

**IN THE EYE OF THE BEHOLDER:
THE FEASIBILITY OF A
THERAPEUTIC DRUG LAW
FOR OPTOMETRISTS IN HAWAII**

SUSAN E. JAWOROWSKI
Researcher

Report No. 8, 1994

**Legislative Reference Bureau
State Capitol
Honolulu, Hawaii 96813**

FOREWORD

This study was prepared in response to House Concurrent Resolution No. 378, House Draft 1 (1994). That Concurrent Resolution directed the Legislative Reference Bureau to study the feasibility of expanding state regulatory practice to allow optometrists to use therapeutic pharmaceutical agents.

The Bureau wishes to extend its appreciation to all those who assisted in the study, including the boards and organizations in other states that responded to the Bureau's inquiries, and the American Optometric Association and the American Academy of Ophthalmology. The Bureau extends special thanks to the Hawaii Optometric Association and the Hawaii Ophthalmological Society for their cooperation and assistance.

Samuel B. K. Chang
Director

November 1994

TABLE OF CONTENTS

	<u>Page</u>
FOREWORD	ii
1. INTRODUCTION	1
Nature of the Study	1
Objective of the Study	1
Organization of the Study	2
2. WHAT ARE THERAPEUTIC PHARMACEUTICAL AGENTS?	3
History of Eye Care	3
Diagnostic Therapeutic Agents	3
Therapeutic Pharmaceutical Agents	5
Endnotes	6
3. USE OF TPAS: OTHER STATES' EXPERIENCES	7
Scope of TPAs	7
Summary of TPA Statutes	15
Summary	21
Endnotes	21
4. OPTOMETRIC EDUCATION AND PATIENT SAFETY	25
Education	25
Patient Safety Complaints	29
Summary	33
Endnotes	34
5. COST	37
Patient Costs	37
Eye Examination Studies	40
Patient Cost Summary	41
Health Insurers Cost	42
Medicare, Medicaid, and Other Government Health Care Programs	
Cost	43
Malpractice Insurance Rates	44
Summary	45
Endnotes	46

	<u>Page</u>
6. ADDITIONAL AREAS OF CONCERN	49
1. Competition Between Optometrists and Ophthalmologists	49
2. Studies and Reviews Required by Other States	51
3. Availability and Accessibility	52
4. Number and Percentage of Optometrists Using TPAs	54
Endnotes	61
7. POINT/COUNTERPOINT: THE VIEW FROM HAWAII'S OPTOMETRISTS AND OPHTHALMOLOGISTS	64
The Hawaii Ophthalmological Society (HOS)	65
The Hawaii Optometric Association (HOA)	65
Articles	80
Summary	84
Endnotes	84
8. FINDINGS AND CONCLUSIONS/RECOMMENDATIONS	88
Findings	88
Conclusions/Recommendations	92

Appendices

A. House Concurrent Resolution No. 378, H.D. 1, Seventeenth Legislature, Regular Session of 1994.....	95
B. TPA States Only, Pharmaceutical Agents by Name or Type That State Law or Regulations Permit Optometrists to Use	99
C. Use of Steroids by Optometrists	136
D. Physician Consultation & Referral Requirements	140
E. Summary of Optometric Malpractice Cases	144
F. Letter from Peter C. McCanna, M.D., to Secretary Marlene Cummings, Department of Regulation & Licensing, dated August 11, 1992	162
G. Optometric Education: An Analysis of the Current Status, and a Comparison of Differences between Ophthalmology and Optometry.....	168
H. Letters from the Kansas Optometric Association and the Washington Association of Optometric Physicians.....	188
I. Correspondence from Robert Ragolia re Chubb Insurance Company	195
J. Responses from the Hawaii Ophthalmology Society and the Hawaii Optometric Association	200
K. Education and Clinical Training of Ophthalmologists and Optometrists.....	209

Chapter 1

INTRODUCTION

Nature of the Study

The Seventeenth Legislature of the State of Hawaii, Regular Session of 1994, adopted House Concurrent Resolution No. 378, H.D. 1, entitled, "Requesting the Legislative Reference Bureau to Study the Feasibility of Expanding State Regulatory Practices to Authorize Optometrists to Use Therapeutic Pharmaceutical Agents." A copy of the Concurrent Resolution is contained in Appendix A. The Insurance Commissioner, the Board of Medical Examiners, and the Board of Examiners in Optometry were also requested to assist in this study.

Objective of the Study

H.C.R. No. 378 requested the Bureau to determine:

- (1) The use of therapeutic pharmaceutical agents (TPAs) in the eye care industry, which TPAs are used by optometrists in other states, and the number and percentage of optometrists in TPA states who use TPAs;
- (2) Whether patient safety is compromised by TPA usage;
- (3) The effect of TPA usage on competition between optometrists and ophthalmologists and on consumer costs, including consideration of Medicaid and Medicare rate schedules;
- (4) Studies and other reviews required by TPA states;
- (5) Availability and accessibility of optometrists and ophthalmologists in TPA states as compared to Hawaii, including hours of availability for urgent and routine conditions, geographic distribution, and any complaints of lack of access to Hawaii optometrists and ophthalmologists; and
- (6) The impact of TPA usage on the cost of eye care to the public, insurance carriers, and state and federal governments.

The Bureau was specifically requested to inquire into the experiences of Pennsylvania, Maryland, South Carolina, and Wisconsin.

FEASIBILITY OF A THERAPEUTIC DRUG LAW FOR OPTOMETRISTS IN HAWAII

The Insurance Commissioner was requested to supply the Bureau with the following information:

- (1) All claims filed against optometrists licensed to practice in Hawaii;
- (2) Potential increases in optometrists' liability and malpractice insurance if TPA usage were permitted; and
- (3) A comparison of complaints and insurance rates in other states before and after TPA legislation.

The Board of Medical Examiners was requested to supply the Bureau with data on training requirements, internships, and continuing education requirements, and data on quantities of eye medication prescribed, for ophthalmologists, general practice physicians, family practice physicians, internists, and pediatricians.

The Board of Examiners in Optometry was requested to supply the Bureau with data on training requirements, internships, and continuing education requirements, and data on the quantity of eye medications prescribed by optometrists.

The Bureau was requested to submit the draft study to the Hawaii Ophthalmological Society and the Hawaii Optometric Association for external review prior to submission to the Legislature. This was done.

Organization of the Study

This study is organized into eight chapters. The first chapter is this introduction. Chapter 2 reviews the history of optometry, defines the term "therapeutic pharmaceutical agents" (TPAs), and discusses the reasons that optometrists want to use TPAs. Chapter 3 discusses the other states' experiences with TPAs. Chapter 4 looks at the issue of patient safety. Chapter 5 analyzes the issue of cost savings, if any, through TPA usage. Chapter 6 considers other issues raised by the Concurrent Resolution. Chapter 7 details the arguments on TPA usage by the main Hawaii proponent, the Hawaii Optometric Association, and the main opponent, the Hawaii Ophthalmological Society. Chapter 8 contains the findings and recommendations.

Chapter 2

WHAT ARE THERAPEUTIC PHARMACEUTICAL AGENTS?

Therapeutic pharmaceutical agents, or (TPAs), are drugs that are used to treat eye disease or injury. The TPAs' complementary category of drugs are the diagnostic pharmaceutical agents, or DPAs, which are used to help diagnose eye disease. A brief history of the fields of ophthalmology and optometry will reveal the rationale behind the desire of doctors of optometry to use DPAs and TPAs.

History of Eye Care

In the late 1800s, persons who specialized in eye care were called either ophthalmologists, if formally trained at a medical school, or oculists, if eye care was learned through experience without the benefit of formal training.¹ In addition, two classes of opticians specialized in supplying customers with glasses. Dispensing opticians merely filled the patients' prescriptions, and today are known simply as opticians. Refracting opticians, on the other hand, made their own determinations concerning the strength of glasses, making the prescription as well as dispensing the glasses. Over time, this type of practitioner became known as an optometrist.

In 1901, Minnesota became the first state to formally recognize the practice of optometry, and all the states and the District of Columbia had passed optometry laws by 1924. Optometrists struggled to professionalize their practices, while facing opposition by ophthalmologists, opticians, and "grandfathered" optometrists who did not want to see the field change. To avoid coming under the supervision of ophthalmologists, optometrists fought in court to prove that they constituted an independent profession. Thus, the original optometry laws did not permit the use of drugs, as that was considered to be a medical skill.

Diagnostic Therapeutic Agents

However, as eye care technology evolved - particularly the development of contact lenses and tonometers² - optometrists became more health-oriented, rather than focusing strictly on the fitting of lenses. In particular, the fitting and prescribing of contact lenses gave optometrists a reason to be concerned about eye health and chemical and mechanical irritation of the eye.

Another breakthrough in the 1950s and 1960s was the discovery of topical mydriatic drugs that could dilate the eye for short periods of time without undue complications. Dilation of the eye is generally considered a prerequisite to a full inspection of the interior of the eye. Optometrists sought to expand the scope of their practice by using these drugs to enable

performance of a more complete eye examination and to help detect and diagnose eye problems, which would then have to be referred to an ophthalmologist for treatment.

In 1971, Rhode Island became the first state to permit the use of topical diagnostic therapeutic agents (DPAs) by optometrists. While the exact type and dosage of these drugs varies from state to state, drugs in these classifications basically consist of mydriatics and cycloplegics, which dilate the eye, and miotics, which contract the pupil and whose general use is to prevent the sudden onset of narrow angle glaucoma caused by use of mydriatics and cycloplegics.³

While the term "diagnostic" is in standard use to describe these drugs, it is a misnomer. Drugs of this type, as ophthalmologists are fond of pointing out, do not diagnose. They are not like home pregnancy tests, for example, which reveal the condition of the patient without the need for interpretation by a professional. What DPAs do is to make it easier for abnormalities to be detected. The interpretation of the findings - the diagnosis - could be made correctly by a competent, well-trained optometrist, or missed by an incompetent one. However, without the added ability to treat, misdiagnosis - with or without the use of DPAs - was not as critical as it might otherwise have been, for once the patient was referred to an ophthalmologist for treatment, the ophthalmologist would perform his or her own tests and rediagnose the condition.

There is a danger in missed diagnoses, of course: untreated glaucoma or diabetes can blind, and untreated cancers of the eye can kill. The danger is exacerbated by the fact that some progressive eye diseases, such as glaucoma, cause no pain that would alert the patient to request a second opinion, and also by the respect some patients have for anyone with the title "doctor," which can lead them to disregard symptoms if a doctor of optometry assures them that nothing is wrong. Yet there is a qualitative difference between misdiagnosis and mistreatment that was and is a barrier preventing states from automatically extending the privilege of using DPAs to include using TPAs.

Other states gradually followed Rhode Island's lead: 8 more DPA states in the next five years, another 19 the next 10 years, another 20 within the ensuing five-year period, with the rest soon following. The last, Maryland, adopted its DPA law in 1989.⁴ Hawaii was one of the last states to adopt its DPA law in 1985.

The profession of ophthalmology did not readily accept the use of DPAs by optometrists. Testimony submitted during the course of Hawaii's ultimately successful DPA legislation is a representative sample.⁵ In an informational book distributed to the state legislature, the Hawaii Medical Association stated that, in trying to reach an agreement on a 1979 bill that would have allowed optometrists to use drugs, that "Optometry refused: They refused every single reasonable request presented at the task force. They refused to make any compromise of their 'professionalism' for the public welfare. The Hawaii Medical Association cannot ethically allow this breach [sic] of the public interest."⁶

Therapeutic Pharmaceutical Agents

As optometrists continued their evolution from trade to health care profession, it was inevitable that, having the ability to detect problems with the eye, optometrists then wanted to be able to treat the more simple, easily managed conditions. This was a more ambitious leap than was the ability to use DPAs. The worst that could happen when optometrists used DPAs, aside from allergies that would result no matter who administered them, would be that the optometrist would overlook or misdiagnose a significant condition, such as glaucoma or a tumor, that would deteriorate over time. This worst-case result would basically be the same as if the optometrist had not seen the patient or not attempted a diagnosis at all. Nothing that the optometrist did would cause the condition or increase its severity. A competent optometrist, if he or she detected abnormalities or merely was uncertain, would refer the patient to an ophthalmologist, and it would not really matter if the optometrist's initial diagnosis was accurate or not. After the referral, the patient would be the responsibility of the ophthalmologist, who would do an independent examination and make his or her own diagnosis and be responsible for treatment.

But when optometrists sought the ability to treat, the accuracy of their diagnoses became of critical importance. In this situation, no medical doctor would review their diagnosis or perform further tests. Optometrists had to accurately diagnose everything within their legislatively-limited ability to treat, and decide which of the more complicated cases had to be passed on to an ophthalmologist.

The increased complexity of using TPAs as opposed to DPAs proved a stumbling block to state acceptance at first. True, the first state to permit the use of TPAs, West Virginia, did so in 1976, at the same time it authorized DPAs. But West Virginia had sparse population centers and large geographic distances, leaving a large part of the population out of easy reach of ophthalmologists.⁷ It appears to have been the geographical isolation from ophthalmologists that sparked the acceptance of TPA-authorized optometrists.

Only one other state, North Carolina, adopted TPA laws in the 1970s, and only one additional state, Oklahoma, adopted a TPA law in the first half of the 1980s. Optometrists in other states continued to introduce and lobby for DPA laws and finally were rewarded in the latter half of the 1980s as 21 states added TPA laws. In the 1990s, 16 additional states have adopted TPA laws, for a total of 40 as of June 1994, including Vermont and Delaware, whose legislation was enacted in June 1994.⁸

The remaining ten states have been the targets of repeated legislation aimed at establishing a TPA law. Respondents to letters from the Bureau indicate that TPA bills will again be submitted to these legislatures.

For the purposes of easy reference in this study, states with TPA laws will be referred to as TPA states, while states that do not have such laws will be referred to as DPA states, a shorthand way to refer to DPA-only states.

Five types of drugs are primarily considered appropriate treatment drugs for optometrists. Those classes are **germ-killers**, which can include antibiotics, anti-infectives, anti-microbials, anti-fungals, anti-virals, and sulfonamides; **anti-allergy** drugs, the **antihistamines and decongestants**; **topical anesthetics**; **anti-glaucoma agents**; and **steroids**. As will be discussed in detail in the next chapter, the states vary as to which TPAs they authorize their optometrists to use.

Endnotes

1. The information in this section is taken from Classe, John G., "Optometry: a Legal History," in Journal of the American Optometric Association, vol. 59, no. 8 (August 1988) at 641-49.
2. A tonometer allows optometrists to test intraocular pressure without the use of anesthetic eyedrops. There are two basic types: the Mackay-Marg tonometer, which touches the eye, and the non-contact tonometer, which does not.
3. The eye is filled with aqueous humor, a fluid which is secreted into the eye by the double epithelial layers covering the ciliary processes. It leaves the eye at the anterior chamber angle, maintaining an average pressure of between 10 and 20 mm Hg. If the anterior chamber angle is blocked, pressure builds up as the aqueous humor continues to be produced but is unable to be carried away. Casarett and Doull's Toxicology, ed. J. Doull, C. Klaassen, and M. Arndur, 2nd ed. (New York: Macmillan 1980) at 284-85. This pressure damages the optic nerve and can cause glaucoma, which can lead to complete loss of vision. Narrow angle glaucoma occurs in individuals who have a narrow angle conducive to this type of closure, and is generally precipitated by the use of mydriatic drugs that, in dilating the eye, block the angles. It is important to "close" the eye as soon as possible once this condition is noted, and that is the reason that many states that technically only allow DPAs to be used allow this drug, which is really a treatment, to be used.
4. Source: Chart submitted to researcher by the American Optometrist Association, dated April 7, 1994, received May 16, 1994. Indiana technically may have been the last to adopt a specific law in 1991, but apparently authorized DPA use earlier through its general legislation. *Id.*
5. For example, an article recounting the fight over Massachusetts's DPA law, referred to the "11 nasty years" it took to pass that bill, and how the two sides "still accuse each other of dirty fighting." "They Sure Don't See Eye to Eye," Boston Globe, Monday, March 26, 1990, at 29.
6. Hawaii Medical Association, "Optometric Drugs Laws: A Possible Solution," (undated) at 47.
7. Memorandum, "Response to the Hawaii Optometric Association's Publication, 'Vision in the 90's'," by the Hawaii Ophthalmological Society to researcher, dated July 12, 1994, at 4.
8. Those states are: Alaska, Arizona, Arkansas, Colorado, Connecticut, Delaware, Florida, Georgia, Idaho, Indiana, Iowa, Kansas, Kentucky, Louisiana, Maine, Minnesota, Mississippi, Missouri, Montana, Nebraska, New Hampshire, New Jersey, New Mexico, North Carolina, North Dakota, Ohio, Oklahoma, Oregon, Rhode Island, South Carolina, South Dakota, Tennessee, Texas, Utah, Vermont, Virginia, Washington, West Virginia, Wisconsin, and Wyoming.

Chapter 3

USE OF TPAS: OTHER STATES' EXPERIENCES

Scope of TPAs

A significant variance exists between the forty TPA-authorizing states as to the conditions optometrists can treat and the drugs they can use. A specific listing for each state follows, and the full text of the relevant laws is contained in Appendix B.¹ Note that in some states, diagnostic drugs, such as miotics and cycloplegics, are included in the category of TPAs, or are included in the general category of drugs available for use by optometrists. Unless they are specified by statute or rule for diagnostic purposes only, they have been included below, even though as a practical matter they are not used therapeutically.

Alaska

The statute in Alaska allows the use of all topically-applied drugs.²

Arizona

Arizona permits the use of "topical pharmaceutical agents" to treat **any** visual, muscular, neurological, or anatomical anomalies of the eye.³

Arkansas

By statute, optometrists are permitted to prescribe topical agents in the following categories: antimicrobial, antihistaminic, decongestant, anti-inflammatory, antifungal, cycloplegics, mydriatics, miotics, dyes, analgesics, and anesthetics. They are prohibited from administering drugs by injection, prescription oral drugs, controlled drugs, and other *prescription drugs*.⁴ *By administrative rule, the permitted categories are:* anesthetics, anti-allergy, antibacterial/antiseptic, antibiotic, antifungal, anti-glaucoma, anti-histamine/decongestant, artificial tear preparations, anti-inflammatory, anti-inflammatory/antibiotic, anti-inflammatory/anti-bacterial, decongestants, decongestants/astringents, demulcents, dyes, emollients, hyperosmotic agents, irrigation solution, lubricants, mydriatics, miotics, mydriatic/cycloplegics, and vasoconstrictors. Glaucoma patients may be treated after consultation with an ophthalmologist.⁵

Colorado

Colorado, for treatment, approves the use of topical and oral antimicrobials (except oral antiviral and oral antifungal agents), topical and oral antihistamines, topical anti-inflammatory agents, and no more than .6 grams of codeine when used with one or more nonnarcotic analgesics.⁶

Connecticut

Connecticut allows optometrists to use topical ophthalmic agents except those in the following categories: allergens, alpha adrenergic agonists, antiparasitics, antifungal agents, antimetabolites, antineoplastics, beta adrenergic blocking agent, carbonic anhydrase inhibitors, collagen corneal shields, epinephrine preparations, miotics used for the treatment of glaucoma, temporary collagen implants, and succuc cineraria maritima. In addition, Connecticut permits the use of the following oral medications: antibiotics, antihistamines, antiviral agents, and analgesics.⁷

Delaware

Delaware's newly-enacted law permits therapeutically certified optometrists to use the following topical drugs: anti-infectives, anti-inflammatories, anesthetics, autonomics; and the following topical and oral drugs: antihistamines and decongestants, anti-glaucoma agents, antibiotics, and non-controlled analgesics.⁸

Florida

The Florida administrative code is quite detailed, and permits not only specified topical drugs, but specified solutions of the drugs. The categories of drugs are listed here, with the number in parenthesis indicating the number of drugs in each category: cycloplegics and mydriatics (7), mydriatic combinations (2), local anesthetics (3), ophthalmic decongestants/antihistamine combinations (3), combinations (4), antibiotics (13), sulfonamide (3), steroids (8), steroid/antibiotic combinations (17), non-steroidal anti-inflammatory agents (1), antiviral agents (3), anti-glaucoma agents (11), steroid/cycloplegic combinations (1), and five drugs listed as miscellaneous.⁹ Systemic drugs cannot be used.¹⁰

Georgia

Georgia permits the topical use of sixty-six drugs, which are listed in Appendix B. There are special restrictions on the treatment of glaucoma patients with beta blockers, including the requirement that if the patient does not respond within sixty days, the patient must be referred to an ophthalmologist.¹¹

Idaho

The Idaho code permits the therapeutic use of pharmaceutical agents for the improvement of any function of human vision.¹² The code requires the state board of optometry to approve a list of drugs. Apparently no such list has been made at the time the American Optometry Association compiled its information.

Indiana

Certified optometrists can administer, dispense, or prescribe topically applied drugs, oral antihistamine drugs, oral decongestant drugs, oral antimicrobial drugs, oral non-steroidal anti-inflammatory drugs, and oral antiglaucoma drugs.¹³

Iowa

Therapeutically certified optometrists may employ topical pharmaceutical agents, oral antimicrobial agents, oral antihistamines, oral antiglaucoma agents, and oral analgesic agents.¹⁴

Kansas

The drugs available for use are anesthetics, mydriatics, cycloplegics, anti-infectives, and anti-inflammatory agents if administered topically for a period of up to fourteen days. Kansas specifically prohibits the management and treatment of glaucoma.¹⁵

Kentucky

Kentucky allows optometrists who have qualified for the use of DPAs to use and prescribe topical therapeutic agents for the treatment of any condition of the eyes or its appendages.¹⁶

Louisiana

Louisiana has a broad authorization, allowing the use of any chemical in solution suspension, emulsion, or ointment base, other than a narcotic, when applied topically, to prevent, treat, or mitigate abnormal conditions and pathology of the human eye and its adnexa (adjunct area). The use of oral antibiotics and oral antihistamines for treatment of disorders or diseases of the eye or adnexa is also allowed.¹⁷

Maine

Maine allows pharmaceutical agents required to prevent, manage, or treat abnormal ocular conditions or diseases, excluding glaucoma. Controlled substances, drugs by injection, and drugs used for systemic diseases are also excluded.¹⁸

Minnesota

Minnesota allows board-certified optometrists to administer topical legend (prescription) drugs to aid in the cure, mitigation, prevention, treatment, or management of disease, deficiency, deformity, or abnormality of the eye and adnexa.¹⁹

Mississippi

Mississippi allows the use of "topical pharmaceutical agents" and over-the-counter medications.²⁰

Missouri

The class of therapeutic pharmaceutical agents approved by Missouri are topical and oral anti-microbial agents and antihistaminic agents, topical anti-inflammatory agents, and oral analgesic agents (pain-killers).²¹ The rules of the state board of optometry provide further limits on the use of oral analgesics, including limitation on the period of the time and the conditions under which a controlled substance can be used for pain relief.²²

Montana

Montana by statute permits the use of the oral analgesics codeine, propoxyphene, hydrocodone, and dihydrocodeine.²³ Treatment of glaucoma is specifically excluded. Pursuant to administrative rule, therapeutically certified optometrists can use the following classes of topical drugs: antibiotics, anti-viral agents, anti-fungal agents, anti-inflammatory agents, and antihistamines, as well as over-the-counter drugs.²⁴

Nebraska

Nebraska excludes drugs used to treat glaucoma but permits the use of topical ophthalmic pharmaceutical agents that treat eye infection, inflammation, and superficial abrasions; oral analgesics; oral pharmaceutical agents necessary for the treatment of infections of the eyes; and oral anti-inflammatory agents to treat conditions of the eye, excluding steroids and immunosuppressive agents.²⁵

New Hampshire

New Hampshire permits the use of over-the-counter drugs; topical mydriatic and cycloplegic agents; approved miotic agents; approved topical or oral antibiotics and sulfonamides when used to treat or alleviate the effects of disease or abnormal conditions of the eye, adnexa, and lids, but excluding the lacrimal drainage system, the lacrimal gland, and structures posterior to the iris; topical antihistamines, decongestants, and mast-cell stabilizers; topical anesthetics and dyes; topical ocular lubricants and hypertonic agents; certain oral analgesic agents; non-steroidal anti-inflammatory agents; and diphenhydramine, epinephrine, or the equivalent to counter anaphylaxis (allergic reaction).²⁶ Specifically prohibited is the treatment of glaucoma, the prescribing or use of corticosteroids, the use of intravenous drugs, or use of category I or II controlled substances.²⁷

New Jersey

New Jersey prohibits the use of controlled dangerous substances, and oral or injectable prescription medication (there is an exception for injections used to counter anaphylactic reaction). Aside from those restrictions, the statute is quite broad, permitting the use of agents for the purposes of treating deficiencies, deformities, diseases, or anomalies of the eye, including the removal of superficial foreign bodies from the eye or adnexae.²⁸

New Mexico

This state permits the use of topical ocular pharmaceutical agents to correct, relieve, or refer visual defects or abnormal conditions of the human eye. Surgery, injections, and controlled substances are forbidden.²⁹

North Carolina

North Carolina permits the use of pharmaceutical agents to correct, relieve, or treat defects or abnormal conditions of the human eye and adnexa.³⁰ Topical agents may be used at the optometrist's discretion, and other types of drugs (i.e., oral or injectable) shall be done in communication and collaboration with a physician.³¹

North Dakota

This state defines TPAs as topically administered and prescribed pharmaceutical agents for the treatment of ocular-related disorders or disease, locally administered pharmaceutical agents for primary eye care procedures, oral anti-infective agents, oral antihistaminic agents, and oral analgesics.³² Dispensing of TPAs is not allowed, and neither is laser therapy, glaucoma treatment, oral corticosteroids, or invasive surgery, although superficial foreign bodies may be removed.³³

Ohio

Ohio defines TPAs available for use as specified topical ocular pharmaceutical (diagnostic) agents and the following drugs when used to prevent or treat disease, injury, or abnormal condition of the eye: antimicrobials, anti-allergy, anti-glaucoma, topical anti-inflammatory, cycloplegics, analgesics, topical ophthalmic preparation, and oral doses of the following drugs: acetazolamide, astemizole, dichlorphenamide, diphenhydramine, glycerin, isosorbide, methazolamide, over the counter analgesics, terfenadine, ampicillin, cefaclor, cephalexin, dicloxacillin, doxycycline, erythromycin, penicillin VK, tetracycline, and other oral drugs listed in rule adopted by the state board of optometry.³⁴ Dapiprazole hydrochloride is approved for use to reverse mydriasis (dilation of the eye) caused by use of the drugs phenylephrine and tropicamide.³⁵

Oklahoma

Oklahoma permits the use of pharmaceutical agents, including dangerous drugs and controlled substances except for Schedule I and II drugs. Optometrists may not dispense drugs but may offer professional samples to patients.³⁶

Oregon

Oregon permits certified optometrists to use the following topical pharmaceutical agents: ocular lubricants, artificial tears, and irrigating solutions; mydriatics; cycloplegics; anesthetics; dyes; miotics; astringents and antiseptics; antihistamines and decongestants; anti-louse agents; hyperosmotics; anti-infectives (antibiotics, antivirals, anti-fungals); anti-glaucoma and ocular hypotensives; anti-inflammatories; combinations of these drugs; and other agents approved by the board.³⁷ Restrictions and conditions are placed on the use of anti-virals, anti-fungals, anti-glaucoma agents, and steroids.

