

A HISTORY OF SCOPE EXPANSION IN OPTOMETRY AND ITS IMPACT ON THE PROFESSION

John F. Amos, O.D., MS, DOS

Dean and Professor Emeritus
UAB School of Optometry
Birmingham, Alabama
eyedoc@uab.edu

David A. Goss, O.D., PhD

Emeritus Professor of Optometry
Indiana University
dgoss@iu.edu
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ABSTRACT

The purpose of this article is to review the history of meetings held pertaining to the future direction of the profession, legislation passed, and other factors that have significantly impacted the scope of practice of the optometric profession over the past 55 years. Among the topics discussed are the various antecedent events that led to the decision to evolve from a drugless profession to a profession that embraced drugs and surgical procedures. Also discussed are such issues as changes in the optometric curriculum, nature of continuing education courses, type of research conducted both inside and outside of optometric institutions, improvement in interprofessional relations, personal and professional esteem, benefits to the public, and integration into the nation's health care system.

KEYWORDS

Practice of optometry, legislation affecting optometry, optometric education, types of legislation enacted, expansion of the scope of practice, federal entitlement programs, effects on the profession, integration into the American health care system, optometry history.

INTRODUCTION

During the 1960's and beyond, the profession began broaching the topic of including the use of drugs in the practice of optometry. For many years the profession had taken great pride in being a drugless profession. One of its early rallying cries was "A lens is not a pill".¹ Much of the attention of the profession in the last decade of the nineteenth century and the first two decades of the twentieth century was occupied with the organization of state associations and passage of legislation establishing the legal basis for the profession in every state, commonwealth, and territory. Although New York tried to pass the first optometry law in 1897, the first optometry licensure law was passed in Minnesota in 1901.² The 1920s and 1930s were occupied by efforts to address issues related to licensure and to improve the quality of optometric education and the organizations related to these issues.

During the first two years of the 1940s the country was concerned with the prospect of entering the war. From December 7, 1941, after Pearl Harbor was attacked by the Japanese, fighting World War II became the focus of the entire country. After four years of war, Germany finally surrendered on May 8, 1945, and Japan on September 2, 1945. Most members of the Armed Forces were home by the end of the year. However, during 1945, the American Optometric Association (AOA) attempted to establish an

Optometry Corp so that optometrists would enter military service as officers.^{3,4}

William P. MacCracken, Jr., Washington counsel for the AOA, convinced Congressman Dewey Short of Missouri to introduce legislation to create an Optometry Corp. The legislation was passed by Congress but vetoed by President Truman. It has been reported that the surgeon general of the Army persuaded Truman to veto the bill.³ MacCracken and AOA president William Ezell met with Truman to ask him to reconsider if the bill was reintroduced. Truman apparently indicated to them that the war was nearing an end, and it was not a time to create new officer branches, and that he had gotten a commitment from the War Department that they would pursue commissioning of optometrists in the regular Army.^{4,5} Commissioning of optometrists in the Army did finally occur two years later with the Military Reorganization Act of 1947.

In the latter years of the 1940s many returning veterans entered optometry schools and colleges attracted by the relatively short curricular length of the various programs at that time.^{6,7} Among the significant events in the history of the profession, at that time, was the graduation of these relatively young optometrists who established practices, many in rural parts of the country. The 1950s brought about the advent of contact lenses and the equipment necessary to properly evaluate the fitting and follow-up care of such devices.

EVENTS LEADING TO THE EXPANSION OF SCOPE OF PRACTICE

Grosvenor⁸ observed that the “traditional core” of optometry was refractive procedures, binocular vision testing, screening for ocular disease and ophthalmic lens dispensing. In the twentieth century, particularly after World War II, optometry broadened its scope of practice to include vision therapy, environmental or occupational vision, low vision care and contact lens fitting and care.⁸ But expansion into the use of pharmaceutical agents was a radical expansion of scope, and it was not entered into lightly. Optometry had established an important niche as providers of refractive and functional vision care, and many optometrists were proud of the profession’s heritage and standing as a drugless profession. Furthermore, it required the passage of legislation to establish its legality.

Albert Fitch and Efforts in Pennsylvania in the 1930s and 1950s

Remarkably the first legislative action to expand scope of practice occurred in 1937, led by Albert Fitch, founder and president of the Pennsylvania State College of Optometry (PSCO), later renamed Pennsylvania College of Optometry (PCO).⁹ Most optometry schools at that time operated on a physics/optics model; for example the optometry school at Ohio State was founded in 1914 as the applied optics curriculum in the Department of Physics.¹⁰ Fitch took a unique approach in operating PSCO on a biological model.¹¹ In his autobiography, Fitch recounted how the scope expansion bill he worked to have introduced into the Pennsylvania legislature appeared to be quite favorably accepted, but a physician member of the legislature was able to prevent its passage.¹²

Fitch continued to expand biomedical elements in the curriculum at PSCO. Graduates of the school became frustrated that they could not practice to the full extent of their education and training, and many of them became ardent supporters of expansion of scope.¹³ In 1958, the Pennsylvania Optometric Association passed a resolution that the optometry practice act should be amended “to permit the examination of the human eye without restriction as to method or procedure.”¹³ The leadership of the AOA was very much opposed to this due to concerns over the reaction of both their membership and political ophthalmology. Interprofessional relations with ophthalmology were then at a particularly low point.¹⁴

In 1961, a bill was introduced into the General Assembly of Pennsylvania that would allow optometrists to use pharmaceutical agents.¹³ The AOA leadership continued to be strongly opposed. In 1955, the AOA had passed a resolution that stated in part that “optometry has no desire to extend its practice to include any limited or other forms of medical eye care,” and in 1961, the AOA passed another resolution that included the exact same wording. The Pennsylvania bill failed due to strong opposition from organized medicine and from some optometrists in Pennsylvania.¹³

REASONS FOR MORE WIDESPREAD INTEREST IN SCOPE EXPANSION

A major reason for increasing interest in scope expansion stemmed from the fact that optometrists were widely distributed over rural areas, small towns and medium-sized towns, whereas ophthalmologists were more commonly found in large cities.

In the 1960s, optometrists in small towns had to refer patients with ocular diseases or injuries to ophthalmologists who were some distance away, or to the local general practice physician who didn’t have the proper equipment for viewing the eye, such as a slit lamp biomicroscope, or the knowledge of the eye that the optometrist possessed. It became evident that it would be a matter of convenience for patients and often better care if the optometrist could manage such conditions.

Another factor was related to the increase in pre-optometry requirements and the length of the optometry curriculum. By the early 1950s, pre-optometry requirements had increased to a minimum of two years of college or university study. Undergraduate courses and majors in biology were designed more for pre-professional study than were courses and majors in physics, so it became more common for pre-optometry students to be biology majors.

In the 1960s, the length of the optometry professional curriculum increased to four years at all optometry schools. Some of that increase was in biomedical areas. A natural consequence of this increased study in biomedical areas, in both the pre-optometry curriculum and in the optometry curriculum, was increased interest in ocular disease. In addition, some individuals were frustrated that the length of study kept increasing without an increase in professional responsibility.

With the soaring interest among patients in contact lenses in the 1950s and 1960s, most optometrists added contact lens fitting to their practices. This resulted in the incorporation of additional equipment, such as slit lamp biomicroscopes, increased study of ocular physiology, and increased comfort with touching ocular structures.

It was also in the 1960s that the profession experienced rapid progress in several notable ways. The schools and colleges of optometry received significant federal financial support for construction of and renovation of physical facilities from the Health Professions Educational Assistance Act. Optometrists were entering the military as commissioned officers; the doctor of optometry degree became the standardized professional degree for all U. S. schools and colleges of optometry; public acceptance of optometry was elevated to a higher level; and the income of the optometrist rose to an acceptable level as a health care provider.¹³

DEBATES AND MEETINGS DISCUSSING SCOPE EXPANSION

By the mid-1960s there was still great concern over the wisdom of scope expansion, but there was at least enough interest that it had become a topic of serious discussion. The first official meeting sponsored by the AOA debating the issue was the Conference on Optometric Practice held in French Lick, Indiana, in April 1966. Speaking in favor of the optometric use of pharmaceutical agents was Dr. Harold Fisher, of New York City. Fisher had been president of the American Academy of Optometry from 1947 to 1948 and a charter member of the National Board of Examiners.¹⁵ Speaking against drug use in optometry practice was Dr. H. Ward Ewalt, Jr., of Pittsburgh. Ewalt was AOA president from 1962 to 1963; according to Newcomb, “in the period from 1940 through 1971 almost nothing of consequence within the profession took place without Dr. Ewalt’s active involvement.”¹⁶

Another AOA-sponsored meeting at which scope expansion was discussed was the Conference on Optometry's Role in Health Care, commonly called the Airlie House Conference, held in Warrenton, Virginia, on February 10-12, 1969. The purpose of the meeting was to formulate recommendations to present to the AOA Board of Trustees.¹⁷ Dr. Melvin Wolfberg, AOA president-elect, was the conference coordinator. The 18 conference participants selected by the AOA included optometry school deans, former AOA presidents, and other optometry leaders. Thirty observers also attended. A large majority of the 78 recommendations drawn up by the participants had unanimous consensus. The two recommendations dealing with diagnosis of ocular disease and use of drugs by optometrists were not unanimous. The recommendation that the "role of optometry includes the detection and diagnosis of ocular disease and ocular manifestations of systemic disease to assess need for referral" had six objections. The recommendation that "optometry should move as rapidly as possible toward the use of drugs for optometric purposes (defined as excluding therapeutic use of drugs)" had four objections and one abstention.¹⁸

