR draft.</p> <p>It is perplexing as well that optometrists would request authorization to do fluorescein angiography. This diagnostic is usually performed by vitreo-retinal specialists to assess retinal pathology and design treatment plans. In addition, this is an invasive procedure requiring intravenous injection and the risk of anaphylaxis and death. What treatment decisions for diseases which they are qualified to treat would be changed by the information obtained through performing angiography?</p> <p>Furthermore, corneal crosslinking is a procedure that is generally performed by corneal specialists who have additional year of fellowship training after ophthalmology residency. The difficulty here is not so much in performing the procedure but in interpreting the pre-procedure data correctly and knowing which patients the procedure is appropriate, as well as potential risks and costs to the patient. The ability to formulate an appropriate clinical judgement is not something which can be acquired without investing the time and effort of an additional year of training after the baseline 8 years of education.</p> <p>In addition, cross linking is done frequently for keratoconus, a disease that has the highest progression rate during childhood and young adulthood. Surgical procedures on children should be very carefully considered as the most routine procedure becomes extremely difficult on a patient who cannot sit still. Needles and scalpels near the eyes of uncooperative children risk blindness unless the provider is experienced in techniques to make surgery safe. In fact, fellowship trained pediatric ophthalmologists are eye surgeons for children with eye disease and do their procedures under sedation/general anesthesia precisely to ensure safety and optimal surgical outcome.</p> <p>The inadequacy of optometric training to perform surgical procedures has been shown in higher complication rates for optometrists in the states that do permit a limited number of procedures. Expanding surgical privileges to optometrists has not been shown to save money nor has it expanded access in the 9 states where it is currently allowed. These are all very good reasons why permitting ophthalmic surgery by optometrists does not exist in the remaining 41 states. If OPR wants to create a new curriculum for optometric surgical training, they should be very transparent about the sources of their expertise and be held accountable for the outcomes of their decision to proceed with recommending surgical expansion.</p> <p>For the safety of Vermont's citizens and upholding the standard of care, we urge the review committee to reject this optometric expansion proposal."</p>
Jon Pederson, O.D., F.A.A.O.; Optometrist in CO; Legislative Chair for the Colorado	<p>As a practicing optometrist, current Legislative Chair of the Colorado Optometric Association (COA), and member of the American Optometric State Government Relation Committee member, I can add perspective to what modernizing a practice act looks like in the most recent state, Colorado, to do so.</p>

Optometric Association	<p>Colorado modernized its practice act in 2022, allowing optometrists to perform anterior segment laser procedures, injections and remove lesions on and around the eye. The changes in the practice act became effective in January of 2023. Since that time I have personally performed over 100 procedures, including 75 laser procedures, without complications. Many of my colleagues have performed similar or greater numbers of procedures without complications. In Colorado, like other states with similar practice acts, there are not reported increases in adverse outcomes for these procedures since allowing optometrists to perform them.</p> <p>As Legislative Chair for the COA, I was heavily involved in the process that led to changes in the Optometry practice act as well as the rule-making and implementation of these changes.</p> <p>Colorado's process began with a year long review of the existing practice act by the Department of Regulatory Agencies (DORA) to determine how to best regulate the profession and evaluate how training and education had changed since the last review. It was ultimately the recommendation of DORA to modernize the practice act to reflect the level of current education and training. The recommendation eventually became legislation which was successfully passed. The legislation overwhelmingly passed through 7 committees, the House and Senate chambers by a vote count of 90-1 O in and was emphatically signed by Governor Jared Polis. The rule-making process was undertaken by the State Board of Optometry and included requirements for practitioners wishing to perform these procedures to prove competency through a 32-hour course or NBEO's Laser and Surgical Procedures Examination (LSPE™), similar to other states with equivalent laws. Proctored procedures could be performed during these courses to establish competency. This could also be done outside of the courses, supervised by proctors meeting the criteria set forth by the State Board of Optometry. Competency is determined by the proctor, not the number of procedures performed. This has prevented overly onerous conditions that could have negatively impacted the intent of the law.”</p>
Daniel Carey, Chief State Advocacy Officer, American Optometric Association	<p>I wanted to share the attached chart, which highlights some relevant specifics with regard to laser training and criteria in the 10 states that currently recognize laser surgical procedures for Doctors of Optometry. I realize the comment period for the upcoming report is closing today and wanted to submit this information in case you should find it helpful.</p> <p>Please do let me know if you have any questions on this or other information, as we deal with the scope of practice for Doctors of Optometry extensively. Thank you all very much for your help throughout this process, your time and consideration are greatly appreciated.”</p> <p>See attached chart.</p>