Oregon prohibits optometrists from performing invasive or laser surgery, using or prescribing injectable or oral drugs, to use other than topical ocular drugs, or to use Schedule I or II controlled substances. Oregon also restricts treatment by optometrists of glaucoma until after the optometrist has consulted with an ophthalmologist, medical doctor, or doctor of osteopathy.³⁸

Rhode Island

Rhode Island broadly states that qualified optometrists may use and prescribe topical pharmaceutical agents in the treatment of ocular conditions or the eye and its appendages.³⁹ Some examples listed by the board of optometry as acceptable drugs are mast cell inhibitors or stabilizers, lubricants, decongestants, mucolytics, antibiotics, and specified steroids, although consultation of an ophthalmologist is required for steroid treatment beyond fourteen days.⁴⁰

South Carolina

Therapeutically certified optometrists may use and prescribe pharmaceutical agents, other than Schedule I and II controlled substances, with the following caveats: oral medications are limited to antihistamines, antimicrobials, antiglaucoma drugs, over-the-counter drugs, and analgesics, which are limited to a seven-day supply. Topical steroids are limited by requiring communication and collaboration with an ophthalmologist if the medication is required for over ten days of treatment, and referral to an ophthalmologist if the medication is still necessary after twenty-one days; beta blockers used to treat glaucoma require a consultation or referral to a medical doctor; and no medication may be given by injection or intravenously.⁴¹

South Dakota

Optometrists may use topical pharmaceutical agents and oral analgesics, and a certified optometrist can use topical agents to treat glaucoma or ocular hypertension.⁴²

Tennessee

This state permits the administration and prescribing of "pharmaceutical agents rational to the diagnosis and treatment of conditions or diseases" of the eye or eyelid. Additionally, the use of benadryl, epinephrine, or their equivalent is approved to counter anaphylaxis (allergic reaction).⁴³

Texas

Therapeutic optometrists are permitted to utilize topical drugs, with the exception of anti-glaucoma and anti-viral agents. The administrative rules list these classes of permissible drugs: antiallergy (antihistamines, membrane stabilizer); anti-fungal (imidazoles, polyenes); anti-infectives (aminoglycoside, anti-cell membrane, anti-cell wall synthesis, anti-DNA synthesis, anti-protein synthesis (excluding chloramphenicol), anti-ACHase, cephalosporin, agents affecting intermediary metabolism); anti-inflammatory (nonsteroidal anti-inflammatory drugs, steroids); antiseptics; chelating agent; chemical cautery; cycloplegic; parasympatholytic; hyperosmotic; miotic (anti-ACHase, parasympathomimetic); mucolytic; mydriatic: sympathomimetic (Alpha 1 agonists only); and vasoconstrictors: sympathomimetic (Alpha I agonists only).⁴⁴ Use of steroids is limited and in specified circumstances an ophthalmologist must be consulted.⁴⁵

Utah

The Utah Administrative Code requires the optometrists licensing board's written utilization plan to include "a definitive statement" concerning the use of the following categories of FDA-approved topical ophthalmic drugs: over-the-counter preparations, ophthalmic medications, antihistamines, antibiotics, antiviral agents, steroids, nonsteroidal anti-inflammatory agents, and locally-acting and systemic glaucoma medications.⁴⁶

Vermont

TPA-certified optometrists may prescribe topical anti-infective, anti-inflammatory, and dilation reversal drugs. Steroid drug use in some cases requires consultation or referral. Anti-glaucoma drugs are prohibited.

Virginia

Certified optometrists may administer and prescribe specified topical drugs in the categories of antibacterial agents, ophthalmic decongestant/antihistamine combinations, and a few miscellaneous drugs. The administrative rules specify the drugs in detail: tetracycline, erythromycin, bacitracin, polymyxin B/Bacitracin, chlortetracycline, sodium sulfacetamide - 10% and 30%, sulfisoxazole - 4%, sulfacetamide - 15%/phenylephrine - 0.125%, cromolyn sodium - 4%, naphazoline HCl - 0.1%, phenylephrine HCl - 0.125%/pheniramine maleate - 0.5%, phenylephrine HCl - 0.12%/pheniramine maleate - 0.1%/antipyrine - 0.1%, naphazoline HCl - 0.025%/pheniramine maleate - 0.3%, naphazoline HCl - 0.05%/antazoline phosphate - 0.5%, hydroxypropyl cellulose ophthalmic insert, polytrim ophthalmic solution, neomycin, and intra-muscular epinephrine for emergency cases of anaphylactic shock. Some treatment is prohibited in children younger than six.⁴⁷

Virginia's formulary is unique in that it is selected by the Board of Medicine, not the Board of Optometry.

Washington

The following list of topical drugs may be used from diagnostic and treatment purposes: mydriatics, cycloplegics, miotics, anesthetics, anti-infectives, antihistamines and decongestants, ocular lubricants, antiglaucoma and ocular hypotensives, anti-inflammatories, hyperosmotics, and other topical drugs approved for ocular use by the FDA.⁴⁸

West Virginia

West Virginia permits the use of drugs "prescribable for the human eye" for therapeutic purposes by topical application only.⁴⁹

Wisconsin

Wisconsin defines therapeutic pharmaceutical agent to include, but not be limited to, the following classes of drugs (the number in parenthesis after the category is the number of specific types of those drugs listed in the rules): oral analgesics (6), topical decongestant agents and decongestant combinations (7), antiallergy agents: two classes - topical and oral antihistamine agents (7) and cromolyn sodium (a mast cell stabilizing agent), artificial tear solutions, ophthalmic irrigants, and ocular lubricants; hypertonic sodium chloride, a topical hyperosmotic agent; yellow mercuric chloride; topical anesthetics (4); antibiotics: four classes - topical (13), oral (2), topical antiviral agents (4), and acyclovir (oral antiviral agent); anti-inflammatory agents: three classes - oral NSAIDs (4), topical corticosteroids (7), and diclofenac sodium; topical anticholinergic agents (7); antiglaucomatous agents: five classes - sympathomimetics (2), direct-acting miotics (3), cholinesterase-inhibiting miotics (4), topical beta-adrenergic blocking agents (5), and oral carbonic anhydrase inhibitors (3). Also permitted are ophthalmic therapeutic drugs that are either the subject of an approved new drugs application by the FDA, drugs generally exempt from the new drug application approval requirement in the federal Food, Drug, and Cosmetic Act, and drugs certified by the FDA under the FDC Act or exempt from certification under the Act.⁵⁰ The optometry examining board places restrictions or conditions on the use of beta blockers, carbonic anhydrase inhibitors, and oral antivirals.⁵¹

Wyoming

This state allows optometrists to administer and prescribe topical pharmaceutical agents.⁵²

Summary of TPA Statutes

For the purposes of this study, pharmaceutical agents can be divided into three categories: **topical**, which are put directly into the eye; **oral**, which are swallowed; and **injectable**, which are administered by hypodermic injection. This last category is not very important to this study: few states allow optometrists to use any injectables at all, and the ones that do merely permit the use of medication to treat patients who are experiencing a severe allergic reaction (anaphylaxis) that needs immediate attention. The categories can be further subdivided into two types of effects: **local**, which affects only the eye, and **systemic**, which affects other parts of the body as well.

All of the TPA states allow the use of at least some kinds of topical medication. About half give blanket permission to use any appropriate topical pharmaceutical agent. The others specify the types that may be used. These formularies (lists of drugs) vary, from rather minimal formularies such as that of Kansas, which permits only anesthetics, anti-infectives, and restricted use of anti-inflammatory agents; and New Hampshire, which permits only

topical antibiotics and sulfonamides, antihistamines, decongestants, and anesthetics; to lavish formularies that embrace all topical agents, which would include those plus other anti-infectives (anti-virals, anti-fungals, anti-microbials), steroids, and anti-glaucoma medications.⁵³ Some states specify the classes of drugs that can be used, as Washington does, while a few list specific drugs, as Virginia does.

Among the states that specify the topical drugs rather than granting blanket permission, the types of drugs most commonly permitted are topical anesthetics; topical antihistamines; topical anti-inflammatories, including steroids; topical antibiotics; topical decongestants; and topical anti-infectives. Other permitted types are other germ-fighters, "germ" being used here in its broadest, non-technical sense (anti-microbials, anti-virals, anti-fungals, antiseptics, and sulfonamide), analgesics, and anti-glaucoma drugs.

It should be noted that anti-glaucoma drugs are quite controversial: thirteen of the TPA states absolutely prohibit TPA-certified optometrists from treating glaucoma, and nine place some type of restriction on their use of those drugs.⁵⁴ The chart set forth on pages 17 and 18 from the American Academy of Ophthalmology, which does not include information for the states that adopted TPA laws this year, provides more detail on this topic.

Use of steroids is also controversial (see Appendix C). Some states give specific permission to use them, some impose time restrictions and require referral to an ophthalmologist, and others prohibit their use.

The use of oral drugs is another area of contention. Approximately half of the TPA states do not allow the prescription or administration of any oral medication whatsoever. The remainder do, but again this varies widely. A few states limit oral medications to analgesics (pain-relievers) only, such as South Dakota, while others grant the right to use a variety of drugs, including oral analgesics, oral antihistamines, oral antibiotics, oral anti-virals, oral non-steroidal anti-inflammatory agents, and oral anti-glaucoma medications, as does Wisconsin.

A few states go even further than this, and apparently allow their optometrists to use any class of relevant drugs, such as Idaho, which permits the "therapeutic use of pharmaceutical agents"; New Jersey, which allows the use of topical "agents for the purposes of treating" the eye; and Tennessee, which permits the administration of "pharmaceutical agents rational to the ... treatment" of the eye. There is no language limiting the kind of drugs that can be used.

A-4
February 6, 1994

GLAUCOMA TREATMENT BY OPTOMETRISTS

In the 50 United States, the District of Columbia and Puerto Rico, optometric statutes include the following provisions related to the use of glaucoma drugs:

Number of states **PROHIBITING** optometric treatment of glaucoma.

Diagnostic States	15
Therapeutic States	<u>13</u>
Total Number PROHIBITING States	28

STATES WITH GLAUCOMA PROVISIONS

Number of states requiring PHYSICIAN CONSULTATION for optometric treatment of glaucoma.	6
Number of states that permits but REQUIRES other prohibitions	3
Number of states with a SILENT STATUTE ¹	13
Number of states SPECIFICALLY AUTHORIZING optometric treatment of glaucoma	<u>2</u>
Total Number PERMITTING States	24

SUMMARY EXPLANATION OF CATEGORIES

- All diagnostic states prohibit the treatment of glaucoma by optometrists:
 - 15 Alabama, California, Delaware, District of Columbia, Hawaii, Illinois, Maryland, Massachusetts, Michigan, Mississippi, Nevada, New York, Pennsylvania, Puerto Rico (non-diagnostic state) and Vermont

¹ Permits use of topical drugs, but does not specifically permit treatment of glaucoma.

- "Therapeutic" states prohibiting the treatment of glaucoma by optometrists:
13 Colorado, Connecticut, Georgia, Kansas, Maine, Montana, Nebraska,
New Hampshire, North Dakota, Rhode Island, South Dakota, Texas, Virginia²
- "Therapeutic" states restricting treatment of glaucoma by mandating consultation or collaboration with a physician:
6 Arkansas, New Mexico, Oregon, South Carolina³, Utah, Wisconsin
- "Therapeutic" states that could permit but remain silent specifically concerning treatment of glaucoma:
13 Alaska, Arizona, Idaho, Kentucky, Louisiana, Minnesota, Missouri, New Jersey,
Ohio, Oklahoma, Tennessee, West Virginia, Wyoming
- "Therapeutic" state that permits but imposes other restrictions on treatment of glaucoma:
3 Florida⁴, Indiana⁵, North Carolina⁶
- "Therapeutic" states specifically authorizing independent optometric treatment of glaucoma:
2 Iowa, Washington

clear\A-4glaucoma

² Glaucoma is not listed in allowed diseases and conditions.

³ Use of beta-blockers requires consult or referral. Also requires documentation in patients' chart when prescribing oral pharmaceutical agents.

⁴ Optometrist must advise patient of serious nature of glaucoma.

⁵ Optometrist is encouraged to notify the patient's physician of the use of legend drugs.

⁶ Other than topical agents require consultation.

Who Creates the Formulary?

The foregoing information illustrates the lack of unanimity among the TPA states. If the Hawaii state legislature decides to authorize TPAs, the next decision would have to be who would select the drugs. There are three options: to list the drugs in the statutes; to permit the board of optometry to establish a drug formulary, with or without statutory guidelines; or to require the board of medical examiners to establish the formulary, again with or without statutory guidelines.

The advantage to listing the drugs in the statutes is that there would be an opportunity for debate between and input from the ophthalmologists and the optometrists on which drugs would be appropriate, and that as statutory amendments can only be proposed once a year, during the legislative session, there could be no hasty changes made without such input. The disadvantage would be the necessity of coming to the legislature every time an additional drug is sought to be included.

The advantage of having the board of optometry establish the formulary is that it could be done expeditiously and would be done by the board that licenses optometrists and presumably has the most up-to-date information on the educational background and ability of optometrists to prescribe. The disadvantage is that the input from the ophthalmologists might be limited, or, to the extent that the friction between optometrists and ophthalmologists on this issue remains, be ignored.

The advantage of having the formulary established by the board of medical examiners is that the list would be established by the group most highly trained to handle eye care and eye health issues, and who are most familiar with drugs as a whole and their impacts on other parts of the body, in addition to the eye. For example, beta blockers can be used to treat glaucoma, but they can also cause congestive heart failure.⁵⁵ Medical doctors would be more aware of the side-effects involving not only the eyes but the rest of the body. The disadvantage is, from the optometrists' point of view, that such a formulary might be more limited.

Licensure

An additional issue is which optometrists would have the right to prescribe TPAs. Some states build in pharmacological training into their optometry exam, ensuring that each optometrist who passes the exam will be trained in the use of TPAs.⁵⁶ Others require a separate exam or licensure procedure.⁵⁷ These states have two or three classes of optometrists whose scope of practice depends on the type of certification passed. For example, Ohio has three classes of optometrists: primary licensure holder (no drug use authorized), topical ocular certificate holder (can use diagnostic drugs), and therapeutic certificate holder (can use diagnostic and therapeutic drugs).⁵⁸

In Delaware, the classes of optometrists are non-diagnostically certified optometrist, diagnostically certified optometrist, and therapeutically certified optometrist.⁵⁹ Another option is to base the need for additional training on when the optometrist was licensed, as Connecticut does: optometrists licensed before January 1, 1991 must take classes and a clinical to use TPAs; those licensed after that date do not.

The rationale for requiring additional training before an optometrist can use TPAs probably arises from the fact that the ability to use TPAs has been granted only within the past eighteen years, with most of the states permitting it only since the mid-1980s. Optometry schools, until relatively recently, did not have substantial training in TPAs because, until states permitted their use, there was no need for such training. While the curriculum and training for recent optometry graduates has improved, as is discussed in more detail in chapter 4, older optometrists in particular are in need of in-depth therapeutic pharmacology training that was not available when they were in school.

Many states also have continuing education requirements for TPA-certified optometrists.⁶⁰ This requirement is recommended. While optometry is trying to position itself as a primary health care profession, there are many optometrists whose experience will primarily be with people seeking glasses or contact lenses, and who will treat disease as a sideline, if at all. Mandatory continuing education will help ensure that their skills remain at a professional level and would also inform them of updates in the field of ocular pharmacology.

Consultation and Supervision

While eighteen states allow optometrists to use their professional judgment in administering TPAs, under some circumstances twenty-two other states require them to consult with, provide drugs under the supervision of, or refer patients to, an ophthalmologist. Nine states have a consultation requirement, eight have a referral requirement, and four have other requirements.⁶¹ Most of the consultation and referral requirements revolve around the treatment of glaucoma and use of steroids. Some also require referral if the patient's condition does not improve, or if the diagnosis indicates a problem outside the optometrist's ability to treat.⁶² A copy of the American Academy of Ophthalmology chart on this topic is contained in Appendix D.

Comparison to Military Privileges

As a point of interest, comparison to military TPA privileges may be instructive. According to one article, the Army allows its optometrists to apply for the privilege of prescribing and using particular TPAs, with no guidelines or restraints on their potential capabilities. The Air Force specifies the conditions that may be treated, while the Navy specifies the categories of drugs that may be used. For the Navy, unrestricted use of topical antibiotics, antihistamines and decongestants, non-steroidal anti-inflammatory agents (NSAIDs), and anesthetics. Consultation is required prior to prescribing steroids, anti-virals,

and miotics.⁶³ For all service areas, the drugs most likely to be approved for full privileges were topical antihistamine/decongestants, topical anti-bacterials, and NSAIDs. Privileges were most frequently limited for steroids, glaucoma medications, and systemic medications.⁶⁴ Opposition by ophthalmologists were the primary reason cited for these limitations. A more detailed description of TPAs and military optometrists is found in chapter 7.

Summary

With the advent of contact lenses and easier to use diagnostic drugs, optometrists have sought to change their profession from prescribing and selling glasses to a full-fledged health care profession. Lengthy battles in state legislatures during the 1970s and 1980s gained optometrists the ability to use so-called diagnostic therapeutical agents (DPAs) in all fifty states. The next step optometrists sought and are still seeking is the privilege of using drugs for treatment, the therapeutic pharmaceutical agents (TPAs).

At the time this study was prepared, forty states permitted their optometrists to use some kind of TPAs. Most of the states have placed a variety of restrictions and controls on the use of TPAs. Some limit which topical TPAs can be used, while others give blanket permission. Approximately half the states do not permit oral drugs to be used, while others do, usually specifically limiting which drugs or classes of drugs are available. Use of anti-glaucoma agents is particularly controversial.

States vary as to who establishes the formulary (list of permissible drugs). They can be established by the legislature, the state board of optometry, or the state board of medicine. In most of these states, optometrists have to make a special study of ocular pharmacology, sometimes including clinical hours, and pass additional certification to be able to prescribe TPAs.

Over half the states have some type of consultation or referral requirements for glaucoma treatment, steroid use, or for conditions that do not improve or are beyond the scope of the optometrist's ability to treat.

Endnotes

1. Most of this information is taken from a publication submitted by the American Optometric Association to researcher, dated September 23, 1994, entitled, "TPA States Only; Pharmaceutical Agents by Name or Type That State Law or Regulations Permit Optometrists to Use."
2. Alaska Statutes, Title 8, section 08.72.272.
3. Arizona Revised Statutes Annotated, Title 32, §32-1701.
4. Arkansas Code Annotated, §17-89-101, -403.

FEASIBILITY OF A THERAPEUTIC DRUG LAW FOR OPTOMETRISTS IN HAWAII

5. Arkansas State Board of Optometry, Rules and Regulations Governing the Use of Therapeutic Drugs for Optometric Care, Article 1, Sections 1 and 2.
6. West's Colorado Revised Statutes Annotated, §12-40-102.
7. Connecticut General Statutes Annotated, §20-127.
8. Delaware Code §2101, as amended by House Bill No. 475, effective June 30, 1994.
9. Florida Administrative Code Annotated, Rule 21Q-18.002.
10. State Affairs Department, American Academy of Ophthalmology, "State Legislative Issues: Summary of State Optometric Statutes," January 1994, at 5 (hereafter Summary).
11. Code of Georgia, §43-30-1.
12. Idaho Code, §54-1501.
13. West's Annotated Indiana Code, §25-26-15-19, and Indiana Administrative Code, §857 IAC 2-3-16.
14. Iowa Code Annotated, §154.1
15. Kansas Statutes Annotated, §65-1501.
16. Kentucky Revised Statutes Annotated, §320.240.
17. Louisiana Statutes Annotated, Title 37, Chapter 12, §1041.
18. Maine Revised Statutes Annotated, Title 32, §2411.
19. Minnesota Statutes, §148.571, 148.576.
20. Mississippi Code Annotated, §73-19- (complete citation not available at this time).
21. Vernon's Annotated Missouri States, §336.220.
22. Missouri State Board of Optometry, 4 CSR 210-2.080.
23. Montana Code Annotated, §37-10-101.
24. Montana Board of Optometrists, chapter 36, subchapter 8, §§8.36.801 and .804.
25. Nebraska Revised Statutes, §§71-1,133 and 71-1,135.01.
26. New Hampshire Statutes Annotated, §327:1
27. Id.
28. New Jersey Statutes Annotated, §45:12-1.
29. New Mexico Statutes Annotated, §61-2-2.

USE OF TPAS: OTHER STATES' EXPERIENCES

30. General Statutes of North Carolina, §90-114.
31. *Id.*
32. North Dakota Century Code, §43-13-01.
33. *Id.*
34. Page's Ohio Revised Code Annotated, §4725.01.
35. *Id.* at §4725-16-01.
36. Oklahoma Statutes Annotated, §581.
37. Oregon Administrative Rules, §852-80-005.
38. Oregon Revised Statutes, §683.010.
39. General Laws of Rhode Island Annotated, §5-35-1.1.
40. State of Rhode Island Board of Optometry Rules and Regulations, §10.1.2.
41. Code of Laws of South Carolina Annotated, §40-37-105.
42. South Dakota Codified Laws, §37-7-1, -1.1.
43. Tennessee Code Annotated, §63-8-102.
44. Official Texas Administrative Code, §280.5
45. Vernon's Texas States and Codes Annotated, art. 4552-1.03 §1.03.
46. Utah Administrative Code, Rule 156-16a-14.
47. Virginia Board of Medicine VR465-09-01, Prt IV, §§4.3, 4.4
48. Washington Board of Optometry Administrative Code, §246-851-410.
49. West Virginia Code, §30-8-2.
50. Wisconsin Administrative Code, RL 10.01.
51. Wisconsin Administrative Code, RL 10.02.
52. Wyoming Statutes, §33-23-102.
53. Such as the statutes of Alaska and West Virginia implicitly authorize by their general language.
54. Summary, *supra* note 10, at A-4.
55. See letter from Dr. David J. Randell, M.D., to the House Committee on Consumer Protection, on House Bill No. 2456, February 12, 1994.

FEASIBILITY OF A THERAPEUTIC DRUG LAW FOR OPTOMETRISTS IN HAWAII

56. Such as West Virginia. Summary, *supra* note 10, at 26.
57. Such as Kentucky and South Carolina. *Id.* at 9, 21.
58. *Id.* at 18.
59. See note 8 *supra*.
60. Such as South Carolina, Tennessee, and Wisconsin. Summary, *supra* note 10, at 21, 23, and 27.
61. *Id.* at A-6.
62. *Id.* at A-6, pages 1-3.
63. John W. Tierney et al., "Therapeutic pharmaceutical utilization by military optometrists," Journal of the American Optometric Association, vol. 62, no. 6 (June 1990) at 483.
64. Usually, the restriction on steroid use was a prior consultation with a physician; for glaucoma treatment, refills only; and for systemics, limited selection of drugs (usually over the counter antihistamines/decongestants and analgesics).

