



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 At the same time, there remain outdated, misguided, politically-influenced and even arbitrarily-drawn laws in the majority of states still imposing harsh burdens on patients by delaying or denying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. Eezzuduemhoi, "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 Upto 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 heterogenous 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.

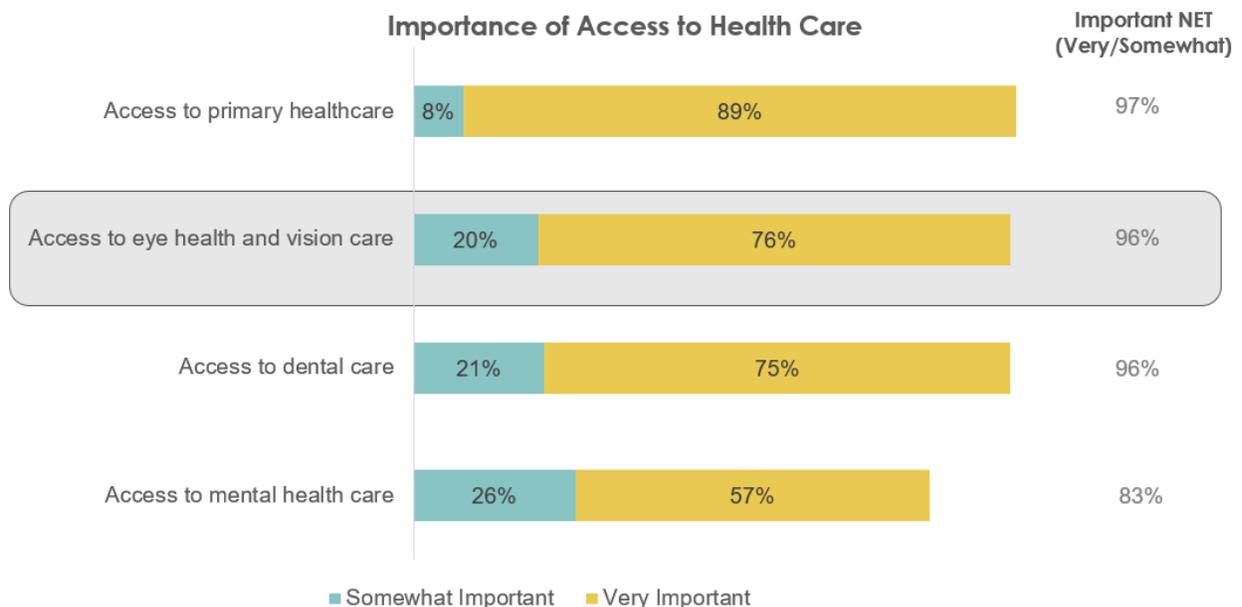
3.6. *Total Effects.* Taken together, transaction cost effects and health outcomes effects result in total estimated savings of \$4.6 billion per year. This is, of course, a conservative number, but each of the parameters used in its calculation are reasonable at face value based on the existing literature. 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.

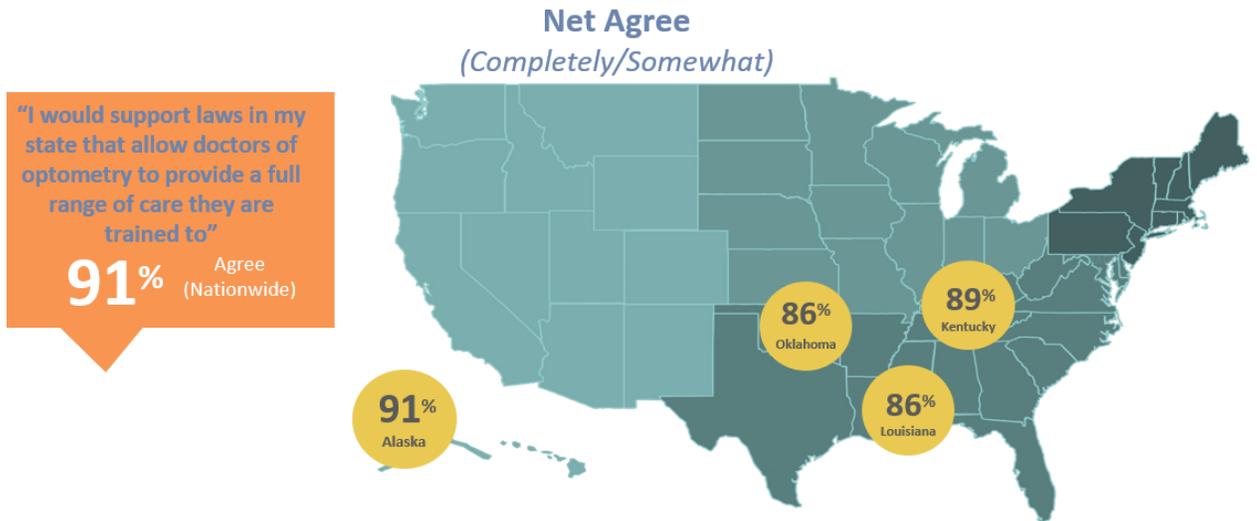
4.2. Remarkably, nearly every voter nationwide considers having access to eye health and vision care, for themselves and their family, a priority; three quarters of voters consider access to eye health and vision care *very* important (76%) while 96% say it is either very or somewhat important (Figure 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