Appendix 8

Southern College of Optometry Syllabus for Mississippi Advanced Procedures Course

From: [Elkins, Lindsay](#)
To: [SOS - OPR Comments](#)
Cc: [Hall, David](#); [Campbell, Bart](#); [Ensor, Scott](#)
Subject: SCO Advanced Procedures Curriculum
Date: Friday, September 15, 2023 2:26:23 PM
Attachments: [image001.png](#)
[Vermont OPR Advanced Procedure Curriculum Request 2023.pdf](#)
[MS Course Layout Nov2021.pdf](#)
[Injections Curriculum REVISEDFAQs 2023.pdf](#)

You don't often get email from lelkins@sco.edu. [Learn why this is important](#)

EXTERNAL SENDER: Do not open attachments or click on links unless you recognize and trust the sender.

Good Afternoon,

Please find attached updated information pertaining to advanced procedures in the Southern College of Optometry curriculum. This has been updated since previously requested in 2020 as we have had significant additions to the curriculum pertaining to advanced procedures. Additionally, outside of the student curriculum, SCO faculty members have provided training for Mississippi in accordance with obtaining advanced procedure licensure. The outline for the Mississippi training is also attached.

Please let me know if you would like additional information.

Thank you,

Lindsay Elkins



Lindsay Elkins, OD, FAAO

Chair of Optometric Education

Southern College of Optometry

1245 Madison Avenue

Memphis, TN 38104

901-722-3378 | lelkins@sco.edu | sco.edu

November 13 and 14 "Live" Presentation

Saturday, Nov 13 9:00 am – 12:00 pm

1. Medico-Legal Issues (1 hr) - **Ensor**
2. OSHA, Asepsis, Overview of Surgical Instruments (2 hrs) – **Sanderson**

Saturday, Nov 13 1:00 pm – 5:00 pm

3. Surgical Anatomy of the Eyelids (2 hrs) – **Wetick**
4. Surgical Pharmaceutical Review (2 hrs) – **Ensor**

Sunday, Nov 14 9:00 am – 4:00 pm with one hour lunch break

5. Injection and Minor Surgical Procedures (6 hrs) – **Duncan/Rixon**
 - all injections (including non-forehead botox injections)
 - chalazion management
 - post-op wound care
 - complication management
 - anaphylaxis
 - radiofrequency surgery
 - collagen cross-linking
 - suturing
 - epilumeninesence microscopy
-

November 8-19 Recorded Presentations (Can be viewed at any time during the two week availability)

6. Gonioscopy (2 hrs) – **Dorkowski**
7. Laser Physics (2 hrs) – **Wetick**
8. Laser-Tissue Interactions (2 hrs) – **Wetick**
9. Laser Safety (1.5 hrs) – **Ensor/Wetick**
10. Yag Capsulotomy (2 hrs) – **Hall**
11. Laser Applications in Glaucoma Care (2.5 hrs) – **Hall**

Saturday, Nov 20 Wet Lab for Groups A and B (7 hour Wet Lab total)

8:30 am – 12:00 pm

Injection/Surgical Wet Lab	Group A
Laser Wet Lab	Group B

1:00 pm – 4:30 pm

Injection/Surgical Wet Lab	Group B
Laser Wet Lab	Group A

Laser Wet Lab Includes

- Gonioscopy Station (1 faculty)
- Capsulotomy Station (1 faculty)
- Iridotomy Station (1 faculty)
- SLT Station (1 faculty)

Injection/Surgical Wet Lab Includes

- Chalazion Station (2 faculty)
- Ellman Station (1 faculty)
- IV/IM and Suture Station (2 faculty)
- Subconjunctival Injection Station (1 faculty)

Appendix 9

**Letters from States with Expanded Scopes of
Optometric Practice**



Louisiana State Board of Optometry Examiners

911 Tech Drive, Ruston, LA 71270, 318-335-2989

E-Mail: lsboe@yahoo.com

September 14, 2023

In August of 2014, the Louisiana Legislature passed, and then-Governor Bobby Jindal signed into law, legislation authorizing Doctors of Optometry to perform certain ophthalmic surgeries and procedures, including YAG laser capsulotomy, YAG laser peripheral iridotomy, and selective laser trabeculoplasty (SLT), periocular injections, and basic surgical removal of lid lesions.