Chapter 4

OPTOMETRIC EDUCATION AND PATIENT SAFETY

The most heated and controversial component of the TPA issue is the question of patient safety. Can optometrists administer and prescribe TPAs properly, safely, and responsibly? Optometrists take the position that they can; that their education in the medical treatment of eye disease is comparable to that of ophthalmologists and superior to other groups of professionals who prescribe drugs; and that statistics in TPA states back up their claims. Ophthalmologists take the opposite view: that optometrists may have textbook education but not the necessary clinical experience, and that many systemic diseases manifest themselves in the eye and that optometrists are not trained to diagnose them. The two sides are in vehement opposition.

This chapter will examine two factors in this debate: optometrist education, and patient safety reports and statistics.

Education

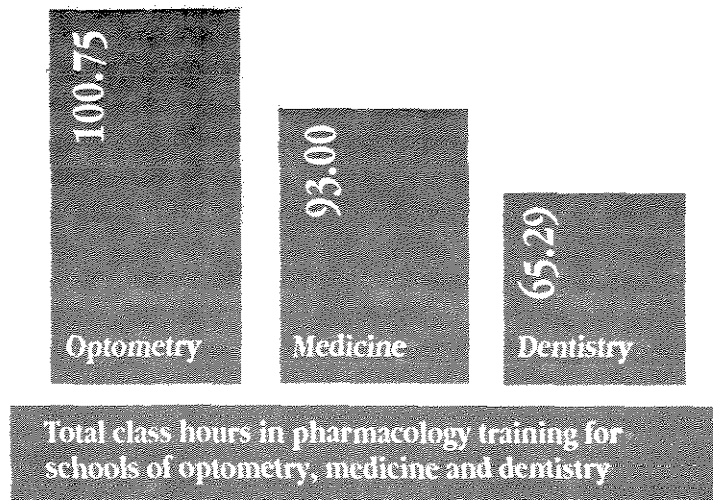
The first state to allow optometrists to use TPAs was West Virginia, on March 4, 1976. Ten years after West Virginia, only six other states had followed suit, most of them in 1985 and early 1986. The boom in TPA laws started just after the ten-year mark, when four other states adopted TPA laws, and peaked in 1987, with eight states approving these laws, for a total of nineteen.

Prior to these years, there was not a great need to teach therapeutic drugs at optometry schools. Subsequently, the need became apparent and optometry schools began to revamp their curriculums in this area. This historical fact must be kept in mind when reviewing literature comparing optometrist education to ophthalmologists'. Older articles may be irrelevant to the state of the art education today. The fact that educational requirements have been upgraded over time can also be deduced from the licensure provisions of some TPA states, which permit more recent optometry graduates to have TPA privileges as long as a national examination that includes TPAs is passed, but requires earlier graduates to undergo additional training as well as to pass the examination.¹

The Legislature requested the state Board of Medical Examiners and the Board of Examiners in Optometry to supply the Bureau with information on the current curriculums of optometrists, ophthalmologists, general practice physicians, family practice physicians, internists, and pediatricians for comparison purposes. It is believed that the information was requested from the non-ophthalmologist medical doctors because they are permitted by licensure to prescribe all drugs, including TPAs.

a. Optometrists

Current studies by optometric proponents indicate that, on the average, optometry students are required to take more courses in pharmacology than are medical students. See the attached chart. Optometrists also emphasize that their courses are geared much more to pharmacology as it affects the eye, while medical student courses cover drugs and the whole body.² Optometrists do not, in general, claim any expertise in surgical management of the eye.³ The state board of optometry responded to the Legislature's request for information on optometric education by transmitting copies of testimony presented to the Legislature during the 1994 session. The materials included specific information from two of the optometry schools that accept Hawaii WICHE students.



The Southern California College of Optometry states that its curriculum currently provides students with 550 class contact hours of education in classes related to the treatment of ocular disease.⁴ In addition, there are a series of fourth year seminars and grand rounds (patient observation) emphasizing treatment and management of ocular disease. There are a total of 1330 patient contact hours devoted to diagnosis and treatment of ocular disease. In terms of clinical education, each student is required to provide services to a minimum of 1100 patients, a "high percentage" of which present signs or symptoms of ocular disease or the ocular manifestation of systemic disease. In their fourth year, an "extensive series" of off-campus clinicals is offered at eighty-four sites in twenty-four states.⁵ At least thirty-seven sites offer students direct hands-on experience in the treatment of eye disease, and an additional five offer the opportunity to participate in co-manages treatment. All students will have had actual experience at one or more of these forty-two sites in which they will manage or co-manage eye disease.

The Dean of the School of Optometry at the University of California at Berkeley (UCB) described its curriculum as "integrated-layered," in which materials are introduced in the first year, reiterated in depth in the second and third years, and extensively reviewed with clinical demonstrations in the fourth year.⁶ UCB students take over 200 clock hours of lectures and laboratories in systemic disease and ocular manifestations of systemic disease, close to 300 hours in ocular disease, and more than sixty hours in general and ocular pharmacology. It is estimated that between 325 and 450 hours of third and fourth year clinical work is devoted to disease problems. One recent UCB student's coursework and clinical experience is presented in more detail in chapter seven.

The Hawaii Optometric Association (HOA) submitted testimony that states that during their four-year program, optometry students average more than 100 lecture hours in pharmacology, over 500 hours in classroom and laboratory study of eye disease diagnosis, treatment, and management, and more than 1000 hours in clinical, hands-on training.⁷

Several letters of support were submitted from medical doctors, one who is a board certified ophthalmologist and on the faculty of the Pennsylvania College of Optometry, who states that "[w]ithout a doubt, optometrists are prepared through their knowledge, skills, and clinical experience to diagnose all eye diseases and to treat diseases of the eye consistent with the limitations...being considered in New Jersey."⁸ Another was from a school of medicine that states that since 1985, the school has "included training under the supervision of optometrists from our medical residents. Their experience has confirmed our own with regard to the excellent standards of care existing in optometry."⁹

b. Medical Doctors

The Board of Medical Examiners included a course catalog from the John A. Burns School of Medicine of the University of Hawaii in its materials. Unfortunately, the course catalog does not readily yield information on pharmacology hours, as the School of Medicine does not utilize the traditional medical school curriculum of compartmentalized classes on single topics. Rather, the School uses a "problem-based learning curriculum" in which the basic sciences are learned in the context of solving clinical problems. The researcher spoke with Dr. Christian Gulbrandsen, Dean of the School of Medicine,¹⁰ who confirmed that, given the holistic approach used in this curriculum, it would be impossible to estimate the number of hours of pharmacological training.

One source often cited by ophthalmologists for their hours of experience with pharmaceuticals is a staff paper prepared by the Health Program of the Office of Technology Assessment of the United States Congress, dated October 1988 (the OTA study).¹¹ The focus of the OTA study was appropriate pre- and post-operative care of cataract patients. The study included a comparison between the education of ophthalmologists and optometrists, based on literature and direct observations at one optometry school and one ophthalmology residency program.

The report found that ophthalmologists:

- Undergo eight total years of training: four years of medical school, one year post-graduate clinical training in a hospital-based program, and three years of training in a hospital-based ophthalmology residency program.
- In the first two years of medical school, a medical student typically gets between 1500 and 2000 hours of coursework.
- The last two years of medical school emphasizes clinical rotations in hospitals and other settings, spending about 3200 hours doing clinical rotations.
- The internship years involves a minimum of 1040 hours of experience in direct patient care.
- The residency program includes a minimum of 360 hours of instruction in basic and clinical science, 288 hours of clinical conferences, and 50 hours of ocular pathology (disease).
- The residency program involves at least 3000 outpatient visit, with major management responsibility for at least 2000 of those visits and consultation experience for a minimum of 150 patients covering a wide spectrum of eye disease and manifestations in the eye of systemic (widespread) diseases.

The report contrasts this experience with the more limited experience provided to an optometry student at that time.¹² However, it is apparent from the materials submitted by UCB and Southern California described above that the information in the OTA study as it relates to optometric education is dated. It appears that since the date of this report, schools of optometry have increased their pharmacology course load, with some studies showing that they actually have more in-class hours than medical students,¹³ and that this number indicates a more in-depth exposure than medical students, as optometry students study primarily drugs that affect the eye, while medical students cover the whole body. As discussed above, some schools have added classroom hours in systemic diseases, at least insofar as they manifest themselves in the eye. Neither HOA nor the Board of Examiners in Optometry provided the Bureau with specific information regarding the scope of optometric education in this respect, so no generalizations can be made.

Yet ophthalmologists still insist that (1) the quality of the education is less,¹⁴ and (2) the clinical experience of ophthalmologists is vastly superior, as optometry students generally see healthy eyes and have far less experience with eye disease,¹⁵ and of those patients with eye disease, many are seen in demonstrations, as opposed to ophthalmologists, who, when they see patients during their residency, are already fully-licensed physicians who assume

major responsibility for patient care for extended periods of time.¹⁶ The Hawaii Ophthalmological Society's claims are based on the premise, presented in more detail in chapter 7, that mere classroom hours do not fully educate a student in diagnosis and use of TPAs. Lectures are merely a beginning. Hands-on, clinical experience examining thousands of patients, experience that ophthalmology students have but optometry students do not, is the only way to truly learn how to diagnose and prescribe.

The Bureau is not in a position to evaluate these positions for accuracy. While it is evident that ophthalmologists do experience many more clinical hours, whether the more limited clinical experience of optometry students suffices to permit them to administer some or all TPAs is beyond our expertise to determine.

As far as the education of other medical doctors, it is true that they are able to prescribe and administer drugs for the eye although they may have had little or no clinical experience in dealing with patients with eye disease (although they would, of course, have the same pharmacology courses during medical school). Some optometrists have decried the purported inequity of having a general practitioner or family doctor able to fully prescribe medication while optometrists, whose entire four years are focused on the eye, cannot.

However, that argument seems to confuse the possible with the likely. A family doctor can prescribe glaucoma medication, for example, and an ophthalmologist can prescribe ulcer medication. A medical doctor's ability to prescribe is not limited by specialty. But these other doctors do not feel in competition with ophthalmologists, and while they may treat a simple case of conjunctivitis, they do not hesitate to refer a patient to an eye specialist. In contrast, as discussed in chapter 7, there is considerable competition between ophthalmologists and optometrists to provide the same services to the same patients. There is much less incentive for optometrists to refer patients to an ophthalmologist than there would be for a pediatrician (specialist in children) or internist (specialist in internal medicine).

Additionally, while these other types of doctors may not have the intensive background in eye disease per se that ophthalmologists have, as medical doctors they share the same expertise in diagnosing whole-body diseases that are reflected in the eye, such as diabetes. That is half the concern over appropriate eye care treatment: not only should the eye condition itself be accurately diagnosed and successfully treated, but conditions that appear to be eye disease but are actually caused by another condition should be diagnosed and treated.

Patient Safety Complaints

In a debate fraught with hotly-contested issues, no point is as flammable as the question of patient safety. Ophthalmologists cite horror stories of permanent vision loss, blindness, and even death; optometrists cite their impressive statistics demonstrating

thousands of satisfied patients. Objective data are scant. This section will review the major contentions and literature available on the subject.

a. American Academy of Ophthalmology Paper

The American Academy of Ophthalmology put together a summary of optometric malpractice cases from information reported in Medical Malpractice Verdicts, Settlements & Experts; Jury Verdict Research; and an attorney. The Summary lists twenty-two malpractice cases, seventeen of which occurred in DPA states. The fact that the majority of cases occurred in DPA states should be noted. Half the cases concerned glaucoma and nine percent involved tumors. Of the twenty-two cases, two patients became blind, and one included brain damage. Of all patients, forty-five percent were partially blind or likely to be blind. In TPA states, failure to diagnose or diagnostic error occurred in all cases. In DPA states, those errors made up ninety percent of the cases; the rest arose from negligent or improper treatment. The full text of the summary is contained in Appendix E.

b. The Wisconsin Experience

Wisconsin is one of the four states specifically requested for review by the Legislature.¹⁷ Wisconsin is an apparent success story in the TPA field. Its TPA law passed in August of 1989, and included a provision requiring optometrists to file a report for each administration or prescription of a TPA from January 1991 through April 1994. Two sets of reports were compiled by the Wisconsin Department of Regulation and Licensing, one for 1991 and one for 1992.

Three reports were sent for 1991: a detailed report of each disease, drug, and summary of results,¹⁸ a textual report,¹⁹ and a numeric breakdown.²⁰ The breakdown indicated that out of 12,702 administrations, the eye condition had been resolved in 8419 cases (66%), successfully treated in 2024 cases (16%), stabilized in 821 cases (6%), the risk minimized in 1175 cases (10%), the case referred to another health care provider in 160 cases (1%), and no benefit reported in 103 cases (.8%).

Of these approximately 12,000 applications, only nine adverse reactions were reported. Of these nine, eight were allergic reactions that were resolved upon the discontinuation of the medication. The remaining patient had the medication changed and was referred to a medical specialist.

The Wisconsin Academy of Ophthalmology (WAO) reviewed these reports, and found a number of problems.²¹ Their chief concern was whether diseases were in fact treated with the appropriate medication. Many reports indicated that inappropriate medications were administered, and yet a resolution of the condition was reported. One example is the use of benoxinate, an anesthetic drop containing fluorescein, which was cited as a successful treatment for diseases as diverse as conjunctivitis, ulcers, and glaucoma.

WAO also noted a serious example of inappropriate treatment, the failure in half of the cases of narrow angle glaucoma to treat it correctly with pilocarpine. Another problem was cited with respect to treatment for orbital cellulitis, a potentially severe soft tissue infection that can be life-threatening; in only one of the nine cases was the patient appropriately referred to another health care provider, and that patient was first inappropriately treated with steroids. Other concerns in this vein are iterated, and a copy of the letter can be found in Appendix F.

WAO found that while 12,000 usages sounds impressive, when broken down by the number of optometrists in the state, the actual average administration is only 3.2 administrations per optometrist per month. Such a low rate of usage, WAO suggests, does not support the conclusion that the initial use or further expansion of TPAs is warranted.

The reports for 1992²² indicates approximately 17,600 administrations, with the following breakdowns: condition resolved, 11,833 (67%), successfully treated, 3218 (18%), stabilized, 1468 (8%), risk minimized, 832 (5%), referred, 206 (1%), and no benefit reported, 18 (<1%). The textual report,²³ states that of the nearly 17,600 TPA administrations, only forty-three had the code for "problems encountered." Of these forty-three, fifteen were allergic reactions and eighteen were due to poor patient compliance. In three instances there were cardiac or pulmonary side effects that were treated by referral to another health care provider. The remaining seven were also referred to others or reported other side-effects.

The report notes that there may be areas where "possible errors or misinterpretations may lead to unnecessary concerns." These grounds include: misinterpretation of the codes by the optometrists (use of "resolved" for glaucoma, which is never resolved, only stabilized), overzealous reporting (reporting DPA usage), and confusion when a patient presents multiple conditions and is treated with multiple medications.

The Legislature was apparently satisfied by the reporting results, because they removed the reporting requirement. The Wisconsin Department of Regulation and Licensing stated that, as of June 7, 1994, no optometrist had been disciplined for, or had a pending complaint related to, problems encountered in the TPA area.

c. North Carolina

If Wisconsin is optometry's apparent success story, North Carolina is ophthalmology's response. North Carolina ophthalmologists have alleged for years that patients were experiencing harm, including blinding and death, from optometric use of TPAs. The Hawaii Ophthalmology Society enclosed a video, "Putting our Citizens' Eyes at Risk," that was presented to the California Assembly on January 3, 1994, that featured a North Carolina ophthalmologist discussing specific instances of malpractice that he had observed, and featuring some of the patients.

The president-elect of the North Carolina Society of Ophthalmology, Inc., sent the Bureau a letter stating that "North Carolina has very well-documented casebooks of literally hundreds of patients injured or even totally blinded by optometric mismanagement, and failure to refer."²⁴ No other documents were included with the letter. The letter also alleges that optometrists rarely prescribe more than a few TPAs each month, and that the real force behind the drive for a TPA law was to permit optometrists to provide post-operative care for cataract patients. This referral network enriches a small number of eye surgeons and a large number of optometrists, who handle the post-operative care so that the ophthalmologist can do more of the more lucrative surgeries. This referral network scheme, it is alleged, is the single largest factor in every state with a TPA law.

North Carolina optometrists vigorously contest these allegations. One optometrist says that while ophthalmologists claim there have been documented instances of harm, the Board of Examiners in Optometry held extensive hearings on this topic, including issuing a subpoena for these hundreds of cases, the board "was never furnished with credible evidence of mismanagement or inappropriate care[.]"²⁵ The board of examiners reported to the Bureau that they have received only seventeen complaints in seventeen years arising from allegations of improper use of pharmaceuticals or involving questions relating to the practice of medicine or optometry. Twelve of the complaints resulted in a guilty finding by the board, and the other five were dismissed for lack of probable cause.²⁶

d. The Maine Experience

The Maine law required oversight of TPA usage from September 1, 1987 to January 30, 1990.²⁷ The Therapeutic Monitoring Panel's report found that, over the twenty-nine month reporting period, there were approximately 30,000 TPA administrations, and that the committee received no reports of adverse effects from either optometrists or ophthalmologists, except for localized allergic reactions.

e. Other State Responses

The Bureau sent out a letter to each state board of optometry and board of medical examiners to determine the extent to which there have been complaints registered with either board. The boards of medical examiners (or their equivalent) who responded generally indicated that they would not expect to either hear or act on those type of complaints. The boards of optometry generally indicated that there were no TPA-related complaints.²⁸

f. "Catch Up" Provisions

One article on the New Jersey TPA law criticized the "catch-up" provision that would allow current optometrists in New Jersey to administer TPAs. This provision would require only a one hundred hour training course, over a twelve-day period. The author points out that

the New Jersey law would make these twelve days of lectures the equivalent to "four years of medical school, a year's internship, and three years of residency."²⁹ This is not quite a fair assessment, of course, as it does not consider the four years of optometric school, but it does highlight the fact that, while optometric schools see the need for more hands-on, practical clinical experience, the "catch-up" provisions in many states require little or no clinical training.

The article also lists six case examples where patients who suffered damage, including blindness, from misdiagnoses by optometrists. These cases are not particularly on point on the TPA issue, however, as four of them occurred in states prior to their adoption of TPA laws, so that they were not due to a failure in the TPA law, and of the two in states with TPA laws at the time, both cases were for failure to perform a routine type of exam (one for glaucoma, one just to dilate the eye), both of which types of tests are currently permitted for Hawaii optometrists.

Summary

While the classroom education in pharmaceuticals seems similar in length for both optometry and ophthalmology students, the latter receive a much more extensive clinical education in the use of pharmaceuticals. Optometry schools are attempting to close this difference by offering more clinicals, but (1) it is unclear as to how many of the optometry students' patients have eye disease, as opposed to being seen for vision correction, and (2) optometry students' hours, while increasing over the years, are still less than those of ophthalmology students. Whether this difference is significant is a source of intense debate between the two professions.

Patient safety data are relatively scant. In a society as visually oriented as ours, the concept of vision loss is frightening and the cases cited by HOS are disturbing. Yet this information is presented in an anecdotal rather than statistical way. There are no controlled studies comparing optometry malpractice to ophthalmology malpractice, for example. Some of the cases cited by ophthalmologists come from DPA states, errors that cannot be attributed to TPA laws.

The Wisconsin and Maine reports appear reassuring until it is realized that the people reporting are the optometrists, the group with the vested interest in the positive outcome of the reports. The letter from the Wisconsin ophthalmologist noting the problems with the 1991 Wisconsin report raises questions about the accuracy of such reporting. The reports are not made by a neutral, disinterested party.

It is also disturbing to note that while the newer optometrists' education more closely approximates that of ophthalmology students, the more established optometrists may have

had little or no formal training in this area, and the catch-up provisions that would allow them to use TPAs provides an exceedingly limited amount of practical training.

Overall, patient safety seems to be less threatened by optometrists' use of TPAs than ophthalmologists allege. Yet it is apparent that optometric mismanagement of TPAs does occur, and that the consequences can be very grave. The Legislature, in making its decision in this area, will have to decide whether it wants to err on the side of prudence, rather than convenience, in protecting the public.

Endnotes

1. Such as Connecticut does, as discussed in chapter 3.
2. See, e.g., Testimony of Dr. Franklin Lau, Hawaii Optometric Association, to the House Committee on Consumer Protection, in support of House Bill No. 2456, February 23, 1994 at 3.
3. But see discussion relating to North Carolina optometrists in chapter 6.
4. Letter from Richard L. Hopping, President, Southern California College of Optometry, to Phillip Isenberg, California State Assembly, January 12, 1993.
5. Letter from Richard L. Hopping, President, Southern California College of Optometry, to Speaker of the House of Representatives, Hawaii State Legislature, February 1, 1994.
6. Letter from Anthony J. Adams, Dean, to the Honorable Phillip Isenberg, California State Assembly, dated January 14, 1993.
7. Testimony of Franklin Lau, to the House Committee on Consumer Protection, on House Bill No. 2456, dated February 23, 1994.
8. Letter from Joseph C. Toland, M.D., to The Honorable Joseph J. Roberts, Jr., New Jersey Assembly, dated November 5, 1990.
9. Letter from Peter Manu, M.D., Associate Professor of Medicine, The School of Medicine of the University of Connecticut Health Center, to Senator Matthews et al, Connecticut Legislature, dated February 27, 1991.
10. Telephone interview with researcher on August 31, 1994.
11. United States, Congress, Health Program, Office of Technology Assessment, "Appropriate Care for Cataract surgery patients before and After Surgery: Issues of Medical Safety and Appropriateness" (October 1988).
12. According to the OTA study, in contrast, an optometry student:

Undergoes a four-year program with varying amounts of classroom and laboratory instruction in the first two years, with between 700 to 900 hours of class in basic medical sciences, for a total of 1800 hours.

In the second two years, optometry students typically get supervised placements in various clinical settings, with the majority of patients seen just for eye examinations and lens fitting, not

OPTOMETRIC EDUCATION AND PATIENT SAFETY

for eye disease.

By graduation, one example was given, students have seen about 1200 patients and followed pre-and post-operative care for between 8 and 60 patients.

Some graduates participate in a one-year hospital-based or other optometric residency program.

The report found three areas of potential significance between these two types of education that might have an effect on the ability of optometrists to care for cataract patients before and after surgery:

- (1) Ophthalmologists get three years of clinical training in the evaluation and treatment of patients with medical problems. In comparison, "at no point" in an optometrist's training is comparable clinical training in the evaluation and treatment of systemic disease given.
- (2) Ophthalmologists get three additional years of clinical training in the evaluation and treatment of patients with serious eye problems. An optometrist "gets significantly less experience in" making such evaluations.
- (3) Optometry students get significantly less exposure to patients who have undergone eye surgery.

The report recommends that only an ophthalmologist perform preoperative care, and notes that allowing optometrists a role in post-operative care would be a "significant departure from the traditional model" and that "a more prudent approach" would be to allow cautious alterations and then evaluate the effects.

While this study is limited to making a recommendation on pre- and post-operative cataract treatment, certain parallels have been made between its findings and the competency of optometrists to prescribe TPAs.

13. Hawaii Optometric Association, "Vision in the '90s," vol. 1, no. 1 (Fall 1993), bar chart at 3.
14. Harold A. Helms, M.D., Ph.D., a representative of the University of Alabama Department of Ophthalmology has stated that, after talking to his colleagues, the consensus is that courses they teach to optometry students were taught "at a significantly lower level" than medical students and that this training "does not qualify a person to practice medicine." Letter to Dr. David Bowden from Harold A. Helms, M.D., Ph.D., dated February 10, 1993. The AAO put together a paper, found in Appendix G, detailing similar claims.
15. Hawaii Ophthalmological Society, Legislator Information Kit, "For Continuing Quality Eye Care in Hawaii" (undated, unpaginated).
16. See letter from Hawaii Ophthalmological Society to Samuel B.K. Chang in Appendix B.
17. The other four are Pennsylvania and Maryland, DPA states, and South Carolina, a TPA state. The response from South Carolina was a statement from their board of medical examiners that they have received no TPA complaints, and a letter from their board of examiners in optometry stating that, in the brief time their TPA law has been in effect, that there have been no reported problems. The only response from Pennsylvania was a letter from their Academy of Ophthalmology opposing past and future TPA legislation. The only response from Maryland was a letter from their board of examiners in optometry supporting TPA legislation.
18. Correspondence/memorandum from Pat McCormack, Deputy Secretary, to Secretary Marlene Cummings, entitled "Updated Report on the Prescribing of TPAs by Optometrists," dated May 5, 1992.
19. Correspondence/Memorandum from Ramona Weakland Warden, Director, Bureau of Health Service

FEASIBILITY OF A THERAPEUTIC DRUG LAW FOR OPTOMETRISTS IN HAWAII

- Professions, to Marlene Cummings, Secretary, Department of Regulation and Licensing, entitled "Final Summary of 1991 Use of Therapeutic Pharmaceutical Agents by Optometrists in Wisconsin," dated July 14, 1992.
20. *Correspondence/memorandum from Magie Dabe to Ramona Weakland Warden, entitled "Combined TPA Report and Addendum," dated May 18, 1992.*
 21. Letter from Peter J. McCanna, M.D., to Marlene Cummings, Secretary, Department of Regulation and Licensing, dated August 11, 1992.
 22. *Correspondence/memorandum from Alison Leach to Ramona Weakland Warden, entitled "TPA Report," dated June 18, 1993.*
 23. *Correspondence/memorandum from Ramona Weakland Warden, Director, Bureau of Health Services Professions, to Marlene Cummings, Secretary, Department of Regulation and Licensing, dated June 28, 1993.*
 24. Letter from Walter L. Wright to Samuel B.K. Chang, July 6, 1994.
 25. Letter from James B. Black, O.D., Representative to the North Carolina General Assembly, to David Work, Executive Director, North Carolina Board of Pharmacy, March 26, 1991.
 26. Letter from the North Carolina Board of Examiners in Optometry, to "To Whom it May Concern," re "Experience of the North Carolina State Board of Examiners in Optometry over a period of seventeen years in the regulation of practitioners in the practice of optometry wherein the licensees have prescriptive authority for both diagnostic and therapeutic pharmaceuticals agents in the treatment of diseases and conditions of the eye," dated July 12, 1994.
 27. Letter from the Therapeutic Monitoring Panel to the Honorable John R. McKernan, Governor, State of Maine, dated June 15, 1990.
 28. The Wyoming board noted that they received one complaint that was handled without hearing or litigation. Letter from David J. Halsey, President, Wyoming State Board of Examiners in Optometry, to Samuel B.K. Chang, dated June 17, 1994.
 29. Jordan D. Burke, "The Optometric Drug Bill: The Risk Factors," Trial Lawyer (March 1993) at 37: "Ophthalmologists are required to graduate an approved four-year medical school, to meet the requirements for becoming a doctor of medicine, and then to serve an AMA-approved residency program in ophthalmology....ophthalmologists are, first and foremost, medical doctors, educated and trained to integrate their general medical background with an ophthalmology specialty.... In sharp contrast, optometrists will receive training in ocular pharmacology of approximately 100 hours in duration. Under this new [New Jersey] legislation, optometrists will only be required to complete a six-weekend training course -- a total of 12 days -- and to pass a pharmacology exam."