Arguments made in such meetings and in other forums in favor of the use of pharmaceutical agents could be summarized as follows: (1) greater convenience for patients because optometrists have wider geographical distribution; (2) making a wider range of diagnostic tests possible; (3) less loss of patients to practitioners to whom referrals were made; (4) counteracting criticism from ophthalmology that optometry did not use drugs; (5) better government recognition as a health care provider; (6) solidifying optometry's role as an entry point into the eye care system, or in a term then becoming more common, a primary care practitioner; (7) increased likelihood of inclusion in the health promotion efforts of big drug companies; (8) improved collegial relationships with other health care providers, such as general practice physicians, dentists, etc.; and (9) a logical next step in increased professional responsibility given the length of the optometry educational curriculum.^{13,19-23}

Arguments used by optometrists who were opposed to scope expansion to include drugs could be summarized as follows: (1) possible weakening of optometry's existing leadership in areas such as refraction, binocular vision and contact lenses; (2) possible loss of optometry's important niche in health care and its identity; (3) need for additional equipment and training; (4) possible negative effect on relationship with organized medicine; (5) ocular disease being less common than refractive and functional vision disorders, optometry doesn't need additional responsibilities; (6) emphasis of optometry's quality of care and cost effectiveness is more important than wider scope of practice; and (7) possible increased risk of malpractice.^{19,24-26}

The LaGuardia Conference

Chronologically between the 1966 Conference on Optometric Practice and the 1969 Airlie House Conference, but more assertive in its conclusions and of greater consequences for the profession, was a meeting organized by Dr. Alden N. Haffner, Director of the Optometric Center of New York. Because the meeting was held at a hotel near the LaGuardia Airport, it has come to be known as the La Guardia Conference. This meeting was held over two days, January 16-17, 1968, and was not sponsored by,

associated with, authorized by, or publicized by the AOA or any other organization.²⁷⁻²⁹ Dr. Haffner selected the invitees with the understanding they did not represent any optometric organization and would fund all their expenses related to the meeting. Haffner recalled that he invited "smart people with balanced views, ... open minds, ... who are committed to progressive optometry."²⁸ There is some discrepancy concerning the number of attendees. One source identified nine attendees,²⁷ but another said there may have been more than that.²⁸ Most of those attending were optometry school deans and faculty.

The first question addressed at the LaGuardia Conference, whether optometry should expand its scope to include the use of drugs for diagnostic and therapeutic purposes, was answered in the affirmative. During the remainder of the meeting, it was decided that optometric education should play a leadership role in scope expansion efforts by increasing curricular coverage of biomedical material and be prepared to offer the necessary extensive continuing education courses for practicing optometrists.^{13,27}

Although debates on the wisdom of scope expansion continued into the 1970s, by then increasing numbers of optometrists supported it; schools and colleges of optometry were increasing curricular coverage of pharmacology, histopathology and ocular disease; and optometric leaders in various states were launching efforts to amend practice laws. Some of the main meetings and groups where scope expansion was discussed are listed in Table 1.

Table 1. Meetings and groups in the 1960s and 1970s where scope expansion was discussed.

- The **Conference on Optometric Practice** was held at French Lick, Indiana in April 1966. There were 18 invited participants selected to represent as many groups as possible. One of the subjects chosen for discussion was "The Use of Drugs in Optometric Practice." This meeting was the first occasion where the AOA "officially" discussed the drug issue.
- The next meeting of consequence was the "unofficial" meeting at LaGuardia Airport. Known as the **LaGuardia Meeting**, it was held at a nearby hotel on January 16-17, 1968. The few optometrists who were invited to attend this meeting represented no organization and paid their own expenses.
- The **Conference on Optometry's Role in Health Care** was held at Warrenton, Virginia, February 10-12, 1969, and is more commonly referred to as the **Airlie House Meeting**. Approximately 50 individuals attended this meeting. Dr. Melvin Wolfberg served as the Conference Coordinator and General Chairman.
- **Ad Hoc Committee on the Scope of Practice:** Based on what he had heard and learned during the Airlie House conference, Dr. Wolfberg, during his term as AOA President in 1969-70, appointed a three-member committee charged with the responsibility to conduct a

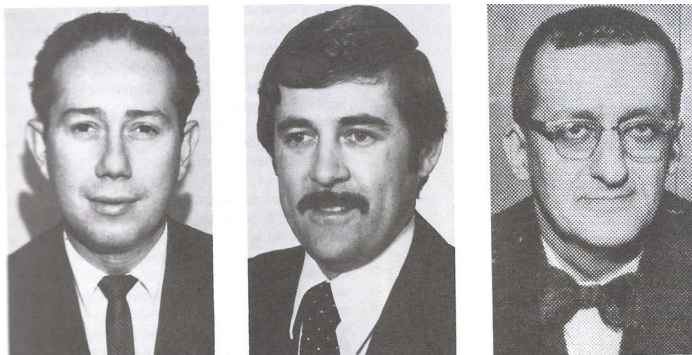
confidential study on the use of drugs by optometrists for the detection of ocular disease. The report was submitted to the AOA Board of Trustees in June 1970. Variations of this committee continued for five more years.

- The **National Optometric Conference** was convened by the AOA in early January 1972. The first three days of the conference dealt entirely with state optometry laws. Due to the emotional nature of the subject within the profession, objective appraisal and due consideration were necessary in each state followed by careful planning in the event the association decided to proceed.
- The **Future of Optometric Practice** meeting was convened in January 8, 1975 at Tucson, Arizona. Approximately 60 individuals attended, representing many diversified elements, philosophies, organizations, and other invited guests, many from medicine. This meeting was viewed by some as the key coordination activity that provided specific direction and a needed catalyst.

THE BEGINNING OF EFFORTS TO PASS LEGISLATION AUTHORIZING THE USE OF DIAGNOSTIC PHARMACUETICAL AGENTS

Haffner’s Address to the New England Congress of Optometry

At the LaGuardia Conference, attendees agreed that Dr. Alden N. Haffner should make scope expansion a significant part of the Keynote Address that he was to deliver at the New England Congress of Optometry on March 17, 1968. The title of his address was “The Evolving Health Care System in the American Democracy’s Welfare State and the Potential Role of the Profession of Optometry.”³⁰ In attendance at this meeting were Drs. Morton Silverman, David Ferris, and Richard Albert, three optometrists from the state of Rhode Island. Dr. Haffner’s address served to excite and inspire these optometrists and through them the collective imagination of optometrists in their state association and beyond.



Leaders of the Rhode Island diagnostic drug legislation effort were, left to right, Drs. Morton W. Silverman, David W. Ferris, and Richard I. Albert.

Rhode Island Introduces Legislation

Bills authorizing the specific use of drugs for diagnostic purposes by optometrists were introduced in the Rhode Island legislature, during both the 1969 and 1970 legislative sessions, but neither passed either chamber.²⁰ In 1971, Bill H 1517 was introduced early in the House session. After several amendments its formal designation was now H 1517, Substitute “A”. This amended bill passed the House on June 4, 1971, by a vote of 31-26. A companion bill was introduced in the Senate about the same time but became entangled in other legislation but eventually passed the Senate on July 14, 1971; it was signed by Governor Frank Licht on July 16, 1971.²⁰

The Rhode Island law was challenged twice in Superior Court and once in the State Supreme Court by ophthalmology but ultimately optometry prevailed. However, some confusion existed regarding the role of the chief of pharmacy, state department of health, in the examination process, specifically how the Rhode Island Board of Optometry would be certified. Ultimately, it was decided by the director of the state health department that the chief of pharmacy would accompany the board of optometry to Boston for the examination.²⁰

Finally, on August 15, 1973, members of the Rhode Island Board of Examiners were tested by faculty from the New England College of Optometry on basic and ocular pharmacology. On passage of the examination, they were duly certified to use drugs for diagnostic purposes. With the final ruling of the supreme court released on March 27, 1974, the optometrists of the state began in earnest the process of passing the examination and receiving certification for the use of drugs for diagnostic purposes. This untimely delay was the result of there not being language in the law describing how the members of the board of examiners would be certified. Thus, Rhode Island became the first state to pass a law that specifically authorized optometrists to use drugs for diagnostic purposes.²⁰

Other States with Favorable Attorney General Rulings

It should be noted that at this time, 10 state optometry practice acts did not expressly prohibit the use of drugs. Indiana (1946), New Jersey (1968) and Florida were the only three states that had authority to use drugs for diagnostic purposes by virtue of attorney general rulings.^{13,31-34}

Each state that passed such legislation has a unique story on how their legislation was passed or received attorney general approval. Perhaps no state exemplifies these challenges more than those of the Alabama Optometric Association (ALOA).^{13,31-34} On November 14, 1975, a new optometry practice act was approved by Governor George Wallace. After four attorney general (AG) rulings, two rulings against the use of drugs for diagnostic purposes and two favorable opinions, the law was upheld on November 12, 1982.³⁵ The last ruling was greatly assisted by the ALOA’s legal counsel Mr. Truman Hobbs, meeting with the AG’s office, to explain the nuanced difference between using these drugs for only diagnostic purposes as opposed to therapeutic purposes. This seven-year period occurred primarily because of the opposition’s firm control of the Alabama legislature.³⁵

When DPA Legislation was Enacted by State

A list of states, territory, district, or commonwealth and when each enacted diagnostic pharmaceutical agents (DPA's), either by the enactment of legislation or AG ruling, is presented in Table 2.^{13,33}

Table 2. Diagnostic pharmaceutical agent legislation by date of enactment.