The Louisiana State Board of Optometry Examiners (LSBOE) then promulgated rules requiring Doctors of Optometry who graduated prior to 2015 to take an additional 32-hour course to supplement their 4 years of optometric education and real-world clinical experience in diagnosing and managing the ocular conditions of record in order to obtain licensure privileges to perform these procedures. Post-2014, Doctors of Optometry graduating from a school or college of optometry that has provided the LSBOE with a signed affidavit stating their curriculum includes the components of the aforementioned 32-hour course have not been required to take this course. To-date, 24 schools and colleges of optometry have provided signed affidavits to the LSBOE stating their curriculum includes the contents of the 32-hour course that covers these procedures, in addition to other coursework and clinical patient encounters. To our knowledge, the Board of Medicine did not require additional training for practicing Doctors of Medicine to perform these procedures when they became available.

Additionally, at the time of annual optometry license renewal, Doctors of Optometry are required to self-report how many of these laser procedures they have performed in the prior calendar year, along with any visually significant complications that were encountered. To-date, Louisiana's Doctors of Optometry have performed **25,807** laser procedures, with no visually significant complications reported. Additionally, the LSBOE has not received a single complaint from a patient, an insurer, or any other healthcare provider regarding the outcomes from these procedures. Given the requisite skill and knowledge obtained by Doctors of Optometry during their 4 years of optometry school and in clinical patient care in internships, on externships, and in many cases during post-graduate residency training, and respecting their professional judgement and expertise, the LSBOE does not require procedures to have been done on live patients prior to licensure to perform these procedures. The lengthy track record of safe and effective performance of these procedures by Doctors of Optometry since passage of this 2014 law affirms this stance.

- Does Louisiana require optometrists to obtain an additional certification to perform laser surgery procedures? **See Above**
- If so, how many optometrists have become certified in the state since scope expansion was passed?
- **628 currently licensed OD, 362 licensed with Advanced procedure privileges**
- Does Louisiana require optometrists to report how many laser surgery procedures they perform and/or any negative outcomes of these procedures? If so, what are those results?

- **YES, 25,807 total procedures performed, ZERO negative outcomes reported**
- Has Louisiana taken any disciplinary actions taken against optometrists' licenses directly related to the performance of these procedures since scope expansion was passed? **NO** Or, are you aware of any malpractice cases against optometrists related to these procedures? **NO** If so, what was the volume and nature of those disciplinary actions and/or malpractice cases?

Please contact the LSBOE office should you have any additional questions.

Sincerely,

Gary Avallone, OD

Secretary L.S.B.O.E.

Phone:(318) 335-2989

lsboe@yahoo.com

From: [Board of Optometry \(CED sponsored\)](#)
To: [Bruce, Dylan](#)
Subject: RE: Vermont Office of Professional Regulation seeks information on Alaska optometry scope of practice
Date: Thursday, August 31, 2023 1:28:19 PM

You don't often get email from boardofoptometry@alaska.gov. [Learn why this is important](#)

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Good morning Dylan,

I hope your week is well – I'm Ashley Carabajal, the licensing examiner for the Alaska Board of Examiners in Optometry.

After doing a quick search in our licensing system for all licenses (expired, active or lapsed, etc.) and there are 56 optometrists that show up as authorized to perform what we call per our statutes/regulations "*Expanded Therapeutic Procedures*."

Based off our webpage Disciplinary Actions tab, none of the posted actions pertained to any licensees authorized to perform expanded therapeutic procedures.

I hope this helps. If you have any more questions, please do not hesitate to reach out.

Thank you,

*Ashley Carabajal
Occupational Licensing Examiner
Board of Examiners in Optometry
Dispensing Opticians
(907) 465-2550*

From: Bruce, Dylan <Dylan.Bruce@vermont.gov>
Sent: Thursday, August 31, 2023 4:48 AM
To: Board of Optometry (CED sponsored) <boardofoptometry@alaska.gov>
Subject: Vermont Office of Professional Regulation seeks information on Alaska optometry scope of practice

You don't often get email from dylan.bruce@vermont.gov. [Learn why this is important](#)

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Hi All,

My name is Dylan Bruce and I am the policy planner for the Vermont Secretary of State's Office of Professional Regulation. We are currently performing a regulatory review of the optometry scope of practice in Vermont. The Vermont Optometry Association (VOA) is lobbying for a scope expansion to

include certain laser procedures and surgeries.