Chapter 5

COST

The second-most hotly contested issue in the TPA area is the cost of allowing optometrists to use them. The information in this chapter is based on professional articles and state responses to letters sent out by the Bureau. As reported in more detail in chapter 4, the Bureau received responses from twenty-one optometry boards, twenty-four medical boards, seventeen optometry associations, and sixteen ophthalmology associations. Eight states sent in no responses at all.¹

Almost as much controversy surrounds the topic of costs as surrounds the patient safety issue. One of the factors that makes this area confusing is that there are three classes of payors to consider: patients, health insurers, and state and federal programs such as Medicaid and Medicare. Changes that reduce or increase the cost to one of the classes might have no, or the opposite, effect on another.

A lot of guesswork and simplistic thinking clouds this area. For example, some of the optometry groups that responded stated that costs would be reduced with optometrist TPA usage as optometrists charge less for eye exams than ophthalmologists do. This facile statement ignores at least three facts. First, once optometrists receive full TPA privileges, there is nothing to stop them from charging the same fees as ophthalmologists for treatment. Second, in many states Medicaid/Medicare and private health carrier reimbursements are based on treatment performed, not the provider. Optometrists will be reimbursed at the same rate enjoyed by ophthalmologists, an incentive to raise their rates to these limits. Third, this alleged decrease focuses only on the **patient's** expenses. The result, as discussed below, could conceivably be quite different for state programs and particularly for private health insurers.

Patient Costs

When optometrists discuss cost savings, they focus on the impact on the patient's wallet. Alleged cost savings in this category are based on two factors: lower fees charged by optometrists, and savings resulting from "one-stop shopping" - not having to refer the patient to a second doctor for treatment.

Few of the state respondents were able to give estimated savings due to optometrists' use of TPAs. The respondent for the Wisconsin Optometric Association, for example, said that "I believe that costs have decreased because fewer visits are required.... Savings would also logically occur also as the services are provided by primary care providers rather than surgeons" but that the "data really have not yet been gathered in Wisconsin." (Emphasis added)²

The Idaho Board of Optometry said that a 1987 survey found that their optometrists wrote about 13,000 prescription per year, which they interpret as a cost-savings that "could easily be in excess of \$200,000."³ No data were given to support that conclusion or that figure, and doubts may be cast on its applicability. These data are alleged to come from a study done in 1987, the same year that its TPA law passed. It is therefore impossible that the study could have been based on a full year's assessment of the situation, and it is unclear on what it was based. Even if the figure was accurate at the time it was made, however, it may be that, in recognition of their expanded capabilities, Idaho optometrists have since raised their fees, reducing any purported savings.

The New Jersey Optometric Association (New Jersey adopted its TPA law in 1992), states that cost of eye care has been dramatically reduced because duplication of services and referrals are eliminated, and estimated a savings of \$14 million in the eighteen months the law has been in effect.⁴ However, this number is undocumented, and since the TPA law has been in effect for a relatively short time, it is difficult to predict whether these cost savings would continue.

The Ohio State Board of Optometry stated that no specific information on costs is kept but that they would appear to be lower since the referrals cost are eliminated in many cases and *optometry costs are usually lower.*⁵ The Ohio Optometric Association agreed with that logic, and cited a SUNY Center for Vision Care policy study performed last year that found no statistically significant difference in fee trends between TPA-licensed and non-TPA licensed optometrists.⁶ However, Ohio has only had its TPA law since July 1992, and the study was performed in 1993, which may not be sufficient time for optometric fees to feel the full impact of TPA-licensure. This seems to be the position of the Ohio Ophthalmological Society, which stated that "it is still relatively early in the Ohio experience to assess the definitive cost or impact of the TPA legislation."⁷

The Arizona Optometric Association states that managed care programs are hiring more optometrists as primary care providers, and that "it is clear that consumer costs are lowered by virtue of the insurer being able to charge lower premiums for coverage."⁸ However, again, Arizona's TPA law has only been in effect since April 1993, and the price of optometrists' services may not have reached their level.

Three other states, Colorado, Utah, and Wyoming, make the blanket statement that optometrists' fees are generally less than those of ophthalmologists, and imply a cost savings on that basis alone.

The Virginia Optometric Association states that its optometrists' fees generally remain about thirty percent under those of ophthalmologists and are seen as a "stabilizing effect" on ophthalmologists' fees.⁹ However, Virginia has one of the most restrictive TPA laws, as its

COST

formulary is selected by the Board of Medical Examiners, not the Board of Optometrists, and it also has one of the lowest reported rates of TPA-licensed optometrists, thirty percent.¹⁰

There is a trend among optometrists in states with the more recent TPA laws to report cost savings due to reduced optometrists' fees, while ophthalmologists in states who have had TPA laws longer iterate the opposite, that both groups' charges are similar. For example, the Kentucky Academy of Eye Physicians and Surgeons said that in their state, which has had TPA laws since 1986, that optometrists charge the same amounts as ophthalmologists.¹¹ The respondent from the Nebraska Academy of Ophthalmology, which also has had a TPA law since 1986, said that optometrists in his community charge the same fees that he does, and sees patients much more frequently.¹² The Texas Optometry Board, which has had its TPA law since 1991, says that optometrists and ophthalmologists are paid for services on the same fee schedule for Medicare and Medicaid as ophthalmologists.¹³ Perhaps this indicates that, over time, as they become more comfortable and familiar with the TPA laws, optometrists' fees tend to rise. However, too little data are provided to make this a definitive statement.

There is a substantial amount of discrepancy between the states as to whether optometrists' rates are the same or less than those of ophthalmologists, and the impact that that factor has on consumer costs. However, focusing solely on optometrists' fees is misleading as it is only one part of the total cost picture. Competence is a big factor in determining costs. Ophthalmologists argue that consumer costs increase when optometrists attempt to treat patients with inappropriate medications, as the patient will have to pay for that treatment as well as the services of the ophthalmologist eventually called in to treat a more entrenched or exacerbated disease. If an optometrist charges only two-thirds of an ophthalmologist's fee, but takes two visits to cure a condition where the ophthalmologist would take only one, at a total charge of one and a half times the ophthalmologist's fee, a cost increase rather than a cost savings would result.

Unfortunately, data on this potential effect do not exist, but can be deduced elliptically from information such as the Wisconsin TPA report mentioned in chapter 4, in which the ophthalmologist who reviewed the report noted that some optometrists "cured" conditions with the medications generally deemed totally ineffective for those conditions. One can assume that those patients either had to come back for an additional, effective treatment or went elsewhere for the real treatment.

Another factor that the ophthalmology associations cite is the "bundling" of services by optometrists, in which one service may be charged at a lower fee but additional services are urged to be used or tacked on that lead to a higher price. Ophthalmologists use standard glaucoma testing as an example. According to a newsletter from the California Association of Ophthalmology, the American Academy of Ophthalmology's preferred practice pattern recommends two visits per year, a gonioscopic exam, and a yearly visual field test, at an approximate cost of \$172, based on Medicare payment levels. The optometric publication

Optometry Review recommends six visits per year, two separate gonioscopic exams (one eye at a time), for a minimum cost of \$272.¹⁴

The gist of this argument is that a straight fee comparison cannot be used as the only indicator of cost or cost savings; rather, the entire package of services charged must be examined.

However, this comparison is only valid if the same examination or the same treatment is being provided. The Minnesota Academy of Ophthalmology (MAO) uses a purported Minnesota Blue Cross/Blue Shield study in its literature¹⁵ to support the proposition that optometrists do not provide economical treatment. The "excellent study" is claimed to support the proposition that, for Minnesota's top nine volume providers (three ophthalmologists and six optometrists), optometrists had a higher average number of visits per patient and a higher average cost per service and per patient, showing that "ophthalmologists are more efficient in providing the studied services." What the studied services were is not stated. The California Association of Ophthalmology also used this information in its May 1994 CAO News newsletter.

Unfortunately, this "study" does not exist as such. The researcher contacted the Minnesota Blue Cross/Blue Shield¹⁶ (BC/BS) for a copy of the study and was informed that there is no such study and that this information came from "raw data" from their Medicaid files. Blue Cross/Blue Shield stated that the reason the optometrists billed more highly is that they were offering orthoptics (vision therapy), which ophthalmologists do not offer, and that that -- not "more efficient" work by ophthalmologists -- is the reason for the cost difference. The researcher also contacted the MAO for a copy of the study and received in response a two page letter on Blue Cross/Blue Shield's revised medical policy for vision therapy reimbursement along with an uninterpreted chart -- scarcely a study.

Eye Examination Studies

Both sides use studies based on eye exams to bolster their claims that they offer cheaper services. Optometrists cite a Center for Vision Care Policy, of the State College of Optometry, State University of New York, study in 1989 comparing routine examination fees nationwide between optometrists and ophthalmologists.¹⁷ The study found that ophthalmologists' fees averaged \$61 while the optometrists's averaged \$42. The study design did not determine what actual tests and procedures were included, and admits that, while all ophthalmologists are licensed to dilate the eye for examination purposes, some optometrists may not be so certified, and that "there could be some [cost] differences in this regard."¹⁸

COST

A study funded by the Ohio Optometric Association in May 1989 also found that ophthalmologists' fees were more expensive, an average of \$56 versus \$38.52 for optometrists.¹⁹

These studies are not particularly helpful as they are over five years old and concern routine examination, not treatment. There is no evidence presented that cost comparisons for routine exams translate into cost differentials for treatment.

Ophthalmologists fight back with a recent study commissioned by the American Academy of Ophthalmology of insurance claims, which found that, when total costs associated with an eye examination are considered, the cost of eye care is lower when provided by ophthalmologists.²⁰ The study admits that ophthalmologists' charges for eye exams alone are higher but contends that the total cost of all services provided should be considered the more true cost. The study found that when office visits, eyeglass, and contact lens claims were aggregated to construct a total eye care "episode," optometrists' claims averaged \$14 to \$17 more than ophthalmologists. However, this study admits that it "does not consider the cost effectiveness of ocular disease management [i.e., treatment] between the two professions."²¹ However, the argument that ophthalmology is cost-effective on this basis lacks force. If the costs of optometry are greater, it is because their patients are getting something additional: new glasses or contact lenses. Unless the study's proponents take the position that these new glasses or contacts are unnecessary, comparing the two is a classic apples-oranges misdirection.

It is also important to note that these studies are based on examination fees and routine care, including lens prescriptions. They do **not** focus on treatment. Whether ophthalmologists charged more for a straight exam, or optometrists prescribe more glasses, are not factors that necessarily influence the cost of treatment.

Patient Cost Summary

Unfortunately, none of the cost statements -- from either optometrists or ophthalmologists -- were presented with recent hard data. It may well be that consumer cost savings does vary widely between the states, given the fact that the drug formularies, as discussed in chapter three, range in scope from use of all relevant topical and oral medications to the use of just a few specific topical drugs. An additional factor that might affect optometrists' costs is the training and continuing education requirements of their states. The more the optometrists' qualifications and ability to treat approach parity with the ophthalmologists', the more justifiable it would seem that optometrists should be paid on an equal basis.

However, with Hawaii's near universal health care coverage, the savings to the individual patient is far from the whole story. The issue of potential cost savings to the health insurers is discussed next.

Health Insurers Cost

The information available on the effect of TPAs on health carrier costs indicates that in many instances, when TPAs are allowed, health carrier costs will rise.

The Nevada Ophthalmological Society included a quote from the California Department of Health Services stating that:

In this Department's experience, addition of new provider types or expansion of coverage by an existing provider group has not decreased overall health care costs even when the apparent effect would be to reduce the cost per patient encounter.²²

The California Association of Ophthalmology also states that "studies show that increasing the number of providers raises the cost of medical care," although no citations are given.²³ The Kentucky Academy of Eye Physicians and Surgeons stated that "the empowerment of a new group of providers always raises the cost of services and does not necessarily improve the quality."²⁴

In testimony opposing a 1994 TPA bill, the Massachusetts Society of Eye Physicians and Surgeons quoted a letter from the President of Central Benefits Mutual²⁵ stating that:

...contrary to the usual free market impact of increasing the supply or availability of a service or commodity, increasing the supply or availability of health care services does not reduce the overall total costs of that service. Typically... the overall number of services performed increases substantially.

The executive director of the Nebraska Academy of Ophthalmology states that optometrists in his community charge the same but see patients more frequently²⁶ The Nevada Ophthalmological Society says that total payout for carriers is greater with optometrists as they generate almost twice the number of lens prescriptions as ophthalmologists.²⁷

Pennsylvania says that there is no economic benefit to carriers as optometrists are reimbursed equally by private insurers.²⁸ Additionally, the Pennsylvania Sunset Report on the Board of Optometry stated that "there is some evidence to suggest that health care fees tend to increase when the scope of practice of allied health care professionals is broadened. Academic health care policy research professionals... indicated that this phenomena is

COST

generally borne out in the health policy research" but the report was not aware of specific studies related to TPAs.²⁹

While a few optometry associations, such as Colorado's, stated that costs decreased for health insurers, these comments contained no discussion and did not seem to take into account the impact of having more providers in the system.

This concern over greater health carrier costs due to the expansion of the number of practitioners is also felt by Hawaii health carriers. The Bureau sent letters to the Hawaii Medical Association (HMSA), HDS Medical, Straub, Island Care, Kaiser-Permanente, and Hawaii Management Alliance Association (HMAA) for their opinions on how TPA licensure would affect the cost of eye care in Hawaii.³⁰ Responses were received from HMSA and Island Care.

Both Island Care and HMSA took the position that permitting optometrists to use TPAs would increase costs. Island Care³¹ stated that its fee schedule pays ophthalmologists and optometrists the same rate for covered services, and that if optometrists were allowed to use TPAs, "there would be absolutely no cost savings to be passed on to consumers." In addition, Island Care would expect costs to increase because "the history of medical services appears to be that overall costs are determined more by the number of providers (increasing costs) as opposed to any other particular factors."

HMSA³² stated that:

It has been our experience, and the experience of health carriers across the country, that the addition of providers to medical plans not previously covered under those plans generally results in increased costs to plan members and respective employers. This is especially true in situations where there is an overabundance of providers seeking to build individual practices and where a strong possibility of duplication of services exists.

It must be noted that no statistics or raw data were cited or submitted for this proposition. If the Legislature proceeds on a TPA bill, it may be possible for Hawaii health carriers to back up this claim and provide estimates for potential increases, which would in part depend on the scope of the formulary and the training of the optometrists.

Medicare, Medicaid, and Other Government Health Care Programs Cost

The positions taken on the impact of TPA legislation on state and federal health care programs echo those received on private insurers. Ophthalmology associations take the position that costs will increase while optometry associations take the opposite view. While some states say, as Arkansas does, that Medicaid and Medicare costs are "significantly lower

compared to M.D.'s across the board,"³³ states such as California and nine others note that "optometrists do not even provide cheaper care. Medicare now reimburses optometrists at the same level as ophthalmologists."³⁴

The only respondent who sent in a study was the Montana Optometric Association, and that was a study of Medicare/Medicaid costs from data received by the Health Care Financing Administration of the federal Department of Health and Human Services.³⁵ The study was done in 1989 with data from 1986 and 1987. The study found that ophthalmologists charged more in every category except two. However, it appears that the study focused on examinations of various types, not treatment. It would be difficult to extrapolate its findings to the treatment area, more than seven years later.

Malpractice Insurance Rates

One ophthalmology group claims that optometrists' charges will increase once they gain TPA privileges as their malpractice rates will rise and the increased cost will be passed on to their patients. This does not appear to be true. This topic was not addressed by many of the respondents, but four TPA states³⁶ reported that their medical malpractice insurance rates did not change.

The primary malpractice insurance broker in the field is Poe & Brown, and their Optometric Protector Plan program administrator has stated that in fifteen years, as of September 17, 1993, they have never experienced a malpractice claim directly related to TPAs, and have never had a rate increase based on optometrists' use of TPAs.³⁷ The researcher recently spoke with a marketing executive at Poe & Brown³⁸ who stated that their carrier, CNA, promotes the use of TPAs and that Hawaii optometrists would probably not see an insurance rate rise should Hawaii adopt a TPA law. He did say that the previous insurer, Great Western, withdrew because of "some loss experience." However, as discussed below, the response from Great Western indicated very little claim activity from TPA usage, so their loss experience does not seem to have been in that area.

Materials from the California Ophthalmology Association allege that insurers such as Chubb and Aetna withdrew from the optometrist insurance fields due to an increased malpractice risk with TPAs.³⁹ The information regarding Chubb's withdrawal is contradictory. A 1982 letter from Robert Ragolia,⁴⁰ the Chubb State Administrator for New Jersey and New York, indicated that the malpractice loss in the two states with TPA laws is "extremely favorable," and that Chubb did not anticipate a malpractice rate increase or an adverse claim situation. However, the HOS submitted a 1991 letter from Mr. Ragolia in which he stated that Chubb personnel told him that the reason Chubb withdrew in 1985 from the optometric professional liability market was unacceptably high loss ratio. Yet when the researcher contacted Chubb's Los Angeles office, the researcher was told that this was not the case and

COST

that Chubb dropped all its malpractice plans the same year as they were generally not profitable.⁴¹

The Bureau contacted Aetna to determine its position on this issue, but Aetna did not respond.

In addition, pursuant to the concurrent resolution authorizing this study, the Insurance Division of the Department of Commerce and Consumer Affairs surveyed all Hawaii licensed insurance carriers in the State on the extent to which they insure optometrists and what impact, if any, would result if a TPA law were to be adopted. According to the department, the "vast majority" of licensed insurers indicated that they do not insure optometrists.⁴² The rest indicated limited past or current exposure. Of this group, only two indicated a potential negative result should a TPA law be enacted: Kemper National Insurance Companies indicated that, while no studies have been done, it would conclude that rates would be raised to reflect their increased area of liability,⁴³ and State Farm Insurance Companies indicated that they would not continue to provide coverage should a TPA law be adopted.⁴⁴ However, State Farm only has two policies extant in Hawaii.

Supporting the nationwide experience, the letter from Great American Insurance Companies, which used to be the endorsed carrier for the American Optometric Association, stated that they had "very little claim activity regarding use of TPAs and, as a result, did not differentiate our rates according to whether a state allowed optometrists to use them."⁴⁵

Given the foregoing, there is little support for the argument that optometrists' costs would rise due to increased malpractice costs.

Summary

While some of the cost arguments strike a logical note, they are difficult to reconcile as the parties involved are so polarized and little or no hard data are presented. Common sense supports both the proposition that for some patients, costs are reduced if an optometrist can diagnose and treat without the need for a referral, and that for other patients, costs are increased if the optometrist misdiagnoses or misprescribes, requiring more visits and additional treatment and/or referral to an ophthalmologist until the condition is resolved. Common sense also supports the observations that, to the extent that optometrists are given authority to treat certain diseases on the same basis as ophthalmologists, that the optometrists will feel entitled to receive the same fee as an ophthalmologist, especially when the private insurer or government reimbursement rate is the same.

How do these and other competing considerations balance out? It is unclear. It does seem fair to note that if Hawaii adopts a TPA law, Hawaii might be able to make more cost-efficient choices by (1) requiring a high level of training for optometrists, to ensure that

diagnoses are made promptly and accurately; (2) by enacting a limited formulary that may, like Virginia's, help keep optometrists' fees from rising; and (3) by placing a lower reimbursement lid on optometry reimbursements, although the propriety of that last requirement would be subject to questioning if the same treatment is being provided.

Endnotes

1. As of August 29, 1994. Two late-arriving letters that follow the general trend are found in Appendix H.
2. Letter from Charles B. Brownlow, O.D., executive vice president, Wisconsin Optometric Association, to Samuel B.K. Chang, July 7, 1994.
3. Letter from Randolph D. Lee, O.D., Chair, Idaho Board of Optometry, to Samuel B.K. Chang, June 14, 1994.
4. Letter from Larry Wallis, O.D., Director of Governmental Relations, to Samuel B.K. Chang, July 11, 1994.
5. Letter from Robert D. Carson, Executive Secretary, Ohio State Board of Optometry, to Samuel B.K. Chang, June 7, 1994.
6. Letter from Earl K. Green, Executive Director, Ohio Optometric Association, to Samuel B.K. Chang, July 8, 1994.
7. Letter from Anitra Metheny, administrative director, to Samuel B.K. Chang, June 21, 1994.
8. Letter from Alvin Levin, O.D., Executive Director, Arizona Optometric Association, June 9, 1994.
9. Letter from Bruce B. Keeney, Executive Director, Virginia Optometric Association, to Samuel B.K. Chang, July 7, 1994.
10. Virginia also states that although all major health insurers lump optometrists and ophthalmologists together in setting their fee caps, that optometrists generally remain under the caps, but does not state whether ophthalmologists do as well.
11. Letter from Richard A. Eiferman, M.D., President, to Samuel B.K. Chang, June 23, 1994.
12. Facsimile response from James Ruigh, Executive Director, Nebraska Academy of Ophthalmology, on June 21, 1994.
13. Letter from Lois Ewald, Executive Director, to Samuel B.K. Chang, June 16, 1994.
14. "Data Show Ophthalmologists Are More Cost-Effective," CAO News (May 1994) at 2.
15. Brochure, "Ophthalmology: Providing Access, Accountability and Affordability," prepared by the Minnesota Academy of Ophthalmology (undated).
16. Telephone interview with Barb Veast, Minnesota Blue Cross/Blue Shield, on July 21, 1994.
17. Mordachai Soroka. "Comparison of Examination Fees and Availability of Routine Vision Care by Optometrists and Ophthalmologists," Public Health Reports, Vol. 106, No. 4 (July-August 1991) at 455.

COST

18. *Id.* at 458.
19. Clark Jones, Inc., "Ohio Eye Examination Costs: Survey Results, May 1989."
20. Abt Associates, Inc., "A Comparison of the Cost of Entry-Level Eye Care Provided by Ophthalmologists and Optometrists, performed for the American Academy of Ophthalmology, March 1994.
21. *Id.*, executive summary, page not numbered.
22. Materials from Thomas Komadina, M.D., Nevada Ophthalmological Society, to Samuel B.K. Chang, July 13, 1994.
23. Testimony, "Why Ophthalmology Opposes AB 2020: Expansion of the Scope of Practice for Optometrists," from the California Association of Ophthalmology (March 1993) (third page, not numbered) (hereafter AB 2020).
24. See Eiferman letter, *supra* note 11.
25. Testimony in opposition to S462/H3937 by the Massachusetts Society of Eye Physicians and Surgeons (undated). The quotation is from Floyd W. Scrase, President and CCO, Central Benefits Mutual, to the Honorable Patrick A. Sweeney, Ohio House of Representatives, November 27, 1991, cited on page 2 of the testimony (not numbered).
26. See Ruigh letter, *supra* note 12.
27. Packet, "Legislators Kit for Continuing Quality Eye Care in Nevada," prepared by the Nevada State Ophthalmological Society (not dated), insert entitled "Is Eye Care by Non-physicians Less Costly?"
28. Letter from Mark H. Blecher, president, Pennsylvania Academy of Ophthalmology, to Samuel B.K. Chang, July 13, 1994.
29. Pennsylvania, Legislative Budget and Finance Committee, Sunset Performance Audit: State Board of Optometry (February 1991).
30. HMAA responded, saying that its claims were handled by HDS-Medical, and HDS-Medical declined to participate in this report. Straub and Kaiser-Permanente did not respond.
31. Letter from George D. Bussey, M.D., Medical Director, Island Care, to Samuel B.K. Chang, Director, Legislative Reference Bureau, dated June 27, 1994.
32. Letter from Bernard A.K.S. Ho, Senior Vice President, HMSA, to Dr. Calvin Miura, dated February 16, 1994.
33. Letter from Betty Valachovic, Executive Secretary, Arkansas Optometric Association, to Samuel B.K. Chang, July 12, 1994.
34. See AB 2020, *supra* note 23, at 4 (not numbered).
35. Center for Vision Care Policy, SUNY, State College of Optometry, "A Comparison of Charges by Optometrists and Ophthalmologists under the Medicare Program," (April 1989).
36. Idaho, New Jersey, North Carolina, and Utah.