1. Indiana	July 17, 1946, * (AG Opinion)
2. New Jersey	May 22, 1968, † (AG Opinion)
3. Rhode Island	July 16, 1971
4. Pennsylvania	March 1, 1974
5. Tennessee	May 8, 1975
6. Oregon	May 20, 1975
7. Maine	June 24, 1975
8. Louisiana	July 6, 1975
9. Delaware	July 10, 1975
10. West Virginia	March 4, 1976
11. California	July 9, 1976
12. Wyoming	February 17, 1977
13. New Mexico	March 4, 1977
14. Montana	April 12, 1977 (10:10 am)
15. Kansas	April 12, 1977 (2:00 pm)
16. North Carolina	June 3, 1977
17. Kentucky	March 29, 1978
18. Wisconsin	April 29, 1978
19. Nebraska	February 13, 1979
20. South Dakota	March 15, 1979
21. Utah	March 21, 1979
22. North Dakota	March 22, 1979
23. Arkansas	April 2, 1979
24. Nevada	May 25, 1979
25. Iowa	June 8, 1979
26. Georgia	February 14, 1980
27. Arizona	April 25, 1980
28. Idaho	March 23, 1981
29. Oklahoma	April 6, 1981
30. Washington	April 23, 1981
31. Missouri	July 24, 1981
32. Texas	August 5, 1981
33. Minnesota	March 8, 1982
34. Mississippi	March 17, 1982
35. Alabama	September 30, 1982, † (AG Opinion)

36. Territory of Guam	December 28, 1982
37. Virginia	February 25, 1983
38. Colorado	June 10, 1983
39. New York	July 15, 1983
40. Ohio	March 15, 1984
41. South Carolina	March 21, 1984
42. Michigan	March 26, 1984
43. Vermont	April 23, 1984
44. Illinois	September 15, 1984
45. New Hampshire	June 6, 1985
46. Hawaii	June 12, 1985
47. Massachusetts	December 23, 1985
48. District of Columbia	March 25, 1986
49. Connecticut	April 2, 1986
50. Florida	July 10, 1986, ‡
51. Alaska	May 25, 1988
52. Maryland	January 13, 1989
53. Commonwealth of Puerto Rico	August 15, 1999

AG, Attorney General

*General legislation, favorable attorney general opinion. Legislation that would have prohibited pharmaceutical use was defeated. Appeal from dismissal of litigation that would have prohibited pharmaceutical use denied by state supreme court, February 27, 1986. Clarification legislation was adopted on May 13, 1991.

† General legislation, favorable attorney general opinion.

‡ Previous favorable attorney general opinion, specific legislation enacted in 1986.

Listing of DPA legislation compiled by the State Government Relations Center, American Optometric Association, St. Louis.

Regardless of the method of enactment, the time span for all states, the District of Columbia, the Territory of Guam, and the Commonwealth of Puerto Rico, to enact DPA legislation was 53 years. The time span for the enactment of legislation for specific authorization for the use of DPAs was from 1971 to 1999 or 28 years. If this time is restricted to states beginning with Rhode Island in 1971 and ending with Maryland in 1989, then the period is 18 years. However, as Cooper has pointed out, considering the varying opposing interests, both external and internal to the profession, as well as the various legislative and political hurdles to be overcome in 51 separate jurisdictions, this time was relatively short.³⁴ Considering the 123-year history of optometry as a legislated profession it is a remarkable achievement.

LEGAL RESPONSIBILITIES OF THE OPTOMETRIST

Preceding and after the Rhode Island victory, there were several important legal decisions that had been or would be decided that affected the profession. It is unlikely these legal decisions

were widely understood within the profession. Classé and others have made the consequences of these decisions known to the profession.^{36,37}

History of Duty to Refer, Product Liability, Diagnosis of Disease and Standard of Care

Duty to Refer

The first case involving an optometrist in malpractice litigation was decided in 1939 in Birmingham, Alabama. A patient sued an optometrist and his employer, a jewelry store, for negligence. The patient lost the case but on appeal to the Alabama Supreme Court the court affirmed the decision in favor of the defendant doctor. The court noted the state optometry practice act did not require, or even authorize, the diagnosis and treatment of eye disease by an optometrist and that there was no evidence to establish that the glaucomatous condition of her eyes should have been detected by a skillful optometrist in the performance of his professional duties.³⁶

However, the court established several important guidelines to be applied in future cases: 1) expert testimony would be necessary to determine the standard of practice expected of an optometrist; 2) under this standard an optometrist could be held responsible for the detection of disease; 3) if disease were detected, an optometrist was required to refer the patient to the appropriate practitioner for treatment.³⁶

It is difficult to know how much immediate effect these guidelines had on the practice of optometry. By the 1960s the number of negligence cases were beginning to increase. By the 1970s and 1980s there were sufficient cases that Classé reviewed 50 malpractice claims.³⁸

Product Liability

Optometrists are also responsible for product liability in situations where they sell spectacle lenses and frames and contact lenses. Interestingly, the first reported case discussing this application of the law also arose in Alabama in 1939. In this case a patient was examined by an optometrist and fitted for glasses. Approximately two months later, while wearing the glasses, she tripped and fell down the steps of her home and severely injured herself. She sued the department store for damages, alleging the glasses had been negligently fitted and were not suitable for the purpose for which they had been sold. The trial court dismissed her claim.

The patient appealed to the Alabama Supreme Court, and in discussing the basis for the woman's claim, the court observed that whenever a buyer makes known to a seller of goods—either expressly or by implication—the particular purpose for which the goods are required, and relies on the seller's skill and judgment as to their selection and suitability, there arises an implied warranty that the goods are reasonably fit for the purpose for which they are sold. The court held that this implied warranty of fitness could be applied to the glasses sold by the optometrist and to the optometrist's employer. The decision of the trial court was reversed, and the case remanded for further disposition.³⁶

The legal theory on which this case was based—warranty—is still applicable to situations where the glasses are sold through a

dispensary within the practice, a separate dispensary or optical shop.³⁶ The preponderance of professional liability claims involves ophthalmic materials. In the past, most of these claims were due to injuries from spectacle lenses and frames, but today with the advent of hard resin spectacle lenses, the largest cause of litigation is contact lenses. The legal theory most used to sustain these claims is malpractice–negligence—which requires evidence the optometrist did not conform to the standard of care. However, the optical laboratory, lens manufacturer, or the optometrist may also be liable for the fitting or dispensing of unsafe ophthalmic lenses.³⁶

Diagnosis of Disease

It is not known 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”. It is possible that some earlier state law may have included language that addressed the responsibility of the optometrist to diagnose but to make such a determination would require an in-depth review of earlier version(s) of each state law. So, as Cooper has stated, which state law first established the legal duty of optometrists to “diagnose” may be lost to history.³⁴

In 1941, a Georgia optometrist was sued for not utilizing a cycloplegic drug to examine the patient and rendering the correct prescription. After being examined by an ophthalmologist who did use a cycloplegic, the optometrist was sued by the patient for malpractice. At trial the ophthalmologist testified that it was not possible to render a correct prescription without the use of a cycloplegic agent. Even though Georgia law did not allow the use of drops by optometrists, the court relying on the testimony of the ophthalmologist found the optometrist liable.³⁶

The Rhode Island law passed in 1971 defining optometry and optometrists states, among other functions, an optometrist can perform “the examination or diagnosis of the human eye to ascertain the presence of abnormal conditions or functions.”³⁶ This may well be the first specific statutory reference to “diagnosis” and is included in the first state law to specifically authorize optometrists to utilize diagnostic pharmaceutical agents.

Perhaps the first precedent-setting court ruling occurred in Louisiana in 1977 when an appellate court overruled a trial court verdict. This case involved an optometrist attributing a patient's vision loss to cataract even though he made the diagnosis without the use of dilating drops. Two months later the patient was found to have retinal detachment and despite two surgeries she was unable to regain normal vision. She sued the optometrist and the HMO, alleging that he was negligent in failing to diagnose the retinal detachment. The trial court awarded a judgment in the optometrist's favor. The woman appealed and the Louisiana Court of Appeals reversed the trial court, finding—among other things—that the optometrist had undertaken the diagnosis of a medical condition, cataract, and that consequently he should be held to a medical standard of care, which required dilation to confirm the diagnosis. The failure to employ dilation—just as a physician would have done—to rule out the presence of a retinal detachment constituted negligence, in the court's opinion, and justified the awarding of damages to the patient.³⁷

With the authorization to use drugs for diagnostic purposes it was clear that failure to diagnose would be a major factor

in lawsuits involving optometrists. In a case where a disease was not correctly diagnosed, if the optometrist had utilized the proper procedure, such as pupillary dilation with binocular indirect ophthalmoscopy, attempted visual fields, and attempted to determine the cause of reduced visual acuity, but failed to communicate important information, then chances of being found at fault would be less likely.³⁸

The last state to include “diagnosis” in its optometry law was Vermont. On May 11, 2004, Vermont Senate Bill 54 was enacted. This 2004 act amended the law to include specific language of “diagnosing” as opposed to “ascertaining” or “detecting”. This enactment 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.³⁴

Standard of Care

Over the years the rules of evidence have become more liberal, and physicians have been allowed to testify as to the standard of care to be applied to optometrists. If a medical standard of care is to be applied to the conduct of optometrists, a significant body of evidence becomes available for use in optometric liability cases. Some states have adopted by statute a medical standard of care for optometrists. It may even be argued that court decisions involving physicians have influenced the practice of optometry. By this time there are many examples where such is the case.³⁶

EFFORTS TO FURTHER EXPAND THE SCOPE OF OPTOMETRIC PRACTICE

Events that preceded the passage of therapeutic drug legislation serve to provide some perspective on legislation that surprised many, if not most, in the profession. Wolfberg and Cooper have provided background information that serve to illuminate these events.^{13,34} Perhaps of most relevance to this topic was the “Futures Conference” held in Tucson, Arizona in January 1975.¹³ During this conference speakers both for and against expanding the scope of practice spoke to those in attendance.