I was hoping you all could tell me how many optometrists have been licensed for these advanced procedures and how many disciplinary actions you've taken against folks pertaining to said advanced practices?

VOA is arguing that optometrists should be allowed to practice to the full extent of their training. This has always been our office's policy, so we are currently examining the rate of misconduct or medical errors related to these practices in states permitting such procedures.

Thank you for any data or insights you might have!

All my best,

Dylan Bruce
Office of Professional Regulation
Vermont Secretary of State's Office

From: [Tanya Ford](#) on behalf of [Board of Optometry](#)
To: [Bruce, Dylan](#)
Subject: RE: Vermont Office of Professional Regulation seeks information on Arkansas optometry scope of practice
Date: Thursday, August 31, 2023 9:54:56 AM

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Glad to provide this information.

Arkansas currently has 171 doctors licensed for advanced procedures. We began advanced procedure licensure in January 2021. We have not had any disciplinary actions taken against any doctor for advanced procedures. One thing we do is document the number of laser procedures our doctors do annually as well as the number of negative outcomes from any of those procedures. So far we have had zero negative outcomes with just under 3,000 procedures (total for 2021/2022). We will gather the numbers for 2023 at the end of the year.

If you need additional information, please let me know.

Thank you,

Tanya

From: Bruce, Dylan <Dylan.Bruce@vermont.gov>
Sent: Thursday, August 31, 2023 7:55 AM
To: Board of Optometry <adh.optometryboard@arkansas.gov>
Subject: Vermont Office of Professional Regulation seeks information on Arkansas optometry scope of practice

You don't often get email from dylan.bruce@vermont.gov. [Learn why this is important](#)

Hi All,

My name is Dylan Bruce and I am the policy planner for the Vermont Secretary of State's Office of Professional Regulation. We are currently performing a regulatory review of the optometry scope of practice in Vermont. The Vermont Optometry Association (VOA) is lobbying for a scope expansion to include certain laser procedures and surgeries (lumps and bumps).

I was hoping you all could tell me how many optometrists have been licensed for these advanced procedures in your state and how many disciplinary actions you've taken against folks pertaining to said advanced practices?

VOA is arguing that optometrists should be allowed to practice to the full extent of their training. This has always been our office's policy, so we are currently examining the rate of misconduct or medical errors related to these practices in states permitting such procedures.

Thank you for any data or insights you might have!

All my best,

Dylan Bruce
Office of Professional Regulation
Vermont Secretary of State's Office

From: [KBOE Optometry](#)
To: [Bruce, Dylan](#)
Subject: RE: Vermont Office of Professional Regulation seeks information on Kentucky optometry scope of practice
Date: Friday, September 8, 2023 3:07:53 PM

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Good afternoon,

Thank you for your inquiry. We do receive requests for information pertaining to our expanded scope of practice statutes. To give you a little background, to date, there have been over 60,000 laser and surgical procedures performed in Kentucky by optometrists and we haven't received any complaints or been notified of any adverse outcomes relating to the performance of this expanded scope of practice. We have credentialed 501 optometrists to date. We require all new licensees to obtain their credentialing within the second license renewal cycle and anticipate 50-75 additional optometrists to be credentialed in the coming year.

Further, there was no increase in malpractice rates with the passage of the legislation. There is no difference in malpractice rates between optometrists in Kentucky who have extended therapeutic privileges and those who do not and there is no difference in malpractice rates between Kentucky optometrists and optometrists in surrounding states without extended therapeutic privileges. If I can provide any additional information, please don't hesitate to contact me.

Christi LeMay

Christi LeMay
Executive Director
Kentucky Board of Optometric Examiners
2365 Harrodsburg Road, Suite A240
Lexington, KY 40504
(859) 246-2744

From: Bruce, Dylan <Dylan.Bruce@vermont.gov>
Sent: Thursday, August 31, 2023 9:21 AM
To: KBOE Optometry <optometry@ky.gov>
Subject: Vermont Office of Professional Regulation seeks information on Kentucky optometry scope of practice

Hi All,

My name is Dylan Bruce and I am the policy planner for the Vermont Secretary of State's Office of Professional Regulation. We are currently performing a regulatory review of the optometry scope of practice in Vermont. The Vermont Optometry Association (VOA) is lobbying for a scope expansion to include certain laser procedures and surgeries (lumps and bumps).