FEASIBILITY OF A THERAPEUTIC DRUG LAW FOR OPTOMETRISTS IN HAWAII

37. Letter from Wayne H. Carter, III, Program Manager, Optometric Protector Plan, National Administrator Poe & Brown, to Jim Comerford, Legislative Council, Medical Association of Georgia (September 17, 1993), transmitted to the Bureau by the Georgia Optometric Association.
38. Telephone interview with David Gough, marketing program director, Poe & Brown Inc., on July 20, 1994.
39. See AB 2020, *supra* note 23, at page 4 (not numbered).
40. Mr. Ragolia's letters are contained in Appendix I.
41. Telephone interview with Kathy Williams, Chubb Insurance Company, July 27, 1994.
42. Memorandum from Lawrence M. Reifurth, Insurance Commissioner, to researcher, *re* House Concurrent Resolution 378, H.D. 1, dated August 10, 1994.
43. Letter from D.G. Dennehy, Manager, CLG Services (administration), to Rate and Policy Analysis Branch, Insurance Division, DCCA, dated June 17, 1994.
44. Letter from Leila K. Tamashiro, Claim Superintendent, to Shelly Santo, Rate and Policy Analysis Branch, Insurance Division, DCCA, dated June 28, 1994.
45. Letter from Dean M. Koester, Product Manager, Commercial Division, to Rate and Policy Analysis Branch, Insurance Divisions, DCCA, dated June 28, 1994.

Chapter 6

ADDITIONAL AREAS OF CONCERN

In addition to the issues of patient safety, optometrist education, and cost, discussed in earlier chapters, the Hawaii legislature also requested information on:

- (1) The effect of expanded regulatory practice on competition between optometrists and ophthalmologists;
- (2) Studies and other reviews required by TPA states;
- (3) Availability and accessibility of optometrists and ophthalmologists; and
- (4) The number and percentage of optometrists using TPAs in the TPA states.

1. Competition Between Optometrists and Ophthalmologists

Many respondents did not directly comment on this area, although the competition between ophthalmologist and optometrists has been characterized as "the most intense professional rivalry in health care."¹ It does appear clear that, in TPA states, optometrists are poised to take over ophthalmology's position as primary eye care provider. A number of optometric association responses -- and even state boards of optometry -- label or position optometry as the "primary eye care provider" and ophthalmologists as "secondary or tertiary."² Some respondents also noted an increase in the use of optometrists in managed care programs to serve as gatekeepers or primary eye care providers.

The comments from optometrists on this topic were generally positive: they characterized their role as an equal partner in routine care, freeing ophthalmologists to concentrate on surgical specialties. However, the source needs to be considered; it is easier to be gracious about splitting a pie with another if it is the other person's pie to begin with. In contrast, many ophthalmological associations expressed bitterness about the passage of TPA laws for safety reasons but did not specifically comment on competition. Two ophthalmology sources expressed negative opinions about cataract co-management but couched it more in terms of patient safety rather than economic competition. The sources and the comments are detailed below.

Arizona: The Arizona Optometric Association states that "there is increased competition between optometrists and ophthalmologists, most often an advantage to the patient."

Arkansas: The Arkansas Optometric Association, Inc. states that "O.D./M.D. co-management is at an all-time high" in the state.

Nevada: Nevada is a DPA state which had declined for the past three years to enact a TPA bill. The Nevada Optometric Association states that a TPA bill will be introduced in the next legislative session which begins January 1995.³ The respondent from the Nevada Ophthalmological Society had practiced in Florida, a TPA state, and commented that once the TPA bill there passed, networks of optometrists formed to refer cataract patients to ophthalmologists who agreed to let the optometrists perform post-operative cataract care. The letter writer stated that he hoped that physicians will not be forced out of the eye care system by legislative fiat that will reward the hucksters.

New Jersey: The New Jersey Academy of Ophthalmology says that there is very little impact on ophthalmology at present, but expects future fights on the use of laser and hospital privileges. The letter states "Organized Optometry wants to be able to practice eye care the same as an Ophthalmologist."

North Carolina: It is probably not going too far to indicate that a certain amount of ill will exists between the ophthalmologists and optometrists of North Carolina. Dr. Walter Wright of the North Carolina Society of Ophthalmology, Inc. (NCSO) claims that it has "very well-documented casebooks of literally hundreds of patients injured or even totally blinded by *optometric mismanagement, and failure to refer.*"⁴ The North Carolina State Board of Examiners in Optometry transmitted materials,⁵ including a letter from Representative James B. Black, O.D., stating that a "small number of ophthalmologists from North Carolina" have made allegations of harm to TPA patients, and that a case book containing 232 cases of alleged optometric mismanagement was presented to a legislative committee in Nebraska with a cover letter from the NCSO. The Board of Examiners conducted extensive hearings and tried to subpoena the 232 cases, but the Board "was never furnished with any credible evidence of mismanagement or inappropriate care[.]" The letter mentions Dr. Wright by name as one of the ophthalmologists making the unsubstantiated allegations.

Dr. Wright also alleges that the TPA law was established to allow for the post-operative care of cataract patients by optometrists, "the single largest factor in every state that has a TPA[.]" The TPA law allows optometrists to examine and care for cataract patients after surgery, rather than requiring ophthalmologists to do so. Thus, referral networks that "greatly enrich a small number of surgeons, and a large number of optometrists," are created, which "have done a great deal to destroy local care of cataract patients." Dr. Wright states that by 1985 (North Carolina adopted its TPA law in 1977), nearly half of all cataract surgeries were done by just four surgical groups, and that often patients were referred for follow-up care to optometrists more than one hundred miles from the surgeons.

To add to the bitter feelings in North Carolina, in late 1993, the Board of Examiners in Optometry identified additional Medicaid codes within the scope of optometric practice, and

that the state Division of Medical Assistance, which administers North Carolina's Medicaid program, approved them. However, the North Carolina Board of Medical Examiners issued a declaratory ruling that 50 out of the 154 optometric codes appear to be beyond the scope of optometry (the medical codes). According to one newspaper report, these additional codes included fetal monitoring, diagnostic ultrasound, and laser surgery.⁶ The Board of Medical Examiners resisted this interpretation. A preliminary injunction requested by the Board of Medical Examiners, the NCSO, and others, prohibiting the North Carolina State Board of Examiners in Optometry, the North Carolina State Optometric Association, and others from performing, or encouraging the performance of, these medical codes, was granted in February 1994.

North Dakota: The Board of Optometry stated that TPA legislation has "had no effect" on competition and that "it has promoted many O.D./M.D. office settings across the state."

Ohio: The Board of Optometry reports that "[g]enerally the relationship between optometrists and ophthalmologists remains very positive in nature." The Ohio Ophthalmological Society did not comment on competition, but did note that the Society opposed the legislation throughout its lengthy consideration and that it is relatively early in Ohio's experience to assess the practice impact of the TPA legislation.

Wyoming: The Board of Examiners in Optometry said that there is little competition because of the rural nature of the population. Note that there are only eleven ophthalmologists in the state and sixty-eight optometrists.

2. Studies and Reviews Required by Other States

The TPA states require little if any studies or reviews based on TPA usage. Many respondents did not comment on this question, and it is inferred that lack of comment indicates lack of such a requirement. The following states require some type of reporting:

Arkansas: Originally the law established the Optometrist Therapeutic Committee to oversee the use of TPAs, but it was dissolved by the legislature for lack of work.

Ohio: Requires optometrists to report drug-induced side effects to the optometry board, which published the report annually. The legislature also established a "Scope of Optometric Practice Study Committee" to examine the positive and negative effects of the TPA law. The committee is in effect for five years and then will report to the legislative and executive branches.

Wisconsin: Used to require all optometrists to report the diagnosis, TPA used, and result of treatment. After two years, this requirement has since been dropped and

optometrists are now just required to report, within ten days, any adverse patient reaction from administration of TPAs.

3. Availability and Accessibility

For the purposes of this section, "available" will mean the ease or difficulty of making an appointment, while "accessible" will indicate geographical proximity. Accurately evaluating this category is difficult. Optometrists cite studies that show a shorter amount of time is needed to make an appointment with them for routine care and that more of them work weekends.⁷

One national survey of ophthalmologists and optometrists found that the average wait for a routine eye examination performed by an optometrist is five days, and the average wait for one performed by an ophthalmologist was twenty days.⁸ Ophthalmologists claim that they are on call 24 hours and thus are available sooner for an emergency.⁹

One factor that does not seem to be disputed is that states have more optometrists than ophthalmologists, and that ophthalmologists, perhaps because many of them need to use a hospital setting, are generally clustered in urban settings while optometrists are more widespread. Responses by state follow.

Arizona: "It has been stated that optometrists are more available and accessible ... [t]here are more optometrists ... and they practice in more remote areas, often in communities where there is no ophthalmologist."¹⁰ Yet there have not been complaints of lack of access, and it is noted that a symbiotic relationship can occur, with ophthalmologists hiring optometrists to do primary care in their offices, while optometrists hire ophthalmologists to provide specialty care on a part-time basis in remote areas.

Arkansas: The TPA law has greatly increased access to rural patients.¹¹

California: There are 2000 ophthalmologists in the state and "most people" are easily within reach of one.¹²

Colorado: "The geographic distribution of optometrists is generally better than surgeons who tend to practice in large urban areas."¹³

Idaho: A 1987 study showed that ophthalmologists served only 14 of Idaho's 44 counties, while optometrists served 32.¹⁴

Indiana: Says their TPA law has helped address both the shortage of primary care providers and their distribution in the state.¹⁵

ADDITIONAL AREAS OF CONCERN

Maryland: The Board of Examiners in Optometry enclosed a copy of their 1991 Sunset Review, which states that "In the states that have authorized the use of therapeutic drugs by optometrists, the lack of accessibility to ophthalmologists has been a major factor in the decision."¹⁶ The report notes that in TPA states, the ratio of ophthalmologists to the general population is 1 to 20,000, and in Maryland the ratio is 1:21,000. The report also notes that ophthalmologists practice in 54 towns and cities in the states while optometrists practice in 105.

Minnesota: Reports that ninety-five percent of the population lives within one hour of an ophthalmologist's office.¹⁷

Missouri: Optometrists are more widely located in the smaller communities of the state.¹⁸

Montana: While 41 ophthalmologists provide service to 17 communities, 145 optometrists provide service to 61 communities.¹⁹

Nevada: More than 95% of citizens live within one hour of an ophthalmologist. "It is misleading to claim that [ophthalmologist services] is not available in counties where no ophthalmologist's office is located. People routinely cross county lines for services, especially in rural areas."²⁰

New York: Optometrists are well distributed in all areas of the state while ophthalmologists tend to be concentrated in urban areas.²¹

North Carolina: Statistics received indicate that there are ophthalmologists in 26 metropolitan areas and 30 non-metropolitan areas, and optometrists in 33 metropolitan areas and 52 non-metropolitan areas.²²

North Dakota: The TPA law has made emergency care more accessible due to the more widespread distributions of optometrists.²³

Ohio: Greater geographical distribution of optometrists, with at least one TPA licensed optometrist in each county. Optometrists are generally available seven days per week and those with TPA licenses are usually on call twenty-four hours per day. The respondent says there were complaints about accessibility before the TPA law, especially in terms of long waits for appointments, especially in the rural areas.²⁴

Utah: As one of the states that has a large rural population, the TPA law has increased access and decreased travel time.²⁵

Washington: Although parts of the state are sparsely populated, the Board of Optometry has not received complains re lack of access to either optometrists or ophthalmologists²⁶

Wyoming: A number of hospitals have O.D.s on staff, so that they are on call twenty-four hours. In many cases, O.D.s have extended evening and weekend hours, and in emergencies, many people will seek out their O.D. at home.²⁷

4. Number and Percentage of Optometrists Using TPAs

Of the forty TPA states, only thirty-two responded to the Bureau's letters, and of those thirty-two, only thirteen (40%) responded to this question (although it must be remembered that three states adopted TPA legislation in 1994 (Mississippi in April, Vermont and Delaware in June), and those three states would have had no meaningful statistics to transmit at the time this report was prepared). The American Academy of Ophthalmologists contributed a 1991 list of TPA-certified optometrists which was more extensive, listing twenty-three states and their percentages, but that information is outdated and is not accurate for the states that responded to our letters in 1994. Since the data for the states that responded are generally not accurate, the Bureau assumed that they are also inaccurate for the states that did not respond, and so will base this discussion only on the most recent data transmitted by the states themselves.

For these thirteen states, the percentage of TPA-licensed optometrists is:

<u>State</u>	<u>Percentage</u>	<u>Total Numbers (TPA-Certified/All O.D.s)</u>
North Carolina	92%	790/852
North Dakota	almost 90%	*
Wyoming	84%	100/119
Indiana	82%	854/1032
Arkansas	81%	260/320
Arizona	approx. 77%	350+/450
Missouri	75+%	*/650+
Texas	approx. 70%	1263/1800
Wisconsin**	68%	479/706
Idaho	67%	102/152
Washington	67%	792/1174
New Jersey	52%	587/*
Virginia	30%	339/1156

* Number not provided.

** The initial information received from the Wisconsin Optometry Examining Board indicated a TPA percentage of 30%. However, a later contact indicated the figures given

ADDITIONAL AREAS OF CONCERN

here. Telephone interview by researcher with Pam Mickelson, Board Secretary, on November 1, 1994.

While the range between the states is substantial, it should be noted that the majority of respondents have two-thirds or more of their optometrists TPA-certified. The researcher examined four areas that might have an impact on the number of TPA-certified optometrists in a state: the length of time since the TPA law was adopted, the qualifications required for TPA certification, the rural versus urban quality of a state, and the extent of the TPA drug formulary, to see if those factors might affect these figures.

a. Year of Adoption

In order by year of adoption, the states and their percentage of TPA-certified optometrists are:

North Carolina	92%	(1977)
Indiana	82%	(1986)
Missouri	75+%	(1986)
Wyoming	84%	(1987)
Arkansas	81%	(1987)
Idaho	67%	(1987)
North Dakota	almost 90%	(1987)
Virginia	30%	(1988)
Washington	67%	(1989)
Wisconsin	68%	(1989)
Texas	approx. 70%	(1991)
New Jersey	52%	(1992)
Arizona	approx. 77%	(1993)

These figures alone do not show a great correlation, but combined with the next area of inquiry, they help show a trend.

b. Certification Requirements

The second area examined was the requirements for TPA-licensure, on the theory that a significant difference in requirements might encourage or discourage optometrists from obtaining licensure. The information that follows is limited to the requirements that an optometrist must satisfy to become TPA-certified; it does not include the requirements necessary to become an optometrist in that state, unless the state requires all its optometrists to become TPA-certified. The abbreviations in this section are: National Board of Examiners in Optometry (NBEO) and the National Board's Treatment and Management of Ocular Disease (TMOD). The information is provided in order by state with the highest percentage of TPA-licensure to the least.

North Carolina (92%, 1977): All new admittees (since 4/78) must pass a written and clinical exam that will allow them to use TPAs.²⁸

North Dakota (almost 90%, 1987): All new admittees are automatically TPA certified if they pass all of the NBEO exam, including the TMOD. Optometrists admitted before 1987 must take 76 hours of didactic instruction and 24 hours clinical instruction and pass the TMOD.

Wyoming (84%, 1987): All new admittees are automatically TPA certified if they pass the requirements to practice in the state (must have completed 100 hours in school of ocular therapeutics, pass parts I and II of the NBEO exam, pass the TMOD, and pass Wyoming's clinical exam). Optometrists practicing before this date must take a 100 hour post-graduate course and pass the TMOD.

Indiana (82%, 1986): Either provide proof of education in ocular pharmacology from an approved school and pass the TMOD, or obtain twenty hours of continuing education in ocular pharmacology in a course approved by the Indiana Optometric Legend Drug Prescription Advisory Committee. (Note: for many years, optometrists argued that the authority to prescribe drugs was given to them in 1935, while some ophthalmologists and pharmacists objected.²⁹ During the 1991 legislative session, legislation was enacted to address this issue. This may be the reason for the extremely light continuing education requirement).

Arkansas (81%, 1987): Since 1987, optometrists must pass all parts of the NBEO exam (which includes the TMOD). To become TPA certified, an optometrists must also pass a board exam and undergo a 100 hour clinical internship.

Arizona (77%, 1993): One hundred twenty hours of studies, including a clinical, for existing optometrists. All new graduates are qualified if they pass national board exams.

Missouri (75%, 1986): The law was recently changed to require all new optometrists to take the TMOD, show 96 classroom hours and 100 hours of supervised clinical training, and become either DPA- or TPA-certified.

Texas (70%, 1991): All currently licensed optometrists may use DPAs. To become therapeutically licensed, need 90 classroom hours of board-approved post-graduate coursework and clinical training, with 20 hours in applied skills. Also must pass the TMOD.

Wisconsin (68%, 1989): To become TPA-certified, must become DPA-certified (complete a course of study in pharmacology, pass the NBEO pharmacology exam with a 75 or better or, after April 1, 1994, pass parts I and II of the NBEO exam or an exam prepared by the state optometry board), completed 100 hours of approved study in the use of TPAs and

removal of superficial foreign bodies, passed a state board exam, and submitted an adverse drug reaction referral plan.

Idaho (67%, 1987): Optometrists licensed before 1987 must pass a 100-hour TPA course, and the TMOD or equivalent. Optometrists licensed after this date must just pass all parts of the NBEO exam (in other words, since 1987, all new optometrists must be TPA certified to practice optometry in Idaho).

Washington (67%, 1989): Washington has three classes of optometrists: entry-level (no drugs permitted), DPA-certified (60 hours of didactic training), and TPA-certified (DPA-certified plus an additional 75 hours of didactic and clinical training).

New Jersey (52%, 1992): Allows 1992 and succeeding graduates to automatically become TPA certified if they pass the TMOD. Requires prior graduates to go back to school (no specified time) until that school certifies that the optometrist's education is the equivalent of a current graduate's, and then requires them to pass the TMOD. The Board of Optometry spokesperson commented that "not a lot" of current graduates apply for TPA certification as it is "very expensive."

Virginia (30%, 1988): To become TPA-certified, must become DPA-certified, complete didactic and clinical training as deemed reasonable and necessary by the Board of Medicine and pass an exam as required by the Board of Medicine. According to the Virginia Optometric Association, the reason for the relatively small number of TPA-certified optometrists is that the formulary is set by the Board of Medicine, not the Board of Optometry, and that Virginia has "the most restrictive scope of practice placed upon optometrists."³⁰ The letter states that a record number of applicants applied at first, but with the restrictions established by the Board of Medicine, "the number of applicants has dropped from over 100 each July to only 10 this month."

From this information, some correlations are clear. The top six states all require their new admittees to meet the requirements to become TPA certified to be admitted to practice at all. Optometrists practicing before the effective date of the act are not grandfathered in but must take additional courses if they wish to use TPAs. The cumulative effect of all of each year's new influx of optometrists able to use TPAs would provide a strong incentive to the more established optometrists to meet the TPA requirements in order to keep up with the newer optometrists.

New Jersey also has this provision and has only 52% TPA-certified optometrists, but it must be remembered that New Jersey's law has only been in effect since 1992.

c. *Rural or Urban Nature of the State*

The next area examined was the urban versus rural character of the state. It has been alleged that TPA laws were developed and first used in states with a large rural population underserved by ophthalmologists, who tended to be based in urban settings. It may be the case that optometrists in the more rural states are those more likely to pursue TPA certification as their services are more in need, and that optometrists in the more urban states have no such incentive as ophthalmologists are in close proximity to anyone who desires their services.

The data in the first table are based on United States Census definitions of metropolitan and non-metropolitan areas.³¹ For ease in comparison, the information will be presented in a percentage computed by dividing the population of the metropolitan area of the state by the non-metropolitan area, so that in a state with an even number in both categories, the number will be one, while in a state with a more metropolitan population, the number will be greater than one, and in a more rural state, the number will be less than one.

<u>State</u>	<u>TPA-Percentage</u>	<u>Urban/Rural Percentage</u>
North Carolina	92%	1.3
North Dakota	90%	0.67
Wyoming	84%	0.42
Indiana	82%	2.17
Arkansas	81%	0.66
Arizona	77%	3.64
Missouri	75+%	1.95
Texas	70%	4.45
Wisconsin	68%	2.06
Idaho	67%	0.25
Washington	67%	4.45
New Jersey	52%	all*
Virginia	30%	2.6

*Total population is deemed metropolitan.

The data in the second table are population density per square mile ranking as of 1990.³²

ADDITIONAL AREAS OF CONCERN

<u>State</u>	<u>TPA Percentage</u>	<u>Density Ranking</u>
North Carolina	92%	18
North Dakota	90%	48
Wyoming	84%	50
Indiana	82%	17
Arkansas	81%	36
Arizona	77%	38
Missouri	75+%	28
Texas	70%	30
Wisconsin	68%	25
Idaho	67%	45
Washington	67%	27
New Jersey	52%	2
Virginia	30	16

Hawaii's urban population as a percentage of rural, in comparison, is 3.0 and its population density ranking is fourteenth. These figures, while not all subject to being neatly categorized, show a trend that in general, the less metropolitan and less densely populated states have more TPA-certified optometrists, and the more metropolitan and densely populated states have fewer. For example, Table 1 shows that the top five states are among the seven states with the lowest metropolitan percentage. New Jersey, the only state among the respondents that was deemed to be all metropolitan, had only 52%, a relatively low percentage, TPA-certified optometrists.

The density rankings, in comparison, provide less connection to TPA-certification. While two of the least dense states in the nation, Wyoming and North Dakota, are at the top of the TPA-certification rankings, the top four places also include two relatively dense states, North Carolina and Indiana.

It may be instructive to compare Hawaii's figures to the tables. Compared to the respondents, Hawaii is highly metropolitan and quite dense in terms of population. If metropolitan character is a true indicator of the likelihood of TPA-licensure, it may be the case that Hawaii would follow the trend of other more metropolitan states and have a lower than average percentage of TPA-certified optometrists.

d. Formularies

The extent of the formulary was also examined. The formularies deemed more extensive were formularies that (1) included oral drugs; (2) had generous classes of topical drugs that could be prescribed; (3) allowed treatment with steroids; and (4) allowed treatment for glaucoma. However, this categorization,³³ with one exception, did not shed light on the issue, as the variety of drugs available is so vast that "ranking" states becomes a futile task. For example, North Dakota allows all topical drugs, oral anti-infectives, oral anti-histamines, and oral analgesics, but does not allow glaucoma treatment. Is this formulary more or less

extensive than that of Washington, which does allow glaucoma treatment, a generous number of topical drugs, but allows no oral drugs?

The only state for which this categorization was useful was Virginia. Its formulary is extremely limited, much more so than that of the other ten respondents, and it is tied for last place, with only thirty percent of its optometrists TPA-certified.

(In order from greatest number of TPA-certified optometrists to least)

North Carolina (92%): Glaucoma: yes, topical only; steroids: yes, topical only; oral drugs: yes, with communication and collaboration of a medical doctor; topical drugs: all.

North Dakota (almost 90%): Glaucoma: no; steroids: topical only; oral drugs: yes, some; topical drugs: all.

Wyoming (84%): Glaucoma: statute implicitly permits; steroids: implies use of topically; oral drugs: no; topical: all.

Indiana (82%): Glaucoma: yes, topical and oral; steroids: yes, topical only; oral drugs: yes, some; topical drugs: all.

Arkansas (81%): Glaucoma: yes, with consultation and approval of an ophthalmologist; steroids: yes; oral drugs: OTC only; topical drugs: generous.

Arizona (about 77%): Glaucoma: statute implies use; steroids: statute implies use; oral drugs: no; topicals: all.

Missouri (75+ %): Glaucoma: statute implies use; steroids: topical; oral drugs: yes, some; topicals: limited.

Texas (about 70%): Glaucoma: no; steroids: yes but limited; oral drugs: OTC only; topical drugs: yes, generous.

Wisconsin (68%): Glaucoma: yes, including oral, with physician consultation in some cases; steroids: yes, topical only; oral drugs: yes, some; topical drugs: generous.

Idaho (67%): Unclear: statute authorizes "pharmaceutical agents"; state board of optometry is to provide a list.

Washington (67%): Glaucoma: yes; steroids: yes, topical only; oral drugs: no; topical: generous

ADDITIONAL AREAS OF CONCERN

New Jersey (52%): Glaucoma: statute implicitly permits; steroids: statute implicitly permits; oral drugs: no; topical drugs: all.

Virginia (30%): Glaucoma: no; steroids: no; oral drugs: no; topical: very limited.