Although no motions were allowed at this conference, several recommendations were made. The AOA Board of Trustees acted on each of these recommendations at a meeting following the conference. Of unusual significance was a recommendation that read, “That the profession take no position that would limit the scope of optometry, but maintain, develop, and pursue its options in the health field.” This statement was officially approved by the AOA Board on March 12, 1975.¹³ This conference came to be viewed as being the key coordinating activity that provided specific direction and the needed catalyst to move the profession towards the expansion of scope of care.¹³

Education of Legislators

An earlier activity that had a direct bearing on subsequent expansion of scope legislation was a joint program of the Southern College of Optometry (SCO) and the Southern Council of Optometry (SoCO). After much discussion an agreement was reached calling for a program whose purpose was to educate legislators in the 12 Southern Regional Education Board (SREB) states on the optometric use of drugs. This program brought approximately 100 guests from the 12 states to the college campus each year for some 10 years.¹³

Optometrists in the Military During the Vietnam Conflict

Another factor that served as an impetus for expansion of scope was the experience received by optometry officers in the military during the years of the Vietnam conflict and beyond. From approximately 1965 to 1975, optometrists stationed in Vietnam, various theaters around the world, and in the United States, were often the only source of eye care available to those eligible for such care. These experiences provided insight to those hundreds of optometrists who served during these years and after, that the delivery of medical eye care by optometrists was possible.^{13,39,40} While not well-documented, the use of drugs for diagnostic or therapeutic purposes by optometrists was not uncommon during this time and until it was officially sanctioned by the military. However, such use was usually, if not always, authorized at the local level.

McAlister et al. in their review of military optometry from World War I to the present, discussed the issue of scope of practice. Before the use of drugs by optometrists was sanctioned by the various branches of the U.S. military, many optometrists gained experience “under medical supervision.” This usually meant that an ophthalmologist was not at that duty station, away on another assignment, or another physician was comfortable with the optometrist using DPAs. The Army officially allowed the use of DPAs by optometrists in 1981 and TPAs were authorized by the Army, Air Force and Navy in 1983, 1985, and 1988, respectively.⁴⁰



Leaders of the effort to pass therapeutic drug legislation in West Virginia were, left to right, Drs. David John Janney, Walter S. Ramsey, and John E. Casto.

WEST VIRGINIA EFFORT TO PASS TPA LEGISLATION

In 1975, West Virginia Optometric Association (WVOA) President David (John) Janney and President-Elect John Casto made the decision to pursue legislation that would expand the scope of care in West Virginia.¹³ The WVOA Executive Board along with their executive secretary/attorney drafted a bill authorizing optometrists to use pharmaceutical agents to treat any infirmity of the eye. The bill was introduced in both houses of the West Virginia Legislature during the first week of the session in January 1976. It was sponsored by the senate president and the House Judiciary Committee chairman.¹³

The legislature passed House Bill 1005 in late February 1976; however, it was vetoed by the Governor. Aware that only a simple majority of votes were needed to override a veto, the optometrists were undaunted and achieved votes of 50-39 in the House and 27-6 in the Senate, thereby attaining a significant milestone in optometric history.¹³

A list of states and when the states enacted therapeutic pharmaceutical agents (TPAs) either by the enactment of legislation or AG ruling is presented in Table 3.^{13,33,34} It should be noted that due to the demographic of optometrists practicing, either full-time or part-time, in most counties of almost every state, the profession realized the practical benefit this afforded it in legislative matters.

Table 3. Therapeutic pharmaceutical agent legislation by date of enactment

1. West Virginia	March 4, 1976
2. North Carolina	June 3, 1977
3. Indiana	*
4. Oklahoma	March 22, 1984
5. New Mexico	April 5, 1985
6. Iowa	May 31, 1985
7. Rhode Island	June 26, 1985
8. Kentucky	February 7, 1986
9. South Dakota	March 15, 1986
10. Nebraska	March 26, 1986
11. Missouri	June 24, 1986
12. Florida	July 10, 1986, †
13. Wyoming	March 2, 1987
14. Arkansas	March 3, 1987
15. Idaho	March 31, 1987
16. North Dakota	April 10, 1987
17. Kansas	April 17, 1987
18. Tennessee	April 22, 1987
19. Montana	April 23, 1987
20. Maine	June 25, 1987
21. Georgia	February 25, 1988

22. Virginia	April 11, 1988
23. Colorado	April 20, 1988
24. Washington	April 18, 1989
25. Wisconsin	August 3, 1989
26. Utah	March 20, 1991
27. Texas	June 15, 1991
28. Oregon	August 9, 1991
29. New Jersey	January 16, 1992
30. Ohio	February 15, 1992
31. Connecticut	May 27, 1982
32. Alaska	June 11, 1992
33. Arizona	April 6, 1993
34. Minnesota	May 11, 1993
35. South Carolina	May 14, 1993
36. Louisiana	June 1, 1993
37. New Hampshire	June 29, 1993
38. Mississippi	April 7, 1994
39. Vermont	June 20, 1994
40. Delaware	June 30, 1994
41. Michigan	December 29, 1994
42. Guam	April 22, 1995
43. Maryland	May 25, 1995
44. Alabama	June 20, 1995
45. Nevada	June 29, 1995
46. Illinois	July 14, 1995
47. New York	August 2, 1995
48. California	February 20, 1996
49. Hawaii	June 24, 1996
50. Pennsylvania	October 30, 1996
51. Massachusetts	July 31, 1997
52. District of Columbia	April 22, 1998

AG, Attorney General.

*General legislation, favorable attorney general opinion. Legislation that would have prohibited pharmaceutical use was defeated. Appeal from dismissal of litigation that would have prohibited pharmaceutical use denied by state supreme court, February 27, 1966. Clarification legislation was adopted on May 13, 1991.

† Previous attorney general opinion, specific legislation enacted in 1986.

Listing of TPA legislation compiled by the State Government Relations Center, American Optometric Association, St. Louis.

The information provided in Table 4 serves to clarify how the states of Florida, Indiana, and New Jersey enacted legislation to establish prescriptive authority beyond favorable attorney general opinion. The legislation in the states of West Virginia and North Carolina clearly included both diagnostic and therapeutic authority on passage of their original legislation.³⁴

Table 4. States where diagnostic and therapeutic prescriptive authority* were enacted in the same legislation.

1. Florida	July 10, 1986 **
2. Indiana	May 13, 1991 **
3. New Jersey	January 16, 1992 **
4. North Carolina	June 3, 1977
5. West Virginia	March 4, 1976

*Some states went on later 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 the time.

Several other iterations of legislative enactment were utilized to achieve prescriptive authority either in whole or part. For example, Alabama, North Carolina, Utah, and Wisconsin all obtained full prescriptive authority in their initial law. Many other states, however, were able to secure inclusion of drugs for glaucoma, steroids, oral medications, controlled substances, and injectables in a more piecemeal fashion.³⁴ This approach is continuing to occur.

The latest example of such an approach is authorization for the use of lasers for certain procedures in the treatment of specific eye diseases. Currently 12 states, some 24% of the 50 states, enjoy such authorization (Table 5). It seems likely that based on the increased

Table 5. States where the use of lasers for certain therapeutic purposes are authorized.

1. Oklahoma	March 16, 1998, †
2. Kentucky	February 24, 2011
3. Louisiana	June 1, 2014
4. Alaska	July 26, 2017, ††
5. Wisconsin	February 3, 2018, †††
6. Arkansas	March 27, 2019
7. Indiana	May 23, 2019, ††††
8. Mississippi	March 17, 2021
9. Wyoming	April 2, 2021
10. Virginia	March 9, 2022
11. Colorado	June 7, 2022
12. South Dakota	March 5, 2024

† In 2004, Oklahoma expanded their scope of practice to include laser assisted and minor surgical procedures of the eye and adnexa as long as the surgeries do not penetrate Tenon's capsule or involve treatment of the retina.

†† According to regulations promulgated by the Alaska Board of Optometry.

††† The optometry law enacted in 1990 contained language that permitted advanced procedures including lasers. Laser use was approved by the Wisconsin State Board of Optometry on the date listed above but not added to the AOA list of states that permit such use until October 2023.

†††† An individual ophthalmologist, filed a complaint with the Indiana Attorney General regarding the authorization for the use of lasers by optometrists. The Attorney General ruled in favor of the optometrists, May 23, 2019."

frequency of the enactment of such legislation more states will follow suit.

OPTOMETRY - MEDICARE AND MEDICAID

Background for Enactment

The federal entitlement programs known as Medicare and Medicaid were signed into law on July 30, 1965, by President Lyndon B. Johnson. These programs are amendments to Social Security law but are popularly known as Medicare and Medicaid. Medicare is a health insurance program for the elderly, and Medicaid, a health insurance program for people with limited income. Medicare was to be funded by the federal government and Medicaid by state and federal sources. These programs were to be funded by a tax on the earnings of employees, matched by contributions by employers, and were well received. In the first three years of the program, nearly 20 million beneficiaries enrolled in it.⁴¹

Debate over such a program began some two decades earlier when President Harry Truman sent a message to Congress asking for legislation establishing a national health insurance plan. At the time vocal opponents, primarily led by the American Medical Association, warned of the dangers of "socialized medicine." Later in his administration Truman had backed off a plan of universal coverage, but administrators in the Social Security system, and others, began to focus on the idea of a program aimed at ensuring Social Security beneficiaries, whose numbers and needs were growing, would receive some form of health care coverage.