I was hoping you all could tell me how many optometrists have been licensed for these advanced procedures in your state and how many disciplinary actions you've taken against folks pertaining to said advanced practices?

VOA is arguing that optometrists should be allowed to practice to the full extent of their training. This has always been our office's policy, so we are currently examining the rate of misconduct or medical errors related to these practices in states permitting such procedures.

Thank you for any data or insights you might have!

All my best,

Dylan Bruce
Office of Professional Regulation
Vermont Secretary of State's Office

From: [Board of Optometry](#)
To: [Bruce, Dylan](#)
Subject: RE: Optometry Scope Expansion Report
Date: Sunday, June 25, 2023 11:49:38 AM
Attachments: [image001.png](#)

You don't often get email from optbd@dhp.virginia.gov. [Learn why this is important](#)

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Dear Dylan,


There is no “report” or “study” about laser surgery produced by the Virginia Board of Optometry. The legislation was introduced by the Virginia Optometric Association and passed during the 2022 legislative session. The Virginia Board is not able to lobby for or against legislation, only to take the position assigned by the Governor. I do not recall if the Governor’s position was “no position” or “support.”

The link to the legislative tracking for the bill is <https://lis.virginia.gov/cgi-bin/legp604.exe?ses=221&typ=bil&val=hb213> which includes links to the fiscal impact statement.

Although the scope expansion passed in 2022, no optometrist will be able to perform the three laser procedures until regulations are developed and certifications are issued. The first of three regulatory stages took almost a year to complete, and I anticipate the other two stages to take as long.

I am happy to share any information about laser surgery that I have collected and can be reached at (804) 597-4130. I will be out of the office until Wednesday.

Sincerely,
Leslie L. Knachel, M.P.H.
Executive Director
Board of Audiology & Speech-Language Pathology
Board of Optometry
Board of Veterinary Medicine
Board of Health Professions
Office:(804) 597-4130
leslie.knachel@dhp.virginia.gov

 Virginia Department of
Health Professions
9960 Mayland Drive, Suite 300
Henrico, VA 23233

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From: Bruce, Dylan <Dylan.Bruce@vermont.gov>
Sent: Friday, June 23, 2023 11:21 AM
To: Board of Optometry <optbd@DHP.VIRGINIA.GOV>
Subject: Optometry Scope Expansion Report

Hi All,

My name is Dylan Bruce and I am the policy planner for the Vermont Office of Professional Regulation (OPR). We're undergoing another scope expansion request for optometric surgery, and I'm hoping to use your most recent scope expansion study as a resource.

However I'm having a hard time finding the report itself – is this something you could send my way?

Thanks for your time!

All my best,

Dylan Bruce
OPR

Appendix 10

Letter from the Executive Director of the Vermont Board of Medical Practice



State of Vermont
Department of Health
Vermont Board of Medical Practice
108 Cherry St-PO Box 70
Burlington, VT 05402-0070
HealthVermont.gov

[phone] 802-657-4220
[fax] 802-657-4227

Agency of Human Services

October 13, 2023

Lauren K. Layman
General Counsel
Office of Professional Regulation
89 Main Street, 3rd Floor
Montpelier, VT 05602

Re: Optometry Scope of Practice

Dear Lauren:

On August 31, 2023, I provided input to you on behalf of the Board of Medical Practice at a public meeting held to receive comments about a requested expansion of the scope of practice of optometrists. My input was that the Board had established a position against the expansion of the scope of practice in 2020. Late last month I received a document summarizing a draft of your report on this issue. The document indicated that OPR would accept comments about the draft report through September 29, 2023. We've since learned that you would accept and consider comments received before October 15, 2023.

The Board discussed the summary of the draft report at its October 4, 2023 meeting. Members did not formally adopt a position to update the 2020 position at that meeting because it was thought that the deadline for comments had passed. However, the Board did discuss the summary of the draft report at length and the group's collective opinion was obvious. Many members expressed strong concerns about expansion of the optometrist scope of practice. Support for the expansion was not expressed.