North Carolina is an exception, but another factor discussed above may have affected North Carolina's percentage: North Carolina was the second state to adopt TPA laws, about ten years before the other respondents; it may be that length of time that TPA laws are available has a stronger impact on TPA-certification than any other factor.

e. Summary of TPA-Certified Optometrist Percentages

Of all the factors surveyed, one stands out as an indicator of whether a high percentage of optometrists will embrace TPA certification. That factor is whether the state requires new admittees to become TPA certified or not practice at all. While a certain percentage of existing optometrists, especially those close to retirement, might choose to retain the same scope of practice, it would seem likely, from the statistics presented above, that many of them will seek TPA licensure to assure themselves of being able to compete with the new admittees on the same footing. Eventually, as the older optometrists end their practices, these states will have one hundred percent TPA-certified optometrists.

Other logical factors may contribute to a state's certification percentages, such as Indiana's exceptionally light requirement for existing optometrists, or Virginia's limited formulary. Yet some states do not fall neatly into any category. Comparatively urban Arizona, for example, with an extensive but not particularly generous formulary, reached an astounding seventy-seven percent certification rate in one year, between 1993 and 1994. So while the Legislature may want to use the information in this chapter as a predictor of Hawaii's TPA certification percentage should a TPA law be passed, caution must be exercised as unaccounted-for variables do exist.

Endnotes

1. "'Cooperative integration' of optometry, ophthalmology needed, Leadingham says," American Optometric News, Vol. 32, No. 10, Nov. 15, 1993 at 1, citing the American Medical Association News.
2. See, e.g. letter from Charles B. Brownlow, Wisconsin Optometric Association, to Samuel B.K. Chang, dated July 7, 1994; brochure, Texas Optometry Board, "Optometry: The Primary Eye Care Profession" (undated); letter from Larry Wallis, O.D., Director of Governmental Relations, New Jersey Optometric Association, to Samuel B.K. Chang, dated July 11, 1994; Testimony in Support of [Missouri] H.B. 1322 by Dr. Jerry Long, President, Missouri State Board of Optometry; letter from Douglas C. Morrow, O.D., Director, Department of Legal Affairs, Indiana Optometric Society, to Samuel B.K. Chang, dated August 2, 1994; and letter from Georgianne Bearden, Executive Director, Georgia Optometric Association, to Samuel B.K. Chang, dated July 18, 1994.
3. Letter from Fred Hillerby, Executive Director, to Samuel B.K. Chang, dated July 11, 1994.

FEASIBILITY OF A THERAPEUTIC DRUG LAW FOR OPTOMETRISTS IN HAWAII

4. Letter from Walter L. Wright, President-Elect, to Samuel B.K. Chang, dated July 6, 1994.
5. Letter from John D. Robinson, O.D., Executive Director, to Samuel B.K. Chang, dated July 12, 1994.
6. Brian McCormick, "N.C. Optometrists widen their scope of practice," *American Medical News* (January 10, 1994) at 1.
7. See, e.g., Ferillo & Associates, "A Study of Certain Factors Regarding Optometrists and Health Care in South Carolina," (undated, apparently 1993), commissioned by the South Carolina Optometrists Association, which indicated that forty-two percent of optometrists in that state could schedule an appointment the same or the following day, while a plurality of ophthalmologists could do so within one week. The study also stated that on the whole optometrists in South Carolina worked longer office hours and on more days of the week.
8. Mordachai Soroka, Ph.D., "Comparison of Examination Fees and Availability of Routine Vision Care by Optometrists and Ophthalmologists," Public Health Reports (July-August 1991) at 458.
9. See letter from Dr. David J. Randell, M.D., to the House Committee on Consumer Protection, on House Bill No. 2456, February 12, 1994.
10. Letter from Alvin Levin, Executive Director, Arizona Optometric Association, to Samuel B.K. Chang, dated June 9, 1994.
11. Letter from Betty Valachovic, Executive Secretary, Arkansas Optometric Association, Inc., to Samuel B.K. Chang, dated July 12, 1994.
12. Testimony, "Why Ophthalmology Opposes AB 2020: Expansion of the Scope of Practice for Optometrists," from the California Association of Ophthalmology (March 1993) at 5.
13. Letter from Gwenne Hume, Executive Director, Colorado Optometric Association, to Samuel B.K. Chang, dated July 22, 1994.
14. Letter from Randolph D. Lee, Chairman, Idaho Board of Optometry, to Samuel B.K. Chang, dated June 14, 1994.
15. Letter from Douglas Morrow, Director, Department of Legal Affairs, Indiana Optometric Association, to Samuel B.K. Chang, dated August 2, 1994.
16. Maryland, Department of Fiscal Services, "Sunset Review: States Board of Examiners in Optometry" (Annapolis, MD: October 1991).
17. Brochure, "Ophthalmology: Providing Access, Accountability and Affordability," prepared by the Minnesota Academy of Ophthalmology (undated).
18. Testimony of Dr. Jerry Long, in support of Missouri House Bill No. 1322 (undated), attached to letter from Sharlene Rimiller, Executive Director, Board of Optometry, to Samuel B.K. Chang, dated June 7, 1994.
19. Montana Optometric Association, Testimony on Montana House Bill 315, March 26, 1993.
20. Nevada State Ophthalmological Society, Legislators' Kit for Continuing Quality Eye Care in Nevada (page not numbered).
21. Letter from Peter Ferguson, Education Assistant II, The State Education Department, The University of the State of New York, to Samuel B.K. Chang, dated June 14, 1994.

ADDITIONAL AREAS OF CONCERN

22. Fax transmission from Dr. John Robinson, State Board of Examiners in Optometry, to Samuel B.K. Chang, on July 13, 1994.
23. Letter from Alan J. King, Secretary, North Dakota State Board of Optometry, to Samuel B.K. Chang, dated June 9, 1994.
24. Letter from Robert Carson, Executive Secretary, Ohio State Board of Optometry, to Samuel B.K. Chang, dated June 7, 1994.
25. Letter from D. Lee Tanner, Executive Vice President of the Utah Optometric Association to Samuel B.K. Chang, dated July 18, 1994.
26. Letter from Judy Haenke, Program Manager, Washington State Board of Optometry, to Samuel B.K. Chang, dated June 13, 1994.
27. Letter from David J. Halsey, President, Wyoming State Board of Examiners in Optometry, to Samuel B.K. Chang, dated June 17, 1994.
28. Specifically, the written exam qualifications are broken into three time periods: (1) 4/78 - 8/86: passing scores on parts I, IIA, and IIB of the NBEO exam, with scores of at least 75 of section 7 (pathology) and section 9 (pharmacology) of part IIB, plus a score of at least 75 on the TMOD; (2) 4/87 - 8/92: passing scores on the Basic Science and Clinical Science NBEO exams, with scores of at least 75 on the ocular disease/trauma and clinical pharmacology section, plus a score of at least 75 on the TMOD; and (3) after 4/93: passing score on the Basic Science and Clinical Science exams, with a score of at least 75 on the ocular disease/trauma component and on either the TMOD component within the clinical science exam or the equivalent stand-alone TMOD exam. There shall also be a clinical practicum exam which must be passed with at least a 75 and on no part of which an applicant can score less than 60.
29. Letter from Timothy J. Nation, Director, Board of Pharmacy, to Samuel B.K. Chang, June 1, 1994.
30. Letter from Bruce B. Keeney, Executive Director, to Samuel B.K. Chang, July 7, 1994.
31. Edith R. Hornor, ed., Almanac of the 50 States: Basic Data Profiles with Comparative Tables (Information Publications: 1994 Edition). This source states that a metropolitan area (MA) "is defined by the Bureau of Census by fairly complicated criteria, but basically consists of a large population nucleus, together with adjacent communities which have a high degree of economic and social integration with that nucleus." at ix.
32. Victoria Van Son, CQ's State Fact Finder (Congressional Quarterly: Washington, D.C., 1993) at 219.
33. The information in this section has been supplemented by information from the American Academy of Ophthalmology. See State Affairs Department, American Academy of Ophthalmology, "State Legislative Issues: Summary of State Optometric Statutes," January 1994.

Chapter 7

POINT/COUNTERPOINT: THE VIEW FROM HAWAII'S OPTOMETRISTS AND OPHTHALMOLOGISTS

The Hawaii Optometric Association (HOA) and the Hawaii Ophthalmological Society (HOS) transmitted voluminous amounts of material consisting of testimony, letters, articles, a videotape each, and other data on their positions. This chapter will report in detail on the specific claims made by each side. Letters from HOS and HOA on the draft of this study are contained in Appendix J.

The competition between optometrists and ophthalmologists in general has been generally referenced in previous chapters. Optometrists see ophthalmologists' resistance as turf protection spurred by economic protectionism, denying them the right to fully serve their patients, while ophthalmologists see optometrists' insistence as a dangerous overconfidence fueled by economic benefit.

Optometrists are already starting to position themselves to take patients from ophthalmologists here by billing themselves as primary eye health care providers, despite the fact that they cannot treat eye conditions.¹ Optometrists proffer the olive branch of "cooperative integration"² while ophthalmologists rumble ominously about patients blinded by optometric mismanagement.

Public confusion between the training and the roles of each professional probably fuel this rivalry. A 1989 national Gallup poll found that less than half of the respondents could correctly identify an ophthalmologist as either a surgeon, medical doctor specializing in the eye, or specialist in eye disease. Thirty-six percent stated that they just did not know. When asked what an optometrist was, again less than half could correctly identify what an optometrist did, five percent were wrong, and thirty-seven percent did not know.³ To the extent that the public has no idea of the differences in education and training between the two professions, whoever offers what appears to be the "better deal" -- i.e., the cheaper deal -- will tend to attract more patients.

One ophthalmologic publication sponsored a survey of ophthalmologists in TPA states and found that about half of the respondents reported a decrease in referrals from optometrists, who will now treat those patients themselves.⁴ One frequent writer in this area documented a continuing trend for obtaining routine care from optometrists rather than ophthalmologists in the Medicare market, especially in TPA states.⁵

Fortunately, the debate in this State, while spirited, has not been acrimonious, and the materials submitted to the Bureau and presented in this chapter are sincere attempts by HOA and HOS to inform the Legislature and the public of their concerns.

It is not always easy to provide a point-to-point comparison between the allegations of both sides, as not every point is directly addressed by each side. For example, on the issue of patient safety, HOA cites positive experiences in other states, while HOS turns this issue into the question of proper training. A brief statement of each side's key positions will be given, and then each main topic will be addressed by each side, with a commentary to follow. The commentary will attempt to clarify issues but not necessarily resolve them; as a layperson, it is not always possible to resolve issues as deeply involved with medical expertise as these are. Last, two articles cited often by both sides are examined.

The Hawaii Ophthalmological Society (HOS)

The positions of the HOS representatives are straightforward. They claim that there is no demonstrated need for a TPA bill: Hawaii residents are between twenty to forty-five minutes from ophthalmological care, and all medical problems (as opposed to routine visits) can be seen immediately. They claim that there is no cost benefit to a TPA law, as under the current health care system, payment is made according to the service, not the provider (*i.e.*, insurance payments to optometrists are the same as those for ophthalmologists for the same service), and that costs will actually increase due to additional visits for unresolved problems and for ophthalmologist visits necessary to correctly treat optometrists' misdiagnosed or improperly treated patients. They allege that patient safety would be compromised under a TPA law. Last, they claim that optometrists' training is insufficient.⁶

The Hawaii Optometric Association (HOA)

HOA takes the position that optometric education has evolved so that it provides sufficient classroom and clinical hours to make optometrists fully qualified to prescribe TPAs. HOA points to the fact that forty other states permit some type of TPA usage as an indication that optometrists are qualified to do so, and cite several examples of states with excellent TPA usage track records. HOA notes that malpractice insurance rates have not risen in TPA states, another indication that problems with TPA usage are few.

In short, as the HOA president testified, "The TPA law is everything the consumer is looking for. It cuts cost. It saves time. It delivers quality eye care."⁷

1. Safety

a. Hawaii Optometric Association

HOA cites the positive experience with TPAs in several states, such as Oklahoma, which has been a TPA state since 1981 [sic: 1984], and in which eighty-four percent of their optometrists are TPA-certified. To date, there have been no incidents of litigation against Oklahoma optometrists involving pharmaceuticals.

The testimony also notes that there have been no malpractice suits, license suspensions, or license revocations in West Virginia based on TPA use, and that West Virginia has authorized TPA use since 1976.

Wisconsin is also cited as a success story. That state required reporting of TPA administrations by optometrists, and in one year there were 17,600 administrations of TPAs, but problems arose in only in 43 cases. Fifteen of these were allergic reactions, eighteen were the result of poor patient compliance, and the remaining ten were referred or had other side effects. After two years, Wisconsin dropped the reporting requirement, presumably on the grounds that it was unnecessary.

For another look at the same picture, HOA cites the experience of Poe & Associates, a long-time insurance broker in the optometric insurance field. HOA cites to a statement from Poe & Associates that they found no evidence of a correlation between TPA usage and malpractice claims.

One Honolulu optometrist notes that there have been no complaints filed against Hawaii optometrists for misuse of DPAs, and that optometrists will exercise equal diligence with TPAs. HOA also notes that malpractice occurs among ophthalmologists as well.

b. Hawaii Ophthalmological Society

HOS in general is skeptical about the purported low rate of complications in TPA states. One source takes the position that ophthalmologists are curbing the apparent optometry malpractice rate, as when an optometry patient is improperly treated, the patient will go to an ophthalmologist to be cured. It would be then be unlikely that a law suit against the optometrist would be filed, as the patient, being cured, would have little or no damages.

HOS cites the Battelle study⁸ for the proposition that optometrists in the study failed to detect forty percent of post-operative complications following cataract surgery.

HOS counters the Wisconsin success story by citing an evaluation of the reports by a Wisconsin ophthalmologist who found that in one report, out of 725 applications, 65 of these involved inappropriate use of TPAs:

- Use of glaucoma medication to treat conjunctivitis
- Use of tranquilizers to treat conjunctivitis and episcleritis (eye inflammation)
- Use of antibiotics to treat glaucoma (an eye disease related to high pressure)
- Use of antibiotics to treat iridocyclitis (non-infectious inflammation)
- Antibiotics to treat a bruise of the eyelid.

Other reports also showed errors, such as inappropriate therapy in half or more of the cases of narrow-angle glaucoma and interstitial keratitis. These allegations are discussed in more detail in chapter 4.

HOS also included a letter from an optometry patient on Kauai whose eye condition was misdiagnosed and became much worse, to the point where her eyes hurt so much that she consulted an ophthalmologist, who diagnosed her with papillary conjunctivitis that needed steroids, antibiotics, and anti-inflammatories to be treated successfully.

HOS also included a videotape taken from a California hearing on a TPA bill, featuring the testimony of an ophthalmologist from North Carolina on malpractice by optometrists of which he has had personal experience, as well as several patient interviews who were victims of improper diagnosis and treatment by optometrists.

c. Commentary

Optometrists counter HOS's rebuttal of the Wisconsin success story by taking the positions that some patients were being treated for more than one condition, and "regretfully, it sometimes made it appear as though the wrong medication was prescribed for the condition."⁹

As far as the Battelle study that purported to show that optometrists failed to diagnose forty percent of post-cataract complications, it is important to note that, according to one editorial, "The study design ... does not enable one to determine whether these outcomes are better or worse than the would have been had the same patients had their post-operative care managed exclusively by ophthalmologists."¹⁰ The editorial notes that the study, funded in part by the American Optometric Association, was undertaken in the hope of allaying quality of care concerns but "is more likely to fuel than calm the controversy about co-managed care."¹¹ This is true.

2. Cost

a. Hawaii Optometric Association

HOA cites a recent study in Honolulu that found that the average cost for a routine eye exam performed by an optometrists was \$63.27, and for an ophthalmologist, \$109.54.¹² Their testimony refers to but does not cite a study by "Interstudy" that purportedly concludes that a thirty-six percent cost savings could be achieved if optometrists were used to the full extent of their training. The key element is increased productivity at the time of first contact, eliminating the expense of an additional visit to an ophthalmologist. Vision Service Plan, a company that provides vision coverage for sixteen percent of Hawaii's people, testified¹³ in favor of a TPA law, on the grounds that it can improve accessibility and provide substantial savings to consumers without jeopardy to public health and safety.

On the issue of malpractice insurance rates, optometrists state that, contrary to the expectations of ophthalmologists, malpractice insurance rates for optometrists in TPA states have not increased. Poe & Associates comprehensively reviewed seven years of underwriting results for optometrists, from 1985 to 1992, and found no increase in TPA states' premiums. "[B]ecause claims and premiums are so closely related to incidents of harm and injury to patients, we do not have evidence at this time that there is a correlation between the use of therapeutic drugs by optometrists and malpractice claims."

That statement had been borne out by information supplied from malpractice carriers (see chapter 5) and by a letter supplied from State Farm Fire and Casualty Company¹⁴ explaining that State Farm dropped its optometrist coverage because it did not possess the necessary experience to continue writing it.¹⁵

In terms of anecdotal evidence, one optometrist cited the case of a patient whom he diagnosed as having "red eye." (conjunctivitis). He told her what medication would cure it, but had to refer her to an ophthalmologist for treatment. The ophthalmologist did and said the same things and gave the patient the prescription, at a cost of \$75, almost three times what the optometrist had charged.

b. Hawaii Ophthalmological Society

HOS testimony takes the position that, as all Hawaii ophthalmologists participate with HMSA and the majority participate with Medicare, and that reimbursement rates are set by these companies per service, not according to category of provider, no cost savings will be achieved as optometrists will be entitled to the same reimbursement that ophthalmologists are. This implies that optometrists, if given the ability to raise their rates, will in fact do so. HOS states that misdiagnosis will also increase costs, as corrective therapy will be needed to compensate for delayed diagnosis and improper treatment.

HOS states that the Chubb insurance company dropped optometric coverage due to increased risk. Testimony from Chubb is in conflict on this point (see chapter 5).

HOS cites the Abt study, reported on in more detail in chapter 5, for the proposition that eye care "episodes", not just routine exams, should be considered. The Abt study found that when three month "episodes" are calculated, costs are \$14 to \$17 greater for optometrists than for ophthalmologists, due to increased claims for glasses and contacts by optometry patients.

HOS cites the Minnesota Academy of Ophthalmology report, as discussed in chapter 5, which states that recommended glaucoma maintenance treatment by ophthalmologists would cost \$172 per year, while recommended treatment for the same condition by optometrists would cost \$272, \$100 more.

HOS also included the letter from HMSA, referenced in chapter 5, which states that the addition of providers to medical plans generally results in an increased cost to plan members and providers.

c. Commentary

It seems to be the case that in Hawaii, at this time, ophthalmologists charge more for a routine exam than do optometrists. Whether that price differential would remain for treatment costs is implied, but not proven, by HOA. Whether the costs would be different for employers and governmental programs is not clear. If it is true, as implied in the HMSA letter, that more providers in a field lead to more services being provided, the overall cost could be greater. No firm figures for this proposition exist.

It seems clear that malpractice insurance rates have not increased for TPA-administering optometrists in other states. HOS' positions are less supportable: while they say that "it is reasonable to assume" that optometric malpractice premiums will increase, in fact they have not done so. While it may be the case that optometrists administer lesser amounts of TPAs than do ophthalmologists, insurance companies are notoriously conservative when it comes to their own risks, and it is more significant that they have not seized upon the possibility of optometric error to raise rates.

3. Need

a. Hawaii Optometric Association

While not addressing the issue of the need for a TPA bill per se, HOA brings up a number of issues that would fall into this category. The first is the ability to provide immediate services to those who may not want to or be able to pursue a referral. The Dean of

the School of Optometry at the University of California at Berkeley stated that it is "well-known among health care providers that patient compliance is relatively poor" and that patients for whom a referral to an ophthalmologist is made may not go, especially if the condition is pain-free (such as glaucoma). If immediate care is available through an optometrist, patient compliance could increase.

Another is the issue of accessibility and availability. One local study indicated that a routine examination appointment can be scheduled in 3.62 days with an optometrist and 7.08 days with an ophthalmologist. It is suggested that optometrists' hours are more convenient for patients. One optometrist in Kaneohe testified that he works "considerably later" than the ophthalmologists in Kaneohe, who will not see patients later in the day and refer them to emergency rooms. This forces the patient to make a minimum of three visits, including one emergency room visit.

A Waianae Coast optometrist notes that there are about 40,000 people there, and only one ophthalmologist, who works three days a week. "Many times" he has had to refer people to the Waianae Coast Comprehensive Health Center or have them wait until the ophthalmologist returned.

A letter was also received from an optometrist in Kailua-Kona, who says that for referrals he has to send people to the emergency room or to Waimea, fifty miles away.

Over 100 people signed a petition in favor of last year's TPA bills from the Big Island, over 100 from Oahu, and over 50 from Maui.

Letters from three patients were included who needed a referral for pink eye diagnosed by their optometrists, who had to wait to get an ophthalmology appointment for the same diagnosis and treatment.

A resolution of the American Public Health Association, a national organization of seventy-seven health professions and 32,000 members, was also cited. This resolution encouraged state legislators to grant therapeutic privileges to optometrists.

One last argument under this heading is the argument that if Hawaii continues to resist a TPA law, the brighter optometrists will refuse to return to Hawaii but will remain on the Mainland in a TPA state where they can exercise their full training. The implication is that only those who could not cope with the demands of TPA practice will end up in Hawaii.

b. Hawaii Ophthalmological Society

Testimony was received from Hawaii ophthalmologists stating that before a TPA statute is implemented, optometrists are obliged to prove that there is a need for the change and that the change will not present any greater risk to the public relative to current

standards. They allege that a few days extra wait for a routine appointment does not equal lack of access to quality care, and that ophthalmologists are available twenty-four hours, seven days a week for emergencies. In addition, hundreds of physicians all over the State are capable of providing basic eye treatment -- family practitioners, general practitioners, internists, and pediatricians -- if an ophthalmologist is not available. HOS also stated that ophthalmologists have open practices in Waiānae and Kailua-Kona, the two sites mentioned in earlier testimony as being underserved areas.

One doctor listed some examples of how systemic diseases can masquerade as eye problems: a tired glaucoma patient whose lack of sleep is due to heart failure caused by his eye medication; a diabetic patient who mentions he has put on weight, when the cause is water retention due to diabetic kidney failure; a supposed stye that is really cancer of the eyelid; and simple "pink eye" in a newborn that is actually a bacterial eye infection caused during birth. The testimony intimates that optometrists lack the ability to diagnose these hidden ailments.

HOS submitted the 1991 sunset audit of the Pennsylvania board of optometry¹⁶ performed by the Legislative Budget and Finance Committee. Pennsylvania is a DPA state whose ophthalmologists have led the effort to defeat several TPA proposals. The audit reviewed the issue of TPA certification and rejected it, citing past opposition by the Secretary of Health and current opposition by the Secretary of Aging. The audit noted that Pennsylvania had a relatively high percentage of ophthalmologists, roughly 1 to every 15,600 residents, who are relatively widespread. [In comparison, the ratio of Hawaii's eighty or so civilian ophthalmologists to the total population of residents, excluding military members and their dependents, is approximately 1 to 13,200.¹⁷] The audit staffers found little indication that accessibility was a problem. In terms of cost-effectiveness, while optometrists did bill at a lower rate, the audit found that costs would probably rise if a TPA bill were to be adopted. Training and testing was another issue: the audit staff was presented with conflicting evidence between Pennsylvania optometrists and ophthalmologists, and the audit staff concluded that they were unable to independently determine whether the training was sufficient.

Attached as Appendix B to the report was a summary of the 1985 Sunset Review Conclusions of the Pennsylvania House Committee on Consumer Affairs on a TPA bill. The committee found that (1) it was not presented with evidence that the current situation in any way impaired the visual health of its residents, (2) there is no substantial need for a TPA bill, and (3) there was a lack of proof that an any increased public benefit would be obtained. In the Committee's opinion "many licensed optometrists are not in any way qualified to use therapeutic drugs in the course of their practice, nor that even recent optometry graduates received sufficient education to use TPAs independently."

c. Commentary

It seems that a TPA bill would promote a certain degree of convenience, but whether this constitutes a genuine need needs to be determined by the legislature. The issue is more one of convenience and accessibility. Patients in Honolulu have more options in this regard, while the more rural and neighbor island areas have restricted services.

4. Optometrist Training

a. Hawaii Optometric Association

HOA testimony states that there are sixteen schools of optometry in the United States, all of whom are ranked as "distinguished" (the highest level) in the Gourman Report. All of the optometry schools are nationally accredited and provide a four year graduate level program. The three schools in the western region receive WICHE (Western Interstate Commission for Higher Education) funding for qualified students from Hawaii. According to HOA, nearly ninety percent of entering optometry students have a bachelor's degree, and their average college grade point average is similar to students entering medical and dental school.

In terms of pharmaceutical training, optometry students average more than one hundred lecture hours in pharmacology, covering both systemic drugs and those that are specific to the eye. HOA notes that this is at least equivalent to the number of lecture hours in pharmacology received by medical and dental students. Optometry students receive significantly greater training in diagnosis and treatment of eye disease than do non-ophthalmologist physicians: general practitioners, family practitioners, and pediatricians. The average optometry curriculum includes over five hundred hours in classroom and laboratory study of eye disease differential [sic] diagnosis, treatment, and management. Extensive lectures on systemic disease and ocular manifestations of systemic disease are included.