The 1950 census showed that the aged population grew from 3 million in 1900 to 12 million in 1950 and by 1963 this same population grew to 17.5 million. Two-thirds of older Americans had incomes of less than \$1,000 annually, and only one in eight had health insurance. At the same time hospital care was rising at a rate of 6.7% a year and health care costs were rapidly outpacing growth in the incomes of older Americans. By 1960, it had become clear that private insurers were becoming increasingly incapable of providing comprehensive, affordable health care coverage to this rapidly growing population of older adults.⁴¹

Exclusion of Optometry from Medicare

As Irving Bennett has described, optometry was a drugless profession in 1965, and was proud of its heritage.⁴² Many of the leaders of the profession during the 1950s and 1960s did not envision optometry beyond what it had traditionally been, i.e., refraction, binocular vision, vision examination or screening, vision therapy, public health and contact lenses. Optometry was not in the mainstream of health care and there was significant opposition to the profession from organized medicine, especially from ophthalmology. Beyond this was the rising specter of socialized medicine and whether it would be advantageous for optometry. There was not much widespread interest in expanding the scope of practice at this time even though some optometrists had utilized drugs while they were in service during World War II and the Korean Conflict.⁴²

In 1965 dentistry had opted out of Medicare and officials in ophthalmology in a rare discussion with optometry, had convinced leaders in optometry that the same would be a good path for the profession to follow. Ophthalmology assured the optometry leaders that refractions and eyewear were not included in the Medicare legislation. Official optometry felt this was a good bargain and signed on to it. Only after the bill was passed by Congress and signed by the President did optometry realize it had been misled by ophthalmology.⁴²

The medical eye examinations, that ophthalmology claimed that it and only it performed, were covered by the Medicare legislation. Medical eye examinations could, of course, include refractions, but that relatively small portion was a non-covered Medicare service. At the time of the institution of Medicare, ophthalmologists required patients to pay out-of-pocket for the refraction portion of the visit. This amount was often approximately \$10 or so.⁴² The remainder of the examination, for which a substantial fee was charged, was paid for by Medicare. This situation placed optometry at a significant disadvantage.⁴²

Family optometrists found that many patients, especially older patients, were leaving their practices for those of ophthalmologists. Some ophthalmologists in 1965 dispensed eyeglasses in their practices so that patients and their families who came for medical eye examinations stayed for complete eye care including refraction and eyeglasses.⁴²

Between 1965 and 1987

For this 22-year period some optometrists saw a gradual diminution in their practices. Optometric refractive care through Medicare often involved only checking the refraction for no charge and a fixed dispensing fee for fitting eyewear for those patients with aphakia. Since the refraction fee had already been collected by the ophthalmologist the optometrist could not charge for this service. One positive aspect to optometric practices during this time was the steady growth in contact lens care, especially for younger patients.

It was also during this time that optometrists, especially those who had served in the military, began to seek expansion in the scope of optometric care. By 1987, almost every state had passed laws that authorized the use of diagnostic pharmaceutical agents and at least 20 states had enacted laws that authorized the use of some form of therapeutic agents for the treatment of eye

disease.¹³ The AOA made many attempts to get the Medicare bill changed to include optometry but did not welcome any outside interference from other organizations or groups regarding this activity.⁴²

However, during 1986 a unique opportunity arose in the process of Congress adopting an annual budget for 1987. As was the case for most years, a budget reconciliation committee was appointed consisting of 40 members of Congress, some from the House and some from the Senate. It was during this time that members of the committee would compromise to get something they wanted included in the budget. It was also a time when "earmarks" were added to the budget bill and did not get the full vote of the House or the Senate. A unified budget suggested by the reconciliation committee is then submitted to the full House and Senate for an up or down vote, with no added amendments. Once adopted it goes to the President for signature or a veto. The president was not allowed a line-item veto.⁴²

A Fortuitous Meeting

Discussions that take place during the budget conciliation committee meetings are very confidential and not part of the public record. Dr. Irving Bennett reported a story he was told about the famous 1986 meeting that dealt with the 1987 budget. One of the 40 members of the committee was Rep. Barbara Mikulski (D-MD), a close friend of Dr. Egon Werthamer, then a member of the AOA Board of Trustees. Representative Mikulski was a relatively new member of Congress and eager to participate in the process. As was usually the case, the chair would ask each member what it would take for him or her to vote affirmatively on a unified budget report. When it came to Rep Mikulski, she promptly replied the "Optometry Leveling the Playing Field" amendment. "What the hell is that?", the chair reportedly asked. "It is a stipulation that eligible Medicare recipients would be allowed to choose what kind of eye care practitioner—optometrist or ophthalmologist—they could use to receive an eye examination and be covered under Medicare," Rep Mikulski responded.⁴²

When asked what that would cost by the chair she replied, "Not a penny more than what is allowed now." She continued "You see qualified Medicare recipients already have the benefit; this amendment allows them choice of to whom they go to for care." "Okay," said the chair, "You've got it!"

This meeting effectively ended 22 years of discriminatory law that excluded optometric care as part of the primary health care system. It should be noted that Dr. Bob Whitaker, an optometrist from Kansas who was elected to Congress, had made numerous efforts to get the "Optometric Leveling the Playing Field" bill adopted. Dr. Bennett recalled the bill had passed in the House once or twice only to be stopped in the Senate or perhaps vice versa.⁴²

Nevertheless, due to a friendship between an optometrist and his congressional representative, this discrimination was ended. The budget for 1987 contained a change in designation for optometrists as far as Medicare was concerned by including them as "physicians" and therefore, eligible for reimbursement for the services they could legally provide. Congress agreed to the budget on an up or down vote, and it was signed by President Reagan. This provision took effect on April 1, 1987.⁴²

It should be noted that while expansion of scope of care had a very positive impact on the profession, perhaps of equal or maybe even greater importance some might argue, was the inclusion of optometry in Medicare. Considering the growth of the aging population over the past 37 years, optometry's exclusion from Medicare would have been devastating to the profession.

Medicaid programs are administered by the states and, in general, optometry was included in these programs from their inception in each state. There have been some exceptions to this inclusion, most notably in Alabama where optometry was included for a year and one-half, then excluded for more than two years.⁴³ This resulted in a lawsuit being filed by three individual optometrists against the Medical Association of Alabama (MASA), the Alabama State Board of Health, 12 individual members of the State Committee of Public Health, and the director of the Alabama Medicaid program. The suit was filed April 8, 1974, and a settlement was reached on October 10, 1974. This resulted in Alabama optometrists being denied equal reimbursement from July 1972 until October 1, 1974.⁴³

OPTOMETRY IN THE VETERANS ADMINISTRATION

Background

Although the Veteran's Administration (VA) medical system has existed since 1930, it wasn't until 1946 that a few medical schools began affiliating with the VA. With World War II over, millions of men and women in the armed forces were returning to civilian life, many with continuing medical needs. President Truman asked General Omar Bradley to leave the Army and with a select number of like-minded colleagues, and members of Congress, especially those interested in the long-term welfare of veterans, to begin addressing these needs. Even then many changes had to occur in terms of amending United States Code, Title 38 that removed physicians and dentists from the Civil Service Commission and created a new, independent, VA Department of Medicine and Surgery. This allowed the VA to offer competitive salaries, make substantial changes to regulations, create new statutory authorities, and spend millions, and later billions of dollars, over many years to build facilities and modernize the VA after World War II.⁴⁴ This effort has continued unabated for the most part over the past 50 years. Veterans became more outspoken as to the quality of service, especially after the Vietnam Conflict and subsequent military involvement. The growth of optometry in the VA has been of invaluable assistance in providing timely, accessible eye care to veterans. It is a remarkable story of the profession's persistence in serving the needs of the country and its veterans.

First Optometrists in the VA

Optometrists were first placed on the staff of Veterans Administration hospitals in 1947. The number of positions created was not large, less than 10, and most, if not all, were part-time appointments. In 1957, some 10 years later, Public Law 85-96 was enacted which provided specific authority through United States Code, Title 38, for the employment of additional optometrists.⁴⁴

Subsequent legislation passed in 1958, Public Law 85-464, required VA optometrists to hold a valid license and have graduated from an accredited and approved United States

school or college of optometry. Another law, Public Law 85-857, accepted District of Columbia licensure for employment. In 1958, Public Law 85-462 and later in 1960 Public Law 86-598, were enacted which authorized optometrists to render care to eligible veterans for "medical services". The purpose of these enactments was to prevent optometrists from being excluded from providing such services since optometrists were not specifically included in the original 1946 law. As late as 1972 there were only nine optometrists among 182 VA hospitals and hundreds of outpatient clinics.⁴⁴

First Optometry Training Program Affiliated with the VA

Dr. Henry B. Peters, the first Dean of the University of Alabama in Birmingham School of Optometry (UABSO), was offered, on the recommendation of the Dean of the University of Alabama School of Medicine at UAB, an appointment as a member of the Dean's Committee of the Birmingham Veterans Administration Hospital (BVAH). This appointment was approved by the Chief Medical Director of the Veterans Administration Central Office (VACO). Dr. Peters quickly realized there existed a possible relationship with the VA and more specifically the BVAH. Both the University of Alabama Medical Center administration and the University of Alabama Medical School at UAB were most helpful in making sure UABSO would be among the best optometry schools in the U.S. and did much to assist Dean Peters.⁴⁵

Dr. Peters entered discussions with the VA for the development of a pilot optometry program during the 1970-71 academic year. The purpose of the program was to provide clinical training for fourth-year interns from the UABSO and optometric technicians from the Regional Technical Institute (RTI). These programs were to be in the BVAH. With the support of the UAB administration and the VA Allied Health Director, an affiliation was negotiated with the BVAH for a teaching clinic for optometry and faculty support.^{45,46} The proposal, developed by Dr. Peters and others, was submitted on October 18, 1971, and requested funds for renovation of existing space in the BVAH, purchase of equipment, and support for faculty and staff as well as stipends for the optometric technician students. The contract for the necessary remodeling was signed in November 1971 and supplemental information was submitted December 22, 1971, regarding the program.^{45,46}

Optometry Training Program Approved

As early as February 2, 1972, the Director of the BVAH was notified of the approval for affiliation and funding of the pilot program. In March 1972 Dr. Peters received word of approval of the proposal. The renovation and installation of equipment was completed by the end of December 1972 and patient care began early in January 1973.^{45,47,48} The establishment of this program was a watershed moment for the profession of optometry.