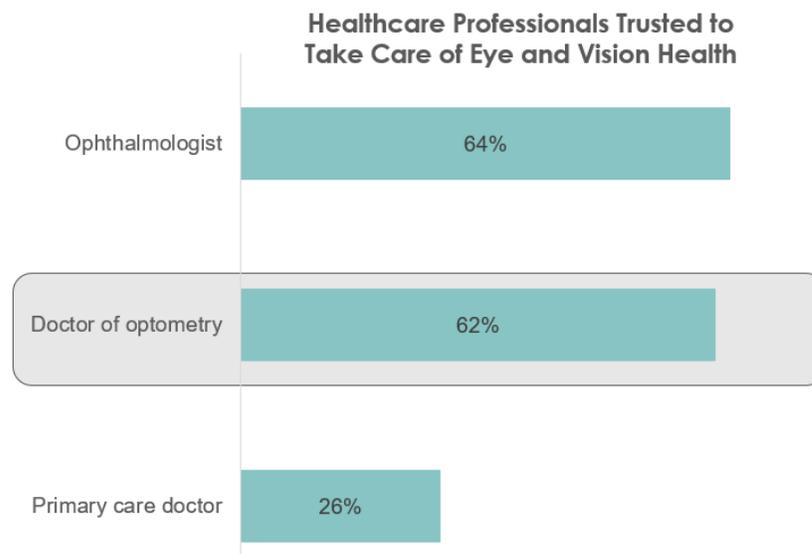
4.3. Nine out of ten voters nationwide support laws that allow doctors of optometry to provide a full range of care. This sentiment is shared among voters residing in Alaska, Oklahoma, Louisiana, and Kentucky. (Figure 4-2).

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



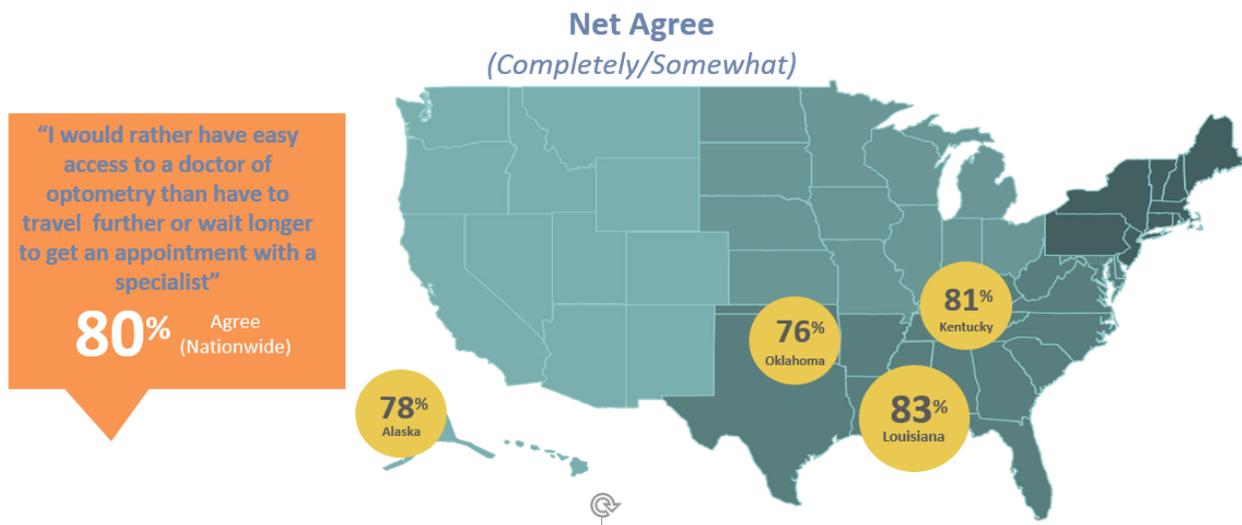
4.4. Trust in doctors of optometry is high with nearly two thirds of voters saying they trust a doctor of optometry to take care of their eye and vision health as compared to only a quarter of voters who trust their primary care doctor with their eye health (Figure 4-3). This high level of trust in doctors 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.

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

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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:

I — 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 underline]:

"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.

Acknowledgements

I would like to thank Drs. David A. Cockrell, Jerald F. Combs, Steven A. Loomis, and Christopher J. Quinn for their careful and thoughtful review of this paper prior to submission. I would like to extend a very special thank you to Thomas E. Eichhorst, JD for the extensive time he spent reviewing the facts and tenor of this paper prior to submission. It was under Mr. Eichhorst's learned 38 year watch as American Optometric Association Counsel and Director of State Government Relations that the successful efforts by the affiliated associations to expand and then further amplify optometric scope of practice into medical eye care, as well as my career in State Government Relations, began. I am grateful for the opportunity to have worked with Tom and for his extraordinarily gracious mentorship, support, guidance, and endearing friendship over the past 21 years.

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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



**SERVING
WITH
PRIDE**

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

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