A primary concern of members was the quantity of training and how training would occur. With physicians, much of their time in medical school and residency training is devoted to providing a foundation of knowledge to be prepared to perform procedures in general. Even during medical school rotations there are many opportunities to perform procedures under close supervision. During the first residency year (formerly often referred to as "internship") they are required to do intensive rotations through multiple specialties, which offers much more opportunity to get accustomed to performing procedures on patients. Physicians work on cadavers before progressing to performing procedures on humans under close supervision of qualified physicians. Only after all that training do ophthalmologists enter their focused ophthalmology residency years, where they begin to do procedures on patients' eyes. A clear majority of Board members feels that the public would not benefit from allowing optometrists to perform the proposed procedures after a limited amount of training and with the use of simulated training aids.



Lauren K. Layman

October 13, 2023

Page 2

There were also many questions about the capacity of the existing optometrist workforce to meet the need for services with the existing scope of practice, and how adding to the scope of practice might add to wait times for optometry appointments. Another comment that I had not previously heard during the public meeting on this issue had to do with support staff. One member noted that ophthalmologists rely on highly skilled, trained support staffs when performing procedures on patients' eyes and asked if there had been consideration of how optometrists' support personnel would be trained and maintain proficiency if optometrists were to add procedures to their existing practices.

Finally, there were concerns about your reliance on a perceived lack of adverse outcome based on information about reports of adverse patient outcomes in jurisdictions where optometrist scope of practice has been expanded to allow certain procedures. A lack of reports is not necessarily evidence of a lack of adverse outcomes. The concern is not only about the effectiveness of reporting schemes; optometry scope of practice has been expanded for only a very small percentage of the US population and for only a short time in some of those jurisdictions. There is an insufficient basis on which to risk the vision of Vermont patients.

Thank you for this additional opportunity to submit input on behalf of the Board of Medical Practice for you to consider before finalizing your report on optometry scope of practice.

Sincerely,

David K. Herlihy
Executive Director

Appendix 11

American Optometric Association

Optometric Laser Adverse Events by State

From: [Carey, Daniel](#)
To: [Eltabbakh, Noura](#); [Layman, Lauren](#)
Cc: dean.barcelow@gmail.com
Subject: Optometric Laser State Information
Date: Friday, September 29, 2023 10:50:57 AM
Attachments: [image001.png](#)
[Vermont Laser Table.pdf](#)

Some people who received this message don't often get email from dcarey@aoa.org. [Learn why this is important](#)

EXTERNAL SENDER: Do not open attachments or click on links unless you recognize and trust the sender.

Good morning,

I hope you both have had a great week.

I wanted to share the attached chart, which highlights some relevant specifics with regard to laser training and criteria in the 10 states that currently recognize laser surgical procedures for Doctors of Optometry. I realize the comment period for the upcoming report is closing today and wanted to submit this information in case you should find it helpful.

Please do let me know if you have any questions on this or other information, as we deal with the scope of practice for Doctors of Optometry extensively. Thank you all very much for your help throughout this process, your time and consideration are greatly appreciated.

Daniel

Daniel Carey
Chief State Advocacy Officer
American Optometric Association
Office: 703-837-1343



State	Required Number of Procedures	Live Eye Requirement	Board Negative Outcomes	Laser Enactment Year
Alaska	NO	NO	0	2017
Arkansas	NO	NO	0	2019
Colorado	NO	NO	0	2022
Indiana	NO	NO	0	2019
Kentucky	NO	YES	0	2011
Louisiana	NO	NO	0	2013
Mississippi	NO	NO	0	2021
Oklahoma	NO	NO	2	1998
Virginia	NO	NO	0	2022
Wyoming	NO	NO	0	2021

Appendix 12

Statement from the Vermont Medical Society and the Vermont Ophthalmological Society

Statement of Vermont Medical Society and Vermont Ophthalmological Society

Thank you for taking the time on Friday afternoon to meet with the Vermont Ophthalmological Society and Vermont Medical Society. We would like to clarify the intent of our Memo submitted on October 2nd. As stated on October 2nd, VOS and VMS remain opposed to the draft recommendations OPR shared with the Board of Optometry and our position is that safe eye surgery for Vermonters can only be provided by physicians who have completed medical school and an ACGME accredited ophthalmology residency program.