Many Notable Events in VA optometry

First Director of Optometry

Optometry in the VA has had many challenges but also many successes. In addition to the first training program in a VA hospital was the establishment of the director of optometry services as part of the Veterans Health Care Expansion Act. This act was signed by President Nixon on August 3, 1973. Dr. Kenneth Myers was

appointed as the first director in September 1974. Dr. Myers faced many challenges including no budget, office, staff, or positions to fill. Even his title, Director of Optometry Services, had been altered such that it did not include the word "Services". This omission resulted in a several year delay.¹⁹ Despite these obstacles, he eventually prevailed.^{44,48,49}

First VA Optometry Residency Program

The first accredited one-year optometry residency program was begun at the Kansas City VA in 1975 in affiliation with the Illinois College of Optometry. This important program came about because of the efforts of Drs. David Amos, Albert Lemoine, Alfred Rosenbloom, and Ken Myers. It had the strong support of Dr. Lemoine, the chairman of the University of Kansas Department of Ophthalmology, Dr. Rosenbloom, president of the Illinois College of Optometry, the Kansas City VAH, and the VACO.^{48,49}

Frustration of Veterans

In the VA of 1975, nationally there were several hundred ophthalmologists and several hundred ophthalmology residents to only eight or nine optometrists. This division of labor was much different than in the military and many health maintenance organizations (HMOs) where the ratio was two or three optometrists to one ophthalmologist. In the case of the Kansas City VA the clinic was small, with one part-time ophthalmology resident as its staff, and the equipment needed repair or replacement.^{49,50} At this point in time, it was not uncommon for the waiting time for an appointment to be several months or more. In some situations, the VA facility offered no eye care of any type. Veterans were frequently frustrated and expressed their concerns to their local congress men and women.

Veteran's Omnibus Health Care Act of 1976

The Veteran's Omnibus Health Care Act of 1976 finally placed optometry on the same plane as other health care providers. Congress added language, against the recommendation of the VA, to the bill that became Public Law 94-581 and addressed several important goals. It included a VA Optometry Service, placed optometrists in Title 38 of the U.S. Code, and directed the VA to appoint optometrists and create teaching affiliations with schools and colleges of optometry. It also created the prestigious Special Medical Advisory Groups (SMAG). Despite Congress's intent, agencies can stall, defer, or kill a congressional mandate. Very little was happening on the optometry front. As a result of this slow progress, in early Spring 1977, a joint American Optometric Association-Association of Schools and Colleges of Optometry (AOA-ASCO) Report was presented to the VACO, Department of Medicine and Surgery, offering detailed recommendations for Public Law 94-581. This was the first-time optometric education had added their support for integrating optometry care and teaching programs in the VA system.⁴⁸

SCCO Manpower Training Grant

In September 1976, the Southern California College of Optometry (SCCO) secured a seven-year manpower training grant. This grant was to be utilized to determine how resources were being allocated for eye care, including the use of optometrists in the VA. The grant had been available under Public Law 92-541.^{44,48} Monthly reports submitted by Dr. Gerald Selvin helped establish data for unmet eye care needs in the VA. This data proved of great

value in the ultimate development of the General Accounting Office (GAO) Report. In 1978, the GAO report using data from the AOA-ASCO Report issued its own report titled "The Role and Use of Optometry in the VA Need Improvement," making clear the documented resistance of ophthalmology and the lack of serious attempts by the VACO to implement the creation of an optometry service. Still the resistance continued until Sen. Alan Cranston, chairman of the Senate VA Committee, asked Sen. William Proxmire, chairman of the Senate Subcommittee on HUD-Independent Agencies to include a GAO report on whether the VA was implementing the optometry portions of Public Law 94-581. Finally, later that year funding was made available for the employment of 34 optometrists and the support of teaching affiliations.^{44,48}

Continued Resistance

Despite the efforts by optometry, organized ophthalmology and the AMA drafted Resolution #155 opposing employment and training of optometrists in VA hospitals and asked for repeal of PL 94-581. VA Chief Medical Director, Dr. Donald Custis, appeared before the AMA Congress and argued against the resolution. Dr. Custis, a former Navy Surgeon General, knew about the widespread use of optometrists in the military medical systems. As a result of his actions, this resolution was pulled but medical resistance continued.⁴⁴

Between 1976 and 1990 the optometry service experienced slow if steady growth. The VA remained a centralized system and funding was difficult to obtain. However, by the mid-1970's new approaches to administration were finally beginning to change. This was brought about because of changing health care demographics such as the aging of World War II veterans, the influx of veterans from the Vietnam Conflict, the Gulf Wars, and the Iraq and Afghanistan deployments. It was also hastened by new treatment techniques not requiring hospitalizations and the need for better surveillance of such chronic conditions as diabetes and hypertension.^{19,23} Finally, decentralization was occurring in the VACO, and funds were being allocated in a different manner than before. Greater authority had been transferred to each hospital and by the late 1980s and early 1990s it was evident that positions were being funded by decisions and needs that best fit local requirements.^{44,48}

Local Decisions

With the need to provide community outreach eye care and mandated treatment regimens that required annual eye examinations, along with the growth of ambulatory treatment centers, and greater emphasis on the value of quality eye care, the number of staff optometrists rapidly increased during the 1990s. There are now many more staff optometry positions than staff ophthalmology positions. The VA Optometry Service is now the largest optometry program in the U.S. The number of staff optometry positions as of September 2022 was 1,019, there were 213 residents, approximately 1,350 externs who receive excellent clinical education, and four fellows/post graduate optometry positions.⁵¹

Authorization to Use Lasers Restored

One final note regarding the impact of the VA experience is in lasers. In a memorandum dated December 17, 2004, the VA rescinded a five-month-old policy that permitted optometrists

to perform laser eye surgery at its health care facilities under the supervision of ophthalmologists. At that time Oklahoma was the only state in the nation that licensed properly trained optometrists to perform laser eye surgery. A VA panel with representatives from both professions was unable to reach an agreement on how this supervision would take place.⁵² However, on August 18, 2020, in an update to the Veterans Health Administration's (VHA) Eye and Vision Care policy the administration rescinded a previous directive and issued a new directive that emphasizes the use of interdisciplinary care and elimination of the restrictive policy on laser eye procedures.⁵³

INDIAN HEALTH SERVICE (IHS)

The Public Health Service was enacted July 1, 1944, by President Roosevelt.⁵⁴ The Indian Health Service (IHS) was formed in 1955 and is an agency of the United States Public Health Service (USPHS) and operating division within the U. S. Department of Health and Human Services (HHS). The IHS is responsible for providing direct medical and public health services to members of federally recognized Native American Tribes and Alaskan Native people. IHS is the principal health care provider and health advocate for Indian people.

The IHS provides health care in 37 states to approximately 2.2 million out of 3.7 million American Indians and Alaska Natives (AI/AN). A network of 12 regional offices oversees clinical operations for individual facilities and funds. As of April 2017, the IHS consisted of 26 hospitals, 59 health centers and 32 health stations. Many tribes operate their own health systems independent of the IHS.⁵⁵ The IHS provides several services to eligible individuals in outpatient and inpatient settings, with benefits including pharmacy, dental, behavioral health, immunizations, pediatric, physical rehabilitation and optometry.⁵⁵

The first IHS optometrist was recruited in 1966, and that number had increased to five by 1968. The program at that time was concentrated on trachoma control and general eye and vision care.⁵⁶ In January 1969, Dr. Lester Caplan was appointed as the first optometric consultant to the director of the Indian Health Service, a position he held for many years. Dr. Caplan was instrumental in establishing externship rotations, residency programs, extensive use of diagnostic and therapeutic drugs, use of lasers by duly credentialed optometrists where such instrumentation is available, and the attainment of hospital privileges within the IHS.⁵⁷

Currently there are more than 25 vacancies for optometrists in the IHS. The goal is to have a 1.0 Full-Time Equivalent (FTE) optometrist for every facility with a service population above 4,560, plus a 1.0 FTE optometrist for every 5,700 service population above 4,560 service population. The goal for ophthalmology is to have 1.0 FTE staff ophthalmologist for every facility with a service population above 25,000.⁵⁸

IMPACT ON THE PROFESSION

Optometric Education

During the early 1960s, optometric education was for many students a five-year curriculum; two years pre-professional and three years professional. However, by 1966 all programs had

changed to two years of pre-professional study with a four-year professional curriculum.⁵⁹⁻⁶¹ At that time the length of the pre-professional education varied individually from two, to three, to four or more years of study. In 1970, the percent of students entering optometry school with a bachelor's degree was 41%, and that percentage continued to increase through the twentieth century, reaching 92% in 1999.⁶²⁻⁶⁴ The length of minimum pre-professional study may be specified in the state law regulating optometry.⁶⁵ In contemporary optometry almost all entering students have completed four years of collegiate education or possess a bachelor's degree.^{66,67}

There are currently 24 schools and colleges of optometry that are members of the Association of Schools and Colleges of Optometry (ASCO). Two other programs are in various stages of development towards achieving the level of accreditation necessary for membership. Of those member institutions, the division of independent/private schools and colleges of optometry versus state supported university-affiliated programs is 15 to 9, respectively. However, of the 15 independent/private schools and colleges, 12 of these are affiliated with a private university. Perhaps the most significant change in optometric education is the number of schools and colleges located on a private university osteopathic medicine campus. There are six optometry programs on campuses with osteopathic medicine, one on a pharmacy campus, and one at a private university in Puerto Rico.⁶⁶

Residency Education

A significant number of graduates finishing their first professional degree program (O.D.) chose to complete a one-year clinical residency program in some general practice or specialized area of optometry. Many of these residency programs are situated in a VA facility, university, co-management center, private practice, or other setting, but all such programs must have an affiliation with an accredited school or college of optometry.⁴⁸ Although those optometrists completing their residency program have many career opportunities, some remain in optometric education. This has been of great assistance in recruiting faculty for schools and colleges of optometry. An additional benefit is that some of these post O.D. programs are combined residency and graduate in nature.