In terms of clinical training, according to HOA, today's optometry students average more than one thousand hours in clinical, hands-on training specific to eye disease diagnosis, treatment, and management. The training is closely supervised by ophthalmologists and TPA-certified optometrists. All fourth year students perform clinical intern training where they individually examine, diagnose, and make treatment decisions. HOA notes that expansion of the optometry curriculum in this area has evolved over the past five to ten years.

HOA notes that, to be licensed in most states, including Hawaii, the National Board of Examiners in Optometry exams must be passed, which includes the National Board exam on the Treatment and Management of Ocular Disease (TMOD), which many states require for TPA credentialing.

As far as education for older licensed optometrists, HOA states that their TPA certification will necessarily involve significant continuing education lectures as well as additional hands-on clinical training.

To summarize, HOA takes the position that today's optometrists are well qualified to be a primary care eye health provider, enhancing efficient, quality, and effective eye care delivery.

HOA supplied letters and testimony from optometry schools, optometry professors, and recent optometry graduates to bolster their position.

Testimony was included from the three WICHE schools that train many Hawaii optometrists.

The dean at the University of California at Berkeley optometry school (UCB) says that their curriculum is "rich in biological and medical sciences, involving extensive patient encounters for both eye disease and eye complications of systemic disorders."¹⁸ The UCB curriculum provides an education "comparable to that provided to family practitioners, dentists, and podiatrists."

UCB students spend over 200 clock hours in lectures and laboratories in systemic disease and ocular manifestation of systemic disease, "close to" 300 hours in ocular disease, and more than sixty hours in general and ocular pharmacology. Their estimate is that there is an additional 325 to 450 clock hours of third and fourth year clinical work devoted to clinical demonstrations and discussions of ocular and systemic disease detection, evaluation, therapy, and management. UCB also speaks with pride of its faculty.

The President of the Southern California College of Optometry states that they have the most extensive clinical program in the nation, with eighty-four clinics in twenty-four states, including each branch of the military, U.S. Public Health Service, the Veteran's Administration (now known as the Department of Veterans' Affairs), hospitals, and others, with patients with a much higher incidence of health and eye problems than found in the general population. The curriculum includes 290 didactic hours and over 1200 hours of clinical training.¹⁹

The Dean of the College of Optometry at Pacific University stated that medical school traditionally prepares students in general medical and surgical areas, and the eye is not emphasized in this curriculum. In a small personal survey of non-ophthalmologist MDs, he found that they had had one to three weeks of medical school devoted to the eye, while in comparison, the entire four-year curriculum at optometry schools is devoted to the eye. In his personal experience with TPAs, he has seen very few significant side-effects from the drugs, mostly just mild allergic reactions.²⁰

HOA also cites a letter²¹ from a medical doctor on the staff of the Pennsylvania College of Optometry since 1970, which states that "[w]ithout a doubt", optometrists are prepared to diagnose and treat.

An associate professor of medicine at the University of Connecticut Health Center states that their residents are trained under the supervision of optometrists due to their excellent standards of care, practical knowledge to be gained, and proper use of specific medications.²²

A 1993 optometry graduate from the University of California at Berkeley listed his lecture course: ocular anatomy; general and ocular pharmacology; systemic disease; fundamentals of ocular disease diagnosis; ocular manifestations of systemic disease; and basis, recognition, and management of ocular disease.²³ These courses were thirty percent of the lecture course requirements for graduation.

He lists his clinical training: in his third year, he completed 800 hours of work at the Primary Eyecare Clinic on the Berkeley campus. The patients consisted mostly of those seeking basic vision care, such as contact lenses, glasses, and vision therapy. Some cases included eye disease.

In his fourth year, this doctor completed about 1400 hours of work in four clinical rotations:

- (1) Sixteen weeks in clinics in and around the Berkeley campus, such as the Primary Eye Care Clinic, Low Vision Clinic, Contact Lens Clinic, Binocular Disease Clinic, and the Ocular Disease clinic. The doctor states that these rotations did include the detection, diagnosis, and treatment of eye disease, although the extent to which the last was possible is unclear, as California is a DPA state.
- (2) Eight weeks at Oak Knoll Naval Hospital in Oakland, California, with patients presenting a wide spectrum of primary eye care conditions. Since this is a naval facility, the doctor was allowed to treat as well as diagnose.
- (3) Eight weeks at the Western Center for the Rehabilitation of the Blind.
- (4) Ten weeks at the Omni Eye Specialist in Denver Colorado. (Colorado is a TPA state). This center did not provide general eye examinations or glasses; rather, it provides all levels of eye care to patients referred by optometrists, ophthalmologists, and physicians. His responsibility was to see all patients initially, to examine, diagnose, and formulate a treatment plan. Ninety percent of the patients he examined had eye disease which he treated under the guidance of an optometrist.

HOA also included some rather out of date articles that show parity in classroom pharmacology hours for medical and optometric students.²⁴

A 1983 article comparing pharmacology courses for optometry and medical students at Indiana University²⁵ The article found that the faculties were both drawn from medical schools, and that the number of lectures hours was the same. In six areas, the students had the same lecturer and lectures. The article concluded that two-thirds of the training is the same, and the differences are that optometry students concentrate on areas the affect the eye, while medical students have more breadth of training.

An undated, unsigned "article" purports to compare pharmacology courses for optometry, dental, and medical students at the University of Alabama at Birmingham (UAB). Medical students take 96 hours of pharmacology lectures and twenty hours of clinical pharmacology lectures. Optometry and dental students take a combined course consisting of 58 hours of lectures, and the the optometry students take an additional 13 hours of clinical lectures and the dental students take eight hours. The optometry students also take 39 hours in ocular pharmacology in their third and fourth years. the lecture courses are taught by faculty from the Department of Pharmacology at UAB, and the clinical courses are taught by faculty members from their respective schools. The conclusion arrived at is that while medical students receive a broader systemic background, they receive little information on ocular pharmaceuticals. A 1993 letter from the Dean of the School of Optometry states that optometry and medical students take the same class in physiology and neuroscience, and that the deans of the schools are meeting in an attempt to consolidate other basic science courses.²⁶

There is an undated, unidentified piece of testimony entitled "The Spin Doctor" that is apparently a rebuttal to testimony against an Alabama TPA law. The author states that in Alabama, eighty-six percent of all optometry students have their undergraduate degree, while only eighty-two percent of medical students do. The previous testifier stated that medical school provides 5200 "contact hours" of training, but less than ten hours of lecture on the eye. In comparison, UAB students receive over 1000 hours of lectures on the eye. He attacks the long hours of medical interns as making them prone to errors, and of medical residents as cheap labor for medical clinics, which is why they have such long hours of clinical work and such few classroom hours.

b. Hawaii Ophthalmological Society

HOS does not dispute the fact that optometric education contains a significant number of classroom hours devoted to pharmaceuticals. Instead, they take the position that classroom hours are only the beginning of knowledge, and that a true and comprehensive knowledge of how to use TPAs comes from thousands of hours of evaluating, diagnosing, and

administering TPAs under closely-supervised instruction. They claim that optometric education is deficient in this latter aspect.

One ophthalmologist framed the issue as a matter of developing clinical judgement, which is the ability to weigh the symptoms, signs, and history of a disease, to synthesize the data and decide which of a myriad of diseases the patient has, and then to choose a therapeutic regime. Clinical judgment is formed from years of constantly supervised care of sick patients; years that optometry students do not have.

HOS submitted a letter from Warren S. Chernick, professor and chairman of the department of pharmacology at Hahnemann University in Philadelphia, in which Dr. Chernick states that while his department gives "an excellent course" in introductory pharmacology to the students at the *Pennsylvania College of Optometry*, the course "does not compare" with the course given to medical students at Hahnemann University.²⁷ The latter course involves small conferences, workshops, and highly intensive student interactions, while the former consist just of lectures. In addition, Dr. Chernick states that therapeutics, the applied aspect of pharmacology, is a step-by-step process that merely begins with course work. The essential education occurs in clinical training throughout the residency program. Dr. Chernick concludes that "it would be undesirable to allow optometrists to dispense drugs under the present circumstances." It should be noted that the date of this letter is August of 1990.

HOS also submitted a copy of testimony from Dr. Donald Schwartz, who is both an M.D. and an O.D., before the Washington State Legislature in 1989.²⁸ Dr. Schwartz received his O.D. and practiced optometry for six years before returning the medical school and becoming a board-certified ophthalmologist. Dr. Schwartz has experience teaching both ophthalmology and optometry students. He stated that at first he did not want to go to medical school as he felt that training would be redundant, but that he was wrong and that ophthalmologists are in possession of a vast body of knowledge unavailable to optometrists. According to Dr. Schwartz, "the optometrist simply does not know how much he does not know." Dr. Schwartz added that, while training optometry students in 1983 and 1984, he saw at least one misdiagnosis by optometry students at forty-two percent of his teaching sessions, and of that percentage, sixty-four percent were very significant misdiagnoses that could have led to serious loss of vision. He notes that the majority of students saw only between 300 and 399 patients in a clinical setting, and that very few of these patients had eye disease (it appears that most were seen for vision correction). Dr. Schwartz contrasts this experience with that of a first year ophthalmology resident, who sees 847 patients in the first six months, ninety percent of whom have eye disease diagnosed and treated by the resident. Throughout the three year residency period, residents examine, diagnose, and treat an average of 3786 patients, with some programs going up to 7000-8000, or even up to 15,000. Dr. Schwartz adds that a "bare minimum" of 2700 patients with eye disease should have to be seen by optometry students in order to have parity with ophthalmology residents.

HOS cites the Office of Technology Assessment (a staff agency of the United States Congress) report discussed in chapter 4, and compares the educational requirements (see Appendix K for text). Emphasis is focused on patient contact, of which the ophthalmology resident at Wills Eye Hospital had the lion's share, seeing a minimum of 15,000 patients with eye disease, while the Pennsylvania College of Optometry requires only 1200 patient contacts, and only some of these have eye disease.

Dr. Ing, chairman of the Ophthalmology Department at the John A. Burns School of Medicine stated that an ophthalmologist completes 3000 hours of seeing patients in medical school and adds another 2500 hours as an intern. As a resident, the ophthalmologist must have contact with at least 3000 patients with eye disease in order for that program to be accredited. There is no minimum required for program accreditation in optometry. Dr. Ing cites the case of a two-year old whose eye problem was diagnosed as drifting eye -- and not referred -- by an optometrist. By the time the mother brought the girl to see an ophthalmologist, she was blind, both eyes filled with potentially lethal eye tumors.

c. Commentary

The TPA issue has been in existence nationally for many years, and earlier positions by ophthalmologists heavily criticized the lack of pharmaceutical education. The optometry schools listened, and have gradually improved their curriculum hours in that area. Then ophthalmologists criticized them for their lack of clinical education. Optometry schools responded by increasing their clinical hours, and by making arrangements for their students to train either in a TPA state or at a military or other facility where they would gain TPA experience. It seems clear that optometry students' hours do not approach that of ophthalmology residents, and never could, as ophthalmologists are in training for an additional four years (four years of medical school plus one year of internship plus three years of residency). However, as optometry continues to converge on ophthalmology's criteria, it becomes more difficult to claim that they are entirely lacking in the skills to administer at least some TPAs for some conditions. This is a difficult area for a layperson to evaluate.

5. Military and Other Federal Agency Usage

a. Hawaii Optometric Association

Dr. Marvin Baum, a retired military optometrist with the United States Air Force, testified that during his time in the military, which included seven years stationed at Hickam Air Force Base, he was credentialed to use TPAs independently and without supervision.²⁹ Dr. Baum is now a civilian optometrist, and states that in his eight to nine month practice as such he saw "a great many patients" that he had to refer to an ophthalmologist that he would have routinely treated in the military.

Dr. Baum explains the military two-tier system of eye care in Hawaii. Five outlying medical facilities (Hickam AFB, Schofield Barracks, Barbers Point NAS, Kaneohe MCAS, and Pearl Harbor) provide primary medical care. TPA-certified optometrists are stationed here, and military ophthalmologists are stationed at Tripler and are available for referrals to provide secondary (serious eye problems) and tertiary (surgery) eye care.

Dr. Baum states that initially ophthalmologists and other physicians supervised and counter-signed optometrists' work. There was a transition period during which optometrists kept logbooks of their work and agreed to peer and medical reviews, but at present, TPA-certified military optometrists are credentialed to independently examine, diagnose, treat, and manage eye disease and conditions within the scope of their credentials.

Testimony was also submitted from Col. Lawrence D. Hampton, U.S. Army, Chief, Optometry Service, Tripler Army Medical Center.³⁰ Col. Hampton states that optometry clinics are primary care clinics, and that optometrists are allowed to treat patients if the treatment is within the scope of their credentials. He notes that TPA powers under combat situations are greater than those in fixed-facility hospitals. He supports TPAs, stating that any patient who can be treated at the primary level saves the cost of a referral. Credentialed providers undergo periodic reevaluation and must request renewal of their privileges as a quality control mechanism.

A memorandum from a federal civil service optometrist at Pearl Harbor was also received. He is credentialed to prescribe numerous topical drugs, including antibiotics and anti-histamines, and also some oral drugs, notably antibiotics. He states that he works independently, without the supervision of an ophthalmologist, and that non-ophthalmologist physicians refer patients to him for treatment. The benefits of this system are immediate access to care, decreased time-off for the patients, a significant decrease in workers' compensation costs, and cost-effective quality care.³¹

The staff optometrist with the Veterans' Administration Medical and Regional Office supported a TPA bill, noting that he has independent prescribing and treating privileges. It is also the understanding of the Bureau that TPA usage is allowed for optometrists in the United States Public Health Service and the Indian Health Service.³²

b. Hawaii Ophthalmological Society

HOS testimony takes the position that military usage of TPAs is done for expediency's sake; to assure adequate eye care despite manpower shortages, budget cuts, or national emergencies. The testimony adds that, in the civilian sector, where there is no demonstrated need to lower the standards of medical care, a medical degree should be the minimum qualification to practice medicine.

A letter from Anthony P. Martyak, M.D., former Chief of Ophthalmology at Tripler Army Medical Center for fourteen years, states that, contrary to optometric claims, military optometrists do not operate independently, but function under the supervision of medical doctors, either primary care physicians or ophthalmologists. Dr. Martyak states that he and his colleagues experienced delay in diagnosis, misdiagnosis, and mistreatment by military optometrists.³³

c. Commentary

One comprehensive article noted that the Army was the first service branch to permit the use of TPAs in 1983.³⁴ Army medical treatment facility commanders can credential qualified optometrists to write TPA prescriptions and treat eye disease. The only limitation is the prohibition on controlled substances. Each request must be reviewed and approved by the physician in charge of the clinic, the hospital's Therapeutics Agents Board and Credentials Committee, and the hospital commander. There are no minimum education or training requirements.

The Air Force and Navy regulations are somewhat different. They define the qualifications an optometrist must have before becoming credentialed. The regulations specify the types of conditions that may be treated. The Air Force and the Navy differ on two points: the Navy requires an additional step to become qualified, and the Navy specifies the category of topical TPAs that may be prescribed without physician consultation, and those that may be prescribed after physician consultation.

Therapeutic credentialing in the military is not an absolute: an optometrists' request for privilege to use a particular drug can be denied, granted in full, or granted but limited in some manner.³⁵ The article polled all military optometrists, and found that in the Army in particular, opposition from ophthalmologists was the primary reason that the optometrist was not credentialed.

The testimony is contradictory as to whether optometrists in the military use TPAs independently. The Bureau contacted the current Chief of Ophthalmology at Tripler to ascertain whether or not optometrists are supervised, as alleged by Dr. Martyak, or function independently, as alleged by Dr. Baum. The Bureau was informed that the respondent did not believe that he was authorized to speak officially on this topic, and referred the Bureau to Col. Frank Lapiana, consultant to the Surgeon General. Colonel LaPiana stated that he was not free to comment on this issue unless permission was granted by his superior officer. The Bureau applied for such permission but had received no response at the time this report was finalized.

Articles

Two publications by optometrists have raised a huge amount of debate. The first is a HOA newsletter entitled "Vision in the 90s," and the second is an article by Barresi and Soroka on cost control in the optometric newsletter Policy Insight.

a. "Vision in the 90s"

"Vision in the '90s," a newsletter of the Hawaii Optometric Association (HOA) was included in the materials sent by the HOA,³⁶ and its focus was on TPAs. The newsletter alleged that TPA legislation will help Hawaii residents by providing (1) quality care, including timely diagnosis and treatment by certified optometrists; (2) cost savings, based on lower charges by optometrists, no duplication of exams, Medicaid and Medicare savings, and lower emergency room costs; (3) time savings, as there will be a shorter wait for routine exams with optometrists; (4) safety in the form of extensive hands-on clinical drug training; (5) easy access; and (6) overall efficiency.

The newsletter contained a chart showing that the average cost of a routine exam in Hawaii is \$63.27 for optometrists and \$109.54 for ophthalmologists, and that the earliest routine appointment was 3.62 days for optometrists and 7.08 days for ophthalmologists.³⁷

The newsletter also included an article on military optometrists, who are permitted to handle all primary eye care at military bases in Hawaii, including TPA administration.

The Hawaii Ophthalmological Society (HOS) sent the researcher a seven-page memorandum attacking the publication on several grounds.³⁸ HOS states that the term "quality of care" is not defined by HOA, and that true quality of care -- safety -- is determined by education. HOS states that an optometrist can start unsupervised solo practice in as little as six years and that in comparison, an ophthalmologist takes twelve years to reach the same point. In addition, forty percent of all ophthalmologists go on to complete a fellowship, another one or two years of clinical training.

HOS alleges that the residency referred to in optometrist education is not a required part of optometric training, that only five percent of all graduating optometrists actually do a residency, and that this one year of optometric residency is not comparable to the three year residency required of ophthalmologists.

HOS says that the charts in the newsletter showing that total class hours in pharmacology in optometry schools is 100.75 hours, while the same figure for medical schools is 93 and dental schools, 65.29, is not the key determinant of competency in that area. Rather, a pharmacology course is a "rudimentary skeleton" to learn about medications, which is expanded on in "countless hours" on hospital wards as medical students, interns,

and residents. Pharmacists, HOS points out, is the group with the greatest number of classroom hours on drugs, yet pharmacists do not seek prescription privileges.

HOS claims that optometrists miss out on training for systemic diseases, such as congestive heart failure, which can be precipitated by a commonly prescribed eyedrop for glaucoma. As medical doctors, ophthalmologists would know what steps to take if this occurs, but since optometrists lack this training, the warning signs may go unrecognized and untreated.

HOS also attacks the claim of optometry that advances in optometric education have given them an equivalent amount of hands-on clinical training. HOS points out that prior to 1990, thirteen of the sixteen schools of optometry were located in non-TPA states, and that today, nine of the sixteen are located in non-TPA states. HOS contends that "the vast majority of optometrists today, who primarily exist in independent private practice, have had little if any direct responsibility for giving drugs to patients with serious diseases." HOS also attacks a report that military optometrists have treated patients independently with no significant problems, but the difference of opinions here may be based on semantics and not a true discrepancy.³⁹

In terms of access, HOS takes the position that HOA is looking at irrelevant data. It does not matter, HOS claims, that optometrists in Hawaii outnumber ophthalmologists two to one. The crucial question in the opinion of HOS is whether "quality ophthalmologic care [is] readily available to the people" in this State. HOS says that other states may lack ophthalmic coverage due to vast differences and sparse population centers, but that in Hawaii, ninety-eight percent of all residents are no more than a twenty-minute drive to an ophthalmologist. According to HOS, as of early 1994 there were approximately sixty-three ophthalmologists on Oahu, five on Maui, six on Hawaii (four in Hilo, one in Kona, and one in Waimea), and four on Kauai, for a total of seventy-eight. Nine Oahu ophthalmologists regularly commute to the neighbor islands and also help serve Lanai and Molokai.

On the issue of timeliness, HOS takes the position that the time difference for a routine exam (3.62 days v. 7.08 days) "does not prove poor access to quality ophthalmologist care," presumably because the wait for a routine exam is not critical.

HOS also points out that other medical doctors are available throughout the State who can perform primary medical eye care. HOS is aware of no written complaints documenting lack of access in either routine or emergency situations.

HOS attacks HOA's statement that as optometrists' fees are about twenty to thirty percent less than those of ophthalmologists, costs for eye care will be decreased with a TPA bill. HOS (1) cites the Abt report (discussed in more detail in chapter 5) which found that, over a three-month period, optometrist claims were greater than those of ophthalmologists; (2) cites official ophthalmologic and optometric publications on the elements of appropriate

glaucoma maintenance, in which the total cost is \$100 more for the proposed optometric treatment; (3) points to an increase in Medicare payments for optometrists instead of the optometrists' predicted decrease; and (4) attempts to refute a study on alleged high emergency room costs in Massachusetts, a DPA state. HOS also cites the HMSA letter discussed in more detail in chapter 5, in which a senior vice president states that the addition of providers generally results in increased plan costs to members and their employers, for the proposition that a TPA law will increase costs to patients and their employers.

HOS's last point is that the TPA law is being requested by optometrists, not members of the public.

b. Barresi Article

A 1993 article, "Cost Control Benefit of Therapeutic Drug Authority for Optometrists," by Drs. Barry Barresi and Mort Soroka, frequent contributors to the field, states seven bases by which TPAs contribute to lower costs.⁴⁰ Their first point is that optometrists are the most accessible primary eye care provider: more than two-thirds of primary eye care services in the United States are provided by doctors of optometry. Optometrists are more widespread throughout the country, especially in rural areas. They cite to studies showing that waiting time for a primary care appointment for an optometrist averages less than one week, while the same wait for an ophthalmologic appointment is more than three weeks. Moreover, three-fourths of optometrists offer primary eye care services on weekends or evenings, while one one-fourth of ophthalmologists do.

They state that optometrists and ophthalmologists are "market equivalents" in eye care. By this, they apparently mean that TPA optometrists provide the same services as ophthalmologists and can help shift eye care services from emergency rooms and hospital-based physicians to optometrists. They state that this condition cuts into the demand for ophthalmology services.

Another ground cited favorably is that treatment upon first contact with a patient with eye disease reduces costly duplication. Patients do not have to be referred to a generally more expensive ophthalmologist but can be treated cheaply and immediately. The article cites the Wisconsin experience in which 12,702 administrations of TPAs by optometrists were made and only one percent of the cases needed referral to ophthalmologists. Prior to TPA laws, all of these cases would have required referrals. The report also claims that an analysis of Medicare claims data shows a preference for optometric services over ophthalmologic services.

Another point asserted was that optometrists charge lower fees than do ophthalmologists and emergency rooms. One 1989 study showed that ophthalmology fees were forty-five percent higher than those of ophthalmologists. The article alleges that payments to ophthalmologists under governmental programs such as Medicaid far exceed the

fees schedules for optometrists, and that optometrists charge a lower fee for the same procedure code. The article refutes the notion that a TPA law will encourage optometrists to raise their fees. Another study by the authors showed no statistically significant differences in fee trends for TPA as opposed to non-TPA licensed optometrists. The article looked at emergency room treatment in Massachusetts, a non-TPA state, and found that three percent of visits for superficial eye problems would have been treatable by optometrists in a TPA state.

The article notes that prompt treatment often lowers the total cost of treating an illness, and, especially in the cases of inflammatory and infectious disease, the sooner the medicine is administered, the lower the risk of complications.

Another point raised was that TPA use lowers the patient's out of pocket expenses, including savings on travel time. The article states that on 1991 Oregon report found that seventy percent of all optometrists accepted Medicaid payment, as opposed to eleven percent of ophthalmologists.

The article's last point was that managed care system recognize optometrists as cost-effective. The article also reiterates the policy of the American Public Health Association (APHA), which adopted a resolution urging state legislatures to allow the use of TPAs.

HOS vigorously attacks nearly every point made in this article. HOS counters the Wisconsin experience with a review of that report by a Wisconsin ophthalmologist indicating a number of cases were "treated" with drugs that are ineffective for that particular condition. The ophthalmologist also noted that the reported adverse reaction rate was less than one percent, which raises, according to them, questions about the accuracy of the reports as the reported rate of adverse reactions for those medications are at least several times higher (the implication being the optometrists are missing, and thus not treating, these adverse reactions). It is also mentioned that glaucoma is never "resolved": it is a chronic diseases that can be stabilized, not made to disappear. The fact that thirty-nine of the glaucoma cases were listed as "resolved" indicates either a lack of understanding about what glaucoma is or inaccuracy in reporting.

The rebuttal attacks the lower cost argument by stating that the optometrists use unequal price comparisons, and load up their routine exams with routine visual fields examinations way above the baseline established by ophthalmologists by a 4 to 1 ratio, and that they perform color vision testing, fundus photography, visual field testing, and color vision testing at much higher rates than ophthalmologists.

The rebuttal also alleges that it is an incorrect assumption that lower optometric fees will persist once optometrists are given TPA privileges, as they will be entitled to the same rate under Medicare as will ophthalmologists. The rebuttal takes the position that since they will be entitled to the same reimbursement rate, they will raise their rates to that level. The

rebuttal also alleges that higher billings by ophthalmologists "probably reflected" diagnosis and treatment of eye disease, so "there is a good reason" to "question the assumption that optometrists have provided similar services for less cost in the past." Last, they state that optometrists will have to increase their overhead to obtain equipment necessary to diagnose and treat eye disease, which will put more pressure on them to raise their rates.