As back up for this position, OPR does have our permission to paraphrase or summarize the substance of the feedback VOS and VMS members have shared over the past several months in meetings, public hearings, and written comments, especially surrounding the clinical complexity of the procedures being proposed. Any prior feedback provided by VOS/VMS to OPR (or the legislature) should not be construed as support for any elements of the draft recommendations as they do not adequately ensure safe eye care. We would like to clarify that increasing training/preceptorship requirements short of medical school and an ACGME accredited ophthalmology residency program cannot ensure the standardized depth of training necessary. Our comments regarding specific ocular procedures were intended as examples to communicate our serious concerns for patient safety and to underscore why we oppose the recommendations as a whole.

Let us know if you have any questions.



Stephanie Winters (*She/Hers/Her*)
Vermont Medical Society
Deputy Director



Deputy Executive Director, Vermont Medical Society
Executive Director, American Academy of Pediatrics Vermont Chapter
Executive Director, Vermont Academy of Family Physicians
Executive Director, Vermont Ophthalmological Society
Executive Director, Vermont Orthopaedic Society
Executive Director, Vermont Association of Osteopathic Physicians and Surgeons
Executive Director, Vermont Psychiatric Association
Executive Director, Vermont Society of Anesthesiologists
Executive Director, American College of Surgeons Vermont Chapter

Appendix 13

**Statement from the Vermont Board of
Optometry**

**(Reflected in Unapproved Minutes from the September 27, 2023 Special
Meeting of the Board)**



Board of Optometry

Office of Professional Regulation, Vermont Secretary of State

89 Main Street, 3rd Floor • Montpelier, VT 05620-3402

Tel. (802) 828-2373 • <https://sos.vermont.gov/opr/>

Unapproved Special Meeting Minutes Wednesday, September 27th, 2023 8:30am

Board Members Present: Francis Pinard, OD, Chair; Karena Shippee, OD; and Robert Bauman, OD

Board Member(s) Absent: None

OPR Staff Present: Lauren Layman, General Counsel; Emily Tredeau, Staff Attorney, and Corrine Reynolds, Licensing Administrator.

Public: Emma Shouldice, Dean Barcelow, Stephanie Winters, and Jess Barnard

1. Call to Order

- Dr. Pinard called the meeting to order at 8:30 am.

2. Changes to the agenda

3. Approval of September 15th, 2023, meeting minutes

- Dr. Shippee made a motion to approve the minutes as written. Dr. Bauman seconded the motion. Approved.

4. Discipline: None

5. Discussion:

- Purpose of the Meeting: Discussion of the recommendations for optometrist scope expansion and the 2023 Legislative Report
- The Board reviewed and responded to comments on the scope expansion recommendation from the Vermont Medical Society
- The Board suggested OPR amend its recommendation for scope expansion to reduce the number of hands-on procedures optometrists would be required to perform on human patients during a preceptorship.
- Dr. Pinard moved to adopt the following statement from the Board regarding optometrist scope expansion. Dr. Bauman seconded. The motion passed.

The Vermont Board of Optometry wishes to state its position regarding scope expansion of the profession of optometry. It is the mission of this board and OPR to ensure the safety of the public while seeking to allow the profession to practice at its highest level of training. Allowing providers to practice at their highest level of training promulgates a healthcare system with improved access to the highest quality of care, that draws highly skilled providers to our state, and decreases cost to the public by increasing competition which helps maintain a reasonable cost structure for the public. This board is obligated to make choices that build a highly skilled network of optometrists for our patients.

Public safety of course is of paramount importance and is our first charge in considering scope expansion. The board of optometry has reviewed available studies regarding safety outcomes from states that have scope of practice that includes optometric procedures above those that Vermont currently allows. These studies show safety outcomes equivalent with those when performed by an ophthalmologist. Furthermore, these states have had no increase in insurance liability costs due to optometrists performing these procedures. For these reasons, we feel the evidence is compelling that these procedures are safe when performed by an optometrist trained to perform them. The outcomes of these studies demonstrate that the education of the optometrist in our Optometry schools and via advanced procedure courses is adequate in education.

For these reasons, the Vermont Board of Optometry firmly holds that it is in the best interest of the public to allow Vermont optometrists to practice at their fullest scope of training in order to provide increased access to high quality eyecare.

6. Adjournment

- Dr. Shippee moved to adjourn the meeting at 11:18 a.m. Dr. Bauman seconded the motion. Meeting adjourned.

Next Meeting Date – December 15th, 2023

Please check the office [website](#) for updates