Clinical Research

The amount and nature of research related to clinical topics such as refractive error, ocular disease, pharmaceuticals, cornea and contact lenses, clinical trials, outcomes of various interventions, and other types of research has increased dramatically over the past 50 years. Much of this research has been conducted in schools and colleges of optometry, or other academic or clinical settings, where faculty have access to funding, clinic or laboratory space, staff, and assigned time for such investigations. Of special note is the support of the National Eye Institute (NEI), pharmaceutical companies, contact lens manufacturers, spectacle manufacturers and other entities who fund such research. The NEI has several types of awards given to support basic, translational, clinical research, as well as training grants.⁶⁸

Continuing Education

Continuing education (CE) has been an essential factor in the growth of the profession. Fifty years ago, some states had no or very little continuing education requirements. As the profession expanded its scope of practice, CE played an important and integral role in educating those whose optometric education didn't include sufficient basic and/or clinical knowledge. In the 1970s and 1980s, the optometric profession led all health care professions in adding CE requirements for maintenance of licensure.⁶⁹ By 1985, there were CE requirements for optometrists in 46 states, compared to 9 states for dentists, 20 states for physicians, and 21 states for pharmacists.⁷⁰

CE has greatly enhanced knowledge related to disease diagnosis and treatment, features of existing or newly available topical and oral medications approved for ocular use, indications and clinical use of lasers and laser procedures, and coding information, just to mention some areas. Perhaps three of the greatest areas of concentration in the CE arena recently have been in the diagnosis and treatment of dry eye, glaucoma and macular degeneration. CE is offered by a wide variety of professional groups, institutions, organizations, or individuals, usually optometric or ophthalmologic in nature, delivered either in-person or via the internet. It is ubiquitous in nature, usually easy to access, and almost every topic is presented to satisfy the interests of optometrists.

Interprofessional Relations

Optometry and ophthalmology have a long history of professional disagreement and discourse. Beginning in 1896 when refracting opticians introduced legislation to legalize the profession of optometry, the efforts of those on each side have often been intense.⁷¹ These efforts have continued through the authorization of the original practice acts (1901 to 1924) and the responsibility of optometrists and their abilities and qualifications. Hofstetter described such topics as the legal status of optometry, reciprocity, state board examinations, the optometrist in court, optometric malpractice, the title "doctor" and designations other than "optometrist", as well as other issues faced by the profession through the late 1940s.⁷²

Classé covered many legal topics but his chapter on the legal history of optometry discusses the time from the late 1890s through 1989. Of note is his coverage of DPA and TPA legislation through the date of publication.³¹ During the intervening 32 years all states have passed legislation authorizing the treatment of diseases of the eye and adnexa.^{13,34} Beyond this has been the authorization for the use of lasers by optometrists in 12 states and the VA and IHS systems.

An excellent summary of optometry's legislative successes has been presented by Schneider and Scheibling, along with the main benefits of state optometric scope of practice expansion. In addition, they provided a logical framework through which to access the value of scope of practice. Their report is divided into four sections: Introduction, Analysis, Cost-Benefit, and Public Perception.⁷³

Despite ongoing differences between the two professions, several changes have occurred that may provide some insight into the future of eye care in the U.S. Historically, there have been ongoing friendly personal relations between optometrists and

ophthalmologists on the local level, perhaps the state or regional level, and in some instances nationally. The expansion of scope of practice has facilitated practice opportunities where each profession is practiced at its highest level. The number of solo practices is dwindling and made more challenging by state and federal regulations. Other confounding factors have been the purchase of numerous optometry and ophthalmology practices by third party entities, the establishment of satellite practices throughout local communities, and the growth of corporate practices with substantial marketing budgets. Paradoxically, some of these factors have resulted in practitioners leaving the corporate entity to start their own practice elsewhere in the community.

It is of interest to note that most, if not all of health care, has undergone a transformation in some respect regarding the purchase of solo or group practices by venture capital entities.

PROFESSIONAL ESTEEM, BENEFITS TO THE PUBLIC AND INTEGRATION INTO THE AMERICAN HEALTH CARE SYSTEM

Professional and Public Esteem

There can be little doubt that expanding the scope of practice has contributed significantly to the confidence optometrists exemplify in their practices and the high esteem optometrists are held by the public.⁷³ This policy direction reflects the notably positive trust relationship between optometrists and their patients and, more broadly, the increasing public recognition of optometrists as primary eye care providers.

The report by Schneider and Scheibling⁷³ included the results of a survey completed by 757 registered voters nationwide, excluding workers in health care, media, advertising, and marketing fields. Nine out of ten respondents (91%) support laws that allow optometrists to provide a full range of care.⁷³ Trust in optometrists is high with nearly two-thirds of respondents saying they trust a doctor of optometry to take care of their eye health and vision health as compared to only a quarter of voters who trust their primary care doctor with their eye health. When compared to ophthalmologists the percentage of trust was roughly the same, 64% for ophthalmologists and 62% for optometrists.⁷³

Benefits to the Public

Convenient Access

The public perception survey found nearly all respondents consider having access to eye health and vision care a priority; 96% of respondents deemed it as either very or somewhat important.⁷³ Americans want access and ease in their health care system. Remarkably, nearly every respondent considers having access to eye health and vision care, for themselves and their family, a priority; three quarters of respondents consider access to eye health and vision very important (76%) while 96% say it is either very important or somewhat important. This sentiment was shared across the four states where scope of practice was already expanded to include advanced surgical procedures—Alaska, Oklahoma, Louisiana and Kentucky.⁷³

Convenience is key for 80% of American respondents when it comes to their eye health. Eight in ten respondents say they would

rather have easy access to a doctor of optometry than travel farther or wait longer to a get an appointment with a specialist.⁷³ This same percentage agreed that having competition in health care is a good way to lower costs.

The overwhelming support and trust among respondents for optometrists 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 applications and antiquated opposition to legislative efforts which enhance scope of practice.⁷³

Health Care Savings

This unequivocal support by American voters, when coupled with a conservative health care savings estimate of more than \$4.6 billion annually, proves undeniably that expanded scope of practice legislation for optometrists, to the highest levels taught and trained, is necessary to meet the increasing demands on the U.S. health care system. When viewed from an economic perspective it was determined that scope of practice expansion adds \$600 million per year in transaction costs savings and another \$4 billion per year in savings attributable to access-related improvements in health outcomes.⁷³ No doubt this amount has increased significantly in the past five years due to increases in costs and inflation.

Integration into the American Health Care System

Optometrists have been considered physicians by Medicare since they were included in the law in April 1987. As early as the 1970s optometry promoted itself as the primary eye care provider. Optometrists provide most of the primary eye care in the VA and almost all eye care in the Indian Health Care Service. The same can be said for the eye care delivered to the American public. Of note is that optometrists are distributed throughout the nation with an emphasis on being accessible in rural areas. In many counties across the country if there were no optometrists there would be no eye care.

BORISH'S CAUTIONARY ADVICE

Eminent optometric leader Irvin Borish, who advocated optometric scope expansion and attended the LaGuardia Conference, noted that while optometry should be pleased with the positive effects of scope expansion for the profession and for the public, the profession should be careful not to leave a vacuum in the field of refraction.^{74,75} He said that scope expansion was envisioned "as an added dimension to the existing traditional services—a true broadening of the scope."⁷⁴ He noted that historically optometry was free to develop largely because early ophthalmology had little interest in refraction and even opposed the prescription of spectacle lenses for many years.⁷⁴ Borish considered it "essential that optometry not lose its sharp cutting-edge advantage in the field of refraction."⁷⁵ Writing at the beginning of the twenty-first century, he suggested that to do so, optometry should form more group practices, increase delegation to ancillary personnel, make greater use of technology, and develop more effective testing techniques.⁷⁵ The years since have seen trends in those areas.

SUMMARY

Writing in 1967, Hazlett and Hofstetter⁶¹ characterized optometry as having had "an almost insatiable appetite for self-improvement" over its twentieth century history. That has continued to the present, and in fact, with scope expansion the past 55 years have seen more change in optometry than the preceding seven decades since the passage of the first optometry licensure laws. Since 1969, when Rhode Island first introduced scope of practice legislation in the form of drugs for diagnostic purposes, there have been several hundred laws passed affecting optometry. Many of these laws were introduced by state optometry organizations to expand the scope of practice. The success of this collective legislative effort has been remarkable. There is great likelihood that this effort will continue to grow in the future. Without this expansion of the scope of practice it is doubtful the profession would be as successful as it is today.

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The authors wish to thank those many optometrists and others who worked so diligently to pass legislation that has dramatically impacted the profession. These many enactments have allowed optometrists to deliver eye care that our predecessors would have never thought possible. Patients can access care in a manner that is more convenient than in the past. Based on past successes it seems likely that the scope of practice will continue to expand in the future.

REFERENCES

1. Gregg JR. American Optometric Association: A History. St. Louis, MO: American Optometric Association, 1972:47.
2. Goss DA. From Spectacle Making Trade to Scholarly Profession: A History of Optometry in the United States. Forest Grove, OR: Pacific University Press, 2022:39-49.
3. Lang GL, Jr. Recollections of 60 years of the history of optometry. J Am Optom Assoc 1989; 60:391-404.
4. Osburn M, Riggs J. Mr. Mac: William P. MacCracken Jr. on Aviation Law Optometry. Memphis, TN: Southern College of Optometry, 1970:193-199.
5. Ginn RVN. Army Optometrists: From World War I Through the Cold War. Office of Medical History, Office of the Surgeon General, Department of the Army, 2003.
6. Engstrom E. ICO & WWII. ICO [Illinois College of Optometry] Matters 2013;12(1):7-12.
7. Runninger J, Caplan L. Letters to the Editor: World War II experiences. Hindsight: J Optom Hist 2013; 44:36-37.
8. Grosvenor T. Primary Care Optometry, 5th ed. St. Louis, MO: Butterworth Heinemann Elsevier, 2007:456-457.

9. Bennett I. Expanding the scope of practice for optometry: Albert Fitch's efforts in 1937. *Hindsight: J Optom Hist* 2011; 42:43-45.
10. Newcomb RD. *Our History in Focus: The First 100 Years of The Ohio State University College of Optometry*. Columbus, OH: The Ohio State University, 2014:12-14.
11. Wolfberg MD. Contributions to optometry by Albert Fitch. *Hindsight: J Optom Hist* 2009; 40:136-138.
12. Fitch A. *My Fifty Years in Optometry, volume II*. Philadelphia, PA: Pennsylvania State College of Optometry, 1959:337-351.
13. Wolfberg MD. A profession's commitment to increased public service: Optometry's remarkable story. *J Am Optom Assoc* 1999; 70:145-170.
14. Bennett I. The 1954 American Optometric Association Seattle resolution and medical reaction to it. *Hindsight: J Optom Hist* 2011; 42:102-105.
15. Gregg JR. *American Optometric Association: A History*. St. Louis, MO: American Optometric Association, 1972:309.
16. Newcomb RD. *Our History in Focus: The First 100 Years of The Ohio State University College of Optometry*. Columbus, OH: The Ohio State University, 2014:27.
17. Eger MJ. The Airlie House Conference. *J Am Optom Assoc* 1969; 40:429-431.
18. Recommendations, Conference on Optometry's Role in Health Care. Airlie House, Warrenton, Virginia, February 101-2, 1969.
19. Report of the Conference on Optometric Practice, French Lick, Indiana, April 20-21, 1966.
20. Silverman MW. Optometry's first drug law: A personal memoir. *J Am Optom Assoc* 1998; 69:188-198.
21. Borish IM. Optometry: Its heritage and its future. *Indiana J Optom* 2001; 4:23-31.
22. Wallis N, Wedding D. The battle for the use of drugs for therapeutic purposes in optometry: Lessons for clinical psychology. *Prof Psych: Res Pract* 2004; 35:323-328.
23. Warnock S. The optometrist's rise to power in the health care market, or "It's optometric physician to you". *Sci Communication* 2005; 27:100-126.
24. Ball RJ. Should we be first class ODs or second-class MDs? *Optom Weekly* 1976; 67:874,875,894,895.
25. Buchner EL. ...and con. *Optical J Rev Optom* 1976; 113(5):8.
26. Peters HB. The dog and the bone. *Am J OptomPhysiolOpt* 1976; 53:276-277.
27. Eger MJ. Now it can and should be told. *J Am Optom Assoc* 1989; 60:323-325.
28. Haffner AN. The LaGuardia Conference – The meeting that changed the profession. *Hindsight: J Optom History* 2010; 41:17-20.
29. Bennett I. The meeting that changed the profession. *Hindsight: J Optom History* 2010; 41:21-23.
30. Haffner AN. The evolving health care system in the American democracy's welfare state and the potential role of the profession of optometry. *New Engl J Optom* 1968; 19(6):164-177.
31. Classé JG. *Legal Aspects of Optometry*. Stoneham, MA: Butterworth Publishers, 1989; 3-39.
32. Field KK. Optometry and drugs – Present and future. *Opt J Rev Optom* 1971; 108(24):21-22.
33. Classé JG. *Legal Aspects of Optometry. Defining Optometry*. Stoneham, MA: Butterworth Publishers, 1989; 145-156.
34. Cooper SL. 1971-2011: Forty year history of scope expansion into medical eye care. *Optometry. J Am Optom Assoc Online* 2012; 83(2):64-73. (Also published online by the New Jersey Society of Optometric Physicians (NJSOP).
35. Amos JF. The history of the passage of legislation authorizing the optometric use of drugs for diagnostic purposes in Alabama. *Hindsight: J Optom Hist* 2021; 52(4):74-85.
36. Classé JG. *Legal Aspects of Optometry*. Stoneham, MA: Butterworth Publishers, 1989; 41-48.
37. Classé JG. *Legal Aspects of Optometry*. Stoneham, MA: Butterworth Publishers, 1989; 89-99.
38. Classé JG. A review of 50 malpractice claims. *J Am Optom Assoc* 1989; 60(9):694-706.
39. Powell R. Vietnam: Experiences as an optometry officer with the 4th Infantry Division, August 15, 1969 – August 15, 1970. *Hindsight: J Optom Hist* 2020; 51(3):69-72.
40. McAlister HW, Weaver JL, Davis JD, Newson JA. Military optometry from World War I to the present. *Hindsight: J Optom Hist* 2021; 52(1):4-8.
41. National Archives. Milestone Documents. Medicare and Medicaid Act (1965). www.archives.gov/milestone-documents/medicare-and-medicaid-act.
42. Bennett I. My Recollection of how optometry got into Medicare. *Hindsight: J Optom Hist* 2016; 47(2):49-51.
43. Amos JF. The quest for Medicaid parity for optometrists in Alabama. Chapter 6. *Archives of the Alabama Optometric Association*, 2019:1-35
44. Myers KJ. Public Health and the Department of Veterans Affairs. In: *Public Health in the Department of Veterans Affairs*. Cadyville, NY: Old Post Publishing, 2010:1-34.
45. Amos JF. The genesis of the optometry training program in the Birmingham Veterans Administration Hospital. *Hindsight: J Optom Hist*. 2013; 44(4):50-70.
46. Peters HB. *School of Optometry, University of Alabama at Birmingham. 25th Anniversary Photographic History, 1969-1994, 1994; 15.*
47. Keller JT. Optometric training in a Veteran's Administration Hospital. *Am J OptomPhysiolOpt* 1974; 51(6):425-4-28.
48. Amos JF. Observations on optometry in the Veteran's Administration from an optometric educator's Perspective. *Hindsight: J Optom Hist* 2021; 52(1):12-17.

49. Myers KJ. Guest Editorial. Kansas City memories. *Optom Vis Sci* 2002; 79(7):395-397.
50. Newcomb RD. History of optometry in the VA. *Hindsight: J Optom Hist* 2010;41(1): 6-8.
51. Slagle WS. Executive Director, National Optometry Service, Specialty Care Program Office, National Surgery Integrated Clinical Community, Office of Clinical Services, Veterans Health Administration.
52. Department of Veterans Affairs. News Release from the Office of Public Relations. December 17, 2004.
53. VA rescinds laser policy, Opens path to full recognition of optometric care. *AOA News*. August 27, 2020.
54. Wikipedia. Public Health Service Act. https://en.wikipedia.org/wiki/Public_Health_Service_Act.
55. U.S. Department of Health and Human Services. Indian Health Service. Optometry.
56. Ashby E. Indian Health Service eye care manpower and services. In: Goss DA, Edmundson LL., eds. *Eye and Vision Conditions in the American Indian*. Yukon, OK: Pueblo Publishing Press, 1990:167-172.
57. Caplan LE. "I" to Eye – 66 years of optometry through the eyes of a clinician, educator, administrator, consultant, and public health optometrist. *Hindsight: J Optom Hist*. 2017; 48(1):5-24 and 48(3):74-75.
58. U.S. Department of Health and Human Services. Indian Health Service. Division of Planning, Evaluation, and Research. Eye Care. www.ihs.gov/dper/planning/rm-references/eye-care/.
59. Baldwin WR. Optometric education: portent for the profession. *J Am Optom Assoc* 1965; 36:332-334.
60. Hofstetter HW. 75 years – A good beginning in optometric education. *Opt J Rev Optom* 1966; 103:72-74.
61. Hazlett RD, Hofstetter HW. Optometric education in the United States. *J Am Optom Assoc* 1967; 38:927-935.
62. Seger CE. A year of educational activity. *J Am Optom Assoc* 1971; 42:331-336.
63. Association of Schools and Colleges of Optometry. Annual Surveys of Optometric Educational Institutions.
64. Goss DA. *From Spectacle Making Trade to Scholarly Profession: A History of Optometry in the United States*. Forest Grove, OR: Pacific University Press, 2022:285-286.
65. Hirsch MJ, Wick RE. *The Optometric Profession*. Philadelphia, PA: Chilton, 1968;157-170.
66. Association of Schools and Colleges of Optometry. www.optometriceducation.org/future-students/resources/frequently-asked-questions/.
67. Association of Schools and Colleges of Optometry. www.opted.org/past-student-data-reports/.
68. National Institutes of Health National Eye Institute. Grants and Training. www.nei.nih.gov/grants-and-training.
69. Cohen HS. The HEW view. *Am J OptomPhysiolOpt* 1980; 57:336-338.
70. Classé JG. *Legal Aspects of Optometry*. Boston, MA: Butterworths, 1989:165-167.
71. Prentice CF. *Legalized Optometry and the Memoirs of its Founder*. Seattle, WA: Casperin Fletcher Press, 1926:128-140.
72. Hofstetter HW. *Optometry. Professional, Economic, and Legal Aspects*. St. Louis: C. V. Mosby Co., 1948:39-101.
73. Schneider JE, Scheibling CM. *Optometry's Essential and Expanding Role in Health Care: Assured Quality and Greater Access for Healthier Communities*. White Paper. Avalon Health Economics, Morristown, NJ, June 12, 2019;1-24.
74. Borish IM. Don't leave a vacuum. *Optom Economics* 1991; 1:19-22.
75. Borish IM. Optometry: Its heritage and its future. *Indiana J Optom* 2001; 4:23-31.