The rebuttal states that questionable diagnoses and treatment are more frequent than indicated in the Policy article, and the cost of the "rework" to correctly treat the patient will add to the overall cost.

On the issue of access and availability, the rebuttal takes the position that the statistics were based on the time for a routine eye exam, with no apparent problems, and the fact that more time is needed to make an appointment with an ophthalmologist does not pose significant health access problems. On the issue of fewer evening and weekend hours, the rebuttal merely states that their data "are over four years old and not reflective of current practices." The rebuttal then takes the offensive and states that the fact that there is such a short waiting time to see an optometrist indicates an excessive number that may tend to increase the level of services and increase health care costs by supplying unnecessary and inappropriate services.

Continuing in the area of availability, the rebuttal takes the position that the sheer number of optometrists as opposed to ophthalmologists should not be decisive; rather, access should be determined by the percentage of patients within thirty to sixty minutes of an ophthalmologist. However, the rebuttal states that there is "no data available" on that figure.

The rebuttal denigrates the American Public Health Association resolution on the grounds that it was pushed through by the vision care section, composed mostly of optometrists, in the face of indifference by the other sections.

The rebuttal also attacks the references cited in the Barresi article on the grounds that over half are personal opinions, in preparation, or non-reviewed statements, and that the remainder are flawed for various reasons.

Summary

The official positions of the HOS and HOA are sharply divided on the TPA issue. At present, no compromise seems in the offing.

Endnotes

1. The HOA publication "Vision in the 90s" quotes the American Optometric Association as defining optometrists as *independent primary care health care providers*. A Kaiser optometrist on Maui stated that she and other

neighbor island Kaiser practitioners have been providing "full scope optometric care," including screening for ocular complications of systemic disease, and writing prescriptions (co-signed by an M.D.). On the other hand, HOS submits testimony showing that primary eye care by optometrists is not currently occurring in Hawaii. The testimony includes a letter from the chief of the ophthalmology division at Kaiser that states that at present, the role of optometrists at Kaiser has been to determine eyeglass prescriptions, fit contact lenses, and perform basic eye examination for health maintenance. The chief's opinion is that, if a TPA bill were to be passed, neither current optometry training, continuing education courses, nor the passing of an optometry therapeutic board exam would be sufficient to ensure that all optometrists would be competent to treat. A "preceptorship" similar to those that Kaiser uses in TPA regions, which involves an extensive process of skill verification and refinement, would have to be instituted.

An ophthalmologist at Straub submitted testimony stating that, contrary to optometrists's claims, optometrists at Straub perform an initial interview and vision exam, but that an ophthalmologist will see the patient for additional medical history and diagnostic medical exam. The doctor states that "all primary care is provided by an ophthalmologist."

2. "'Cooperative integration' of optometry, ophthalmology needed, Leadingham says," American Optometric Association News, Vol. 32, No. 10 (November 15, 1993) at 1.
3. Gallup Poll, conducted for the American Society of Cataract and Refractive Surgery, January 1990.
4. "OD Legislation May Result in Fewer Referrals," Ophthalmology Times, October 1, 1991 at 1.
5. "How Will Health Care Reform Affect Ophthalmology?: Whatever reforms play, you'll pay - one way or the other," Ophthalmology Times, November 1, 1992 at 99.
6. See, e.g., HOS's Legislator Information Kit, "For Continuing Quality Eye Care in Hawaii," which reiterates their main points: patient access to ophthalmologic care is readily accessible (although no Hawaii information is cited); a TPA statute will increase costs to everyone: patients, insurance carriers, and the government; optometrists do not receive sufficient medical education or clinical training to diagnose and treat eye disease; optometric post-operative care is problematic in cataract cases; and that there is a potential risk to the public.
7. Testimony by Dr. Mark S. Teruya, O.D., President, Hawaii Optometric Association, to Rep. Robert Bunda, House Committee on Consumer Protection, on H.B. 2456 (1994).
8. Dennis Revicki et. al, "Patient Outcomes with Co-Managed Post-operative Care After Cataract Surgery," Journal of Clinical Epidemiology, Vol. 46, No. 1 (1993) at 5, referred to in the literature as the Battelle study as it was done at the Battelle Medical Technology Assessment and Policy Research Center in Washington, D.C.
9. Testimony of Dr. Kevin K. Lui, Hawaii Optometric Association, to the House Committee on Consumer Protection, on House Bill No. 2456 (undated) at 4-5.
10. Editorial, Earl P. Steinberg, "Do Optometrists See What Ophthalmologists See When They Look You In The Eye?" Journal of Clinical Epidemiology, Vol. 46, No. 1, at 3, 4. (1993).
11. Id.
12. Survey Report, "A Comparison Study of Hawaii Optometrists and Ophthalmologist," by Joyce Torrey of Joyce Torrey Public Relations, conducted on behalf of the HOA, dated October 18, 1993.

FEASIBILITY OF A THERAPEUTIC DRUG LAW FOR OPTOMETRISTS IN HAWAII

13. Testimony of Denise Albee, Regional Manager, Vision Service Plan, addressed to the Speaker of the House of Representatives, dated February 8, 1994.
14. Letter from John Robertson, Director - Underwriting, State Farm Fire and Casualty Company, to a Colorado optometrist, dated November 17, 1987.
15. Specifically, the letter states that State Farm is in general a personal lines insurer, and historically has written policies with a very low exposure to loss. "When the increase in exposure occurs as a result of legislation, we sometimes conclude, as we have here, that we just do not possess the necessary experience to continue writing certain lines. While there may not always be substantial actuarial justification for this decision, our own business judgment is that we should not operate in lines where we do not have adequate experience." *Id.*
16. Pennsylvania, Legislative Budget and Finance Committee, Sunset Performance Audit: State Board of Optometry (February 1991).
17. *The exact number of ophthalmologists in Hawaii fluctuates, according to Dr. Jon Portis, President of the Hawaii Ophthalmological Society. Figures presented to the Legislature in the HOS' 1994 testimony indicated either eighty-three or seventy-eight ophthalmologists in the State. When contacted on September 21, 1994, Dr. Portis stated that the lower figure was probably the figure for all civilian ophthalmologists and the higher figure included military ophthalmologists. He stated that since the time of the testimony, another three or four new ophthalmologists have probably come to Hawaii, but that there may have been some older ophthalmologists who have retired. Therefore, for the purposes of this chapter, it is assumed that there are approximately eighty civilian ophthalmologists in the State at the time this report was prepared. The population figure, taken from the State Data Book, was 1,056,800 non-military, non-military dependent as of July 1, 1993.*
18. Letter from Anthony J. Adams, Dean, University of California at Berkeley Optometry School, to the Speaker of the House of Representatives and the President of the Senate, State of Hawaii, February 7, 1994.
19. Letter from Richard L. Hopping, President, Southern California College of Optometry, to Phillip Isenberg, California State Assembly, January 12, 1993; Letter from Richard L. Hopping, President, Southern California College of Optometry, to Speaker of the House of Representatives, Hawaii State Legislature, February 1, 1994.
20. Testimony, Lesley L. Wallis, Dean, Pacific University, College of Optometry, to the House Committee on Consumer Protection, February 23, 1994.
21. Letter from Joseph Toland, M.D., to Joseph J. Roberts, Jr., New Jersey Assembly, November 5, 1990.
22. Letter from Peter Manu, M.D., Associate Professor of Medicine, The School of Medicine of the University of Connecticut Health Center, to Senator Matthews et. al, Connecticut Legislature, dated February 27, 1991.
23. Testimony of Dr. Charles Holt, to the House Committee on Consumer Protection, on House Bill No. 2456, February 21, 1994.
24. A 1985 article by Marti and Alex Waigandt, "An Analysis of Pharmacology Training in Schools of Optometry, Medicine, and Dentistry," Journal of Optometric Education, Vol. 10, No. 3 (Winter 1985) at 20, analyzed data in the fourteen states that contained schools of optometry and compared it to data from medical and dental schools in those states. The authors found that in the areas of drug effects on the nervous system, cardiovascular agents, and poisons, medical schools had significantly more hours; in the area of ocular pharmacology, optometrists had significantly more hours, and in the remaining eight categories, there were no significant differences between medicine and optometry.

25. Sally Hegeman, Ph.D., "Comparison of Pharmacology Courses for Optometry and Medical Students, Indiana University, Bloomington," Journal of Optometric Education, Vol. 9, No. 1 (Summer 1983) at 22.
26. Letter from Bradford W. Wild, Dean, UAB School of Optometry, to James M. Vaught, O.D., February 1, 1993.
27. Letter from Warren S. Chernick to Marshall S. Klein, Executive Director, New Jersey Academy of Ophthalmology and Otolaryngology, August 20, 1990.
28. Testimony of Donald N. Schwartz, M.D., before the Washington State Legislature, House Health Committee: March 15, 1989, on S.B. 5193.
29. Testimony of Dr. Marvin Baum, to the House Committee on Consumer Protection on House Bill No. 2456, February 23, 1994.
30. Memorandum from Col. Lawrence D. Hampton, Chief, Optometry Service, Tripler Army Medical Center to the Hawaii State Legislature, dated February 1994.
31. Memorandum from A.K. Matsushima, Civil Service Optometrist, to the House Committee on Consumer Protection, on House Bill No. 2456 (undated).
32. Letter from Jon. M. Sakuda to the House Committee on Consumer Protection on House Bill No. 2456 (undated).
33. Letter from Anthony P. Martyak, M.D., to the House Committee on Consumer Protection, on House Bill No. 2456, February 22, 1994.
34. John W. Tierney et. al., "Therapeutic pharmaceutical utilization by military optometrists," Journal of the American Optometric Association, Vol. 62, No. 6 (June 1990) at 483.
35. Such as requiring prior physician consultation, restricting the number or types of drugs, or permitting prescription renewal only.
36. Hawaii Optometric Association, "Vision in the '90s," Vol. 1, No. 1 (Fall 1993).
37. Survey Report, "A Comparison Study of Hawaii Optometrists and Ophthalmologists," by Joyce Torrey of Joyce Torrey Public Relations, conducted on behalf of the HOA, dated October 18, 1993.
38. Memorandum to Susan Jaworowski, Esq., from Hawaii Ophthalmological Society, "Response to the Hawaii Optometric Association's Publication "Vision in the 90s" (July 12, 1994).
39. HOS attacks a quote by Col. David Simpson, the former chief of optometry for the United States Air Force, in which he states that "575 military optometrists have treated over nine million patients with no significant morbidity or adverse reactions." HOS maintains that, according to the Joint Commission on Hospital Accreditation, there is a two percent rate of adverse reaction for drug use, and HOS takes the position that the only conclusion to be drawn from this quote is that military optometrists failed to recognize the complications, or recognized them and failed to report them. However, this does not appear to be a straightforward deduction. The sentence structure is such that the adjective "significant" may be intended to modify the phrase "adverse reactions," and it may be that Col. Simpson was discounting the small percentage of expected drug reactions as a nonsignificant -- an expected -- adverse reaction. Without more information, the HOS point is not persuasive.
40. Barry Barresi and Mort Soroka, "Cost Control Benefit of Therapeutic Drug Authority for Optometrists," Policy Insight (Center for Vision Care Policy, State University of New York College of Optometry), April 5, 1993.

Chapter 8

FINDINGS AND CONCLUSIONS/RECOMMENDATIONS

Findings

1. Therapeutic pharmaceutical agents (TPAs) are topical or systemic drugs that are used to treat eye diseases and conditions of the eye.
2. All fifty states allow their optometrists to use diagnostic pharmaceutical agents (DPAs), which are a limited category of drugs that are used to enable a more thorough eye examination.
3. There is a qualitative difference between diagnostic and therapeutic drugs. The most serious error that can occur with DPAs is that an optometrist will fail to detect a disease or condition. That disease or condition will then take its course without help or hindrance from the optometrist. The most serious error that can occur with TPAs is that the condition can be misdiagnosed and improper treatment applied, which can exacerbate the condition or disease and hasten its course, resulting in blindness or even death.
4. Forty states allow their optometrists to use TPAs. West Virginia, the first state to do so, permitted TPA usage in 1976. However, most of the other states did not adopt TPA laws until the latter part of the 1980s and the 1990s.
5. The main categories of TPAs are: germ-killers, which include antibiotics, anti-infectives, anti-microbials, anti-fungals, anti-virals, and sulfonamides; anti-allergy drugs, the anti-histamines and decongestants; topical anesthetics; anti-glaucoma agents; and steroids.
6. A significant variance exists between the TPA states as to the conditions optometrists can treat and the TPAs they can use. One state apparently permits any type of TPA usage, oral or topical; some states permit any type of topical TPA; some states permit selected topical drugs and selected oral medications; and other states permit selected topical drugs only. Some states list the general classes of TPAs that may be used, while others name the specific TPAs.
7. Use of oral TPAs, anti-glaucoma drugs, and steroids are the most controversial, with many states limiting or forbidding their use.
8. The states also differ on the body that establishes the list of permissible TPAs: in most states it is established by the board of optometry, but it can be established by the legislature or, as in Virginia, by the board of medical examiners.

FINDINGS AND CONCLUSIONS/RECOMMENDATIONS

9. TPA states differ on the degree of competence they expect of their optometrists. Some states have instituted a two-tier system, requiring all optometrists to become DPA certified and allowing those who meet the qualifications to become TPA certified. Some use a three-tier system, which also allows some optometrists to practice without the use of any drugs. Other states require all their incoming optometrists to become TPA certified.
10. Over half the TPA states have a consultation or referral requirement to an ophthalmologist for glaucoma treatment, for steroid use, or for conditions that do not improve or are beyond the scope of the optometrist's ability to treat.
11. The first state to allow TPA usage was West Virginia in 1976. Most of the current TPA states only adopted their laws since the late 1980s and the 1990s. Early optometric education did not emphasize pharmacology, diagnosis, or treatment, since that type of practice was not available to optometrists. Over the course of the past fifteen years, as the number of TPA states grew, optometry schools have been devoting more of their curriculum to classes in pharmacology and in clinical programs that give actual practice in detecting the treating eye problems.
12. A minimum optometric education takes four years, while a minimum ophthalmologic education takes eight years: four years of medical school, one year of internship, and three years of residency. Even with the improvements in optometric education, while the classroom hours in pharmacology may be equivalent to those of ophthalmology students, the clinical time and responsibilities are much greater for ophthalmology students.
13. The Bureau is not in a position to evaluate the curriculum of optometry schools to determine whether the level of education does or does not prepare an optometry student sufficiently to diagnose and treat eye problems.
14. Non-ophthalmologist physicians have less clinical experience in detecting eye disease than do optometry students but these physicians have the ability to diagnose and treat eye disease; however, in general, there is less competition between ophthalmologists and non-ophthalmologist physicians (pediatricians, internists, family practice, and general practice physicians) than between ophthalmologists and TPA-certified optometrists, who are both directed toward treating the same patients for the same conditions.
15. Current, reliable studies on patient safety in relation to TPAs is scant. The American Academy of Ophthalmology has put together anecdotes on optometrists' errors, but most of these occurred in DPA, not TPA, states. Ophthalmologists in North Carolina

also state that many instances of optometric malpractice have occurred in their state, but that statement is challenged by North Carolina optometrists.

16. Responses to the Bureau's questionnaires sent to all the state boards of optometry indicated virtually none of the twenty-one respondents had any TPA-related complaints.
17. After adopting its TPA law, Wisconsin required its optometrists to report each administration of a TPA. The reports made by the participating optometrists indicated a very low rate of problems, although the first report was challenged by the Wisconsin Academy of Ophthalmology, on the grounds that many purported treatments were inappropriate for the stated condition. Nevertheless, after two years, Wisconsin dropped its reporting requirement.
18. Maine required oversight of TPA usage from September 1, 1987 to January 30, 1990. Over that twenty-nine month reporting period, there were approximately 30,000 TPA administrations, with no report by the administering optometrists of adverse reactions other than localized allergic reactions.
19. While the more recent optometry students in TPA states have had the benefit of the increased clinical training, the requirements for the older optometrists to become TPA-licensed generally include just classroom hours, or classroom hours plus a limited amount of clinical experience. These "catch-up" provisions generally require much fewer classroom hours and clinical hours than current optometry students are receiving.
20. The issue of potential cost savings derived from optometrists' TPA usage has three components to consider: impact on cost for patients, impact on cost for health insurers, and impact on cost for government programs.
21. While it is generally deemed true that ophthalmologists charge more for a routine examination than optometrists do, it is too simplistic to equate this cost differential as an indicator of cost savings for treatment. Studies presented on cost savings by optometrists in TPA states are either unsupported by data, or are done in states that have only recently adopted TPA laws and whose optometrists' fees have not had the opportunity to rise to market level. The latter is an important consideration as some health care programs, including Medicare and Medicaid, pay by the service, not the provider. Under this condition, there may be an incentive for optometrists' fees to rise to the same level as ophthalmologists' for providing the same service.
22. There is a trend in states with more recent TPA laws to report cost savings from lower optometrists' fees, while there is an opposite trend in states with older TPA laws to report that costs are the same.

23. Ophthalmologists claim that their fees are lower when the total eye care episode is considered. However, the cited studies are not equating equivalent services.
24. Ophthalmologists argue that as Medicaid and Medicare and private health insurance pay according to the service and not the provider, optometrists who use TPAs can and will inevitably raise their rates to the same schedule as ophthalmologists.
25. Optometrists claim they save patients money as they can treat them right in their offices during their initial visit, thereby saving the cost of a referral.
26. Ophthalmologists argue that costs of optometric care are greater because if an optometrist misses a diagnosis, there is an additional charge for the patient to return to the optometrist or to seek out an ophthalmologist to correct the problem, which may have deteriorated due to delay or improper treatment.
27. It may well be that cost savings vary from state to state, and may be dependent on the extent of the drug formulary and the licensing requirements of each state.
28. As far as cost savings to health care providers, there was testimony that there is either no savings or an increased cost to health care providers under TPA laws. Of the two local health insurance companies who responded to the Bureau's queries, one stated that there would be absolutely no cost savings to be passed on to consumers and that it would expect costs to increase if a TPA law were passed, and the other stated that it has been that company's experience that adding providers to medical plans generally results in increased costs to plan members and their employers.
29. As far as the cost impact on governmental programs, such as Medicaid and Medicare, the positions taken on the impact of TPA legislation echo that received from private insurers: ophthalmologists take the position that costs are the same or more, and optometrists take the position that cost savings will occur. The only study cited dealt with old data and concerned examination costs and not treatment.
30. The primary malpractice insurance broker in the field has stated that in fifteen years they have never experienced an optometric malpractice claim directly related to TPAs, and have never had a rate increase based on optometrists' use of TPAs.
31. While some of the cost arguments for each side seem logical, they are difficult to rely upon since little or no hard data are presented to support them.
32. There is considerable competition between ophthalmologists and optometrists for the provision of primary eye care.

33. The TPA laws in other states require little if any studies or reviews. A few states initially required reporting of each administration of TPAs, but after a few years dropped this requirement.
33. All states that reported indicate that they have more optometrists than ophthalmologists, and that the optometrists are distributed more evenly throughout the state. In general, optometrists appear to be both more accessible and more available than ophthalmologists.
34. For the thirteen TPA states that timely responded to the Bureau's query, percentages of TPA-licensed optometrists ranged from a high of ninety-two percent to a low of thirty percent. The majority of respondents had two-thirds or more of their optometrists so licensed. The major factor in determining which states have a higher number of TPA-licensed optometrists is whether the state requires all incoming optometrists to become TPA licensed. This ensures that all new optometrists are so qualified and also gives an incentive to the existing optometrists to obtain TPA licensure or be increasingly less competitive.
35. *The Hawaii Optometric Association (HOA) and the Hawaii Ophthalmological Society (HOS)* are in opposition on the issue of a TPA law and track the positions of their mainland counterparts, with the optometrists favoring a TPA law and the ophthalmologists opposed to it.
36. HOA takes the position that current optometric education is sufficient preparation to diagnose and treat eye conditions, and that TPA usage will cut consumer costs and save time while still delivering quality eye care.
37. HOS contends that there is no demonstrated need for a TPA bill, that there are no cost savings associated with a TPA law, that optometrists' training is insufficient, and that patient safety would be compromised under a TPA law.
38. The two areas cited as underserved in prior testimony, Waianae and Kailua-Kona, have since had ophthalmologists open practices there.
39. Testimony on military usage of TPAs and the competence of optometrists to do so is in conflict.

Conclusions/Recommendations

1. The Legislature asked whether it was feasible to expand state regulatory practices to include optometrists' use of TPAs. Yes. Forty other states allow their optometrists

to use some type of TPAs, with in general no serious proven side effects. Is there a compelling need to adopt a TPA law in Hawaii? No. While there appears to be a certain amount of interest, commercial and otherwise, in a TPA law, the level of compelling need demonstrated, in terms of lack of or delayed treatment by ophthalmologists that has led to significant patient impairment, has been minimal. The Legislature's decision on this issue will depend on the weight that it gives to testimony on patient safety and the impact on costs.

2. One of the most difficult aspects of this study has been the lack of relevant hard data from Hawaii on the issues, particularly with respect to the need, if any, for a TPA law. It is clear that both optometrists and ophthalmologists have a great deal of professional pride and see the issue very differently. If the Legislature wants to create a pool of relevant data on the issue of need, the Legislature should direct the Board of Examiners in Optometry to collect reports of all instances of harm allegedly caused by the inability of Hawaii optometrists to use TPAs. The reports and relevant records should be shared with the Board of Medical Examiners for review and comment. On an annual or biennial basis, the boards would report the factual data, including the total number of patient visits each year for each profession, along with their interpretations of the data.
3. If a TPA law is adopted, optometrists should be held to the same standards of care and liability as are ophthalmologists.
4. If cost is a significant issue, the Legislature might want to think twice about adopting a TPA law. The tentative indication is that while consumers may experience a direct cost savings initially, these savings may disappear over time as optometrists adjust their rates upward. Local health care insurance respondents indicate that a TPA law will not save money for consumers and their employers, and may in fact cost more. However, it does appear to be true that if optometric rates were to rise, the increase would not be caused by an increase in malpractice insurance rates.
5. It would be more convenient for Hawaii residents if a TPA law were to be adopted, as that would almost triple the number of providers available to handle simple eye health problems. However, Hawaii is in general a smaller and more urban state than many TPA states and the issue of accessibility may be one of convenience more than real need. To the extent that it is the former, other considerations of safety and cost may be more critical to the Legislature's decision-making.
6. If the Legislature adopts a TPA law, the criteria for currently licensed optometrists to become TPA-eligible should be no less demanding than the training that current optometry students receive. It may be possible to structure this requirement to take into consideration the prior classroom and clinical experience of the more recent optometry graduates. This requirement is a logical outgrowth of the argument that

the newer optometry curriculum better prepares optometry students to diagnose and treat than the earlier curriculums. The mere hundred hour classroom course that some states require for current optometrists is insufficient to protect the public safety.

7. If the Legislature decides against enacting a TPA law at this time, and California, where many Hawaii optometrists are trained, adopts a TPA law, the Board of Examiners in Optometry should be required to report to the Legislature any changes it discerns in the caliber of candidates for licensure. The report is necessary because the better Hawaii optometrists may choose to remain in California where they can exercise their training to the fullest, while those with less aptitude would return to Hawaii.
8. A TPA statute could be crafted either broadly or with varying degrees of narrowness, depending on the Legislature's decision on the issue. Given the number of questions still surrounding this issue, a wide-open statute is not recommended as an initial step. If a TPA statute is found to be warranted, it could be narrowed in a number of ways, such as having the formulary designed by the Board of Medical Examiners rather than the Board of Examiners in Optometry, limiting the formulary, restricting the types of conditions that can be treated, instituting patient referral requirements, and/or requiring extensive reporting.
9. Although Hawaii optometrists and ophthalmologists are opposed on whether to enact a TPA statute, if one is found to be warranted, the Legislature should request the ophthalmologists, in the interests of public health and safety, to assist in the drafting of such a statute.

HOUSE CONCURRENT RESOLUTION

REQUESTING THE LEGISLATIVE REFERENCE BUREAU TO STUDY THE
FEASIBILITY OF EXPANDING STATE REGULATORY PRACTICES TO
AUTHORIZE OPTOMETRISTS TO USE THERAPEUTIC PHARMACEUTICAL
AGENTS.

1 WHEREAS, in 1985, Hawaii joined other states in allowing
2 optometrists to use diagnostic pharmaceutical agents (DPAs); and
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4 WHEREAS, as a condition of this change, Hawaii required all
5 optometrists licensed to use DPAs to report any and all adverse
6 effects for a two-year period, and no adverse effects were
7 reported; and
8

9 WHEREAS, all fifty states, the District of Columbia, and the
10 Territory of Guam authorize optometrists to utilize DPAs; and
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12 WHEREAS, thirty-seven states also authorize optometrists to
13 utilize therapeutic pharmaceutical agents (TPAs) as well as DPAs;
14 and
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16 WHEREAS, optometrists in some of these thirty-seven states
17 are able to provide therapeutic services to patients in many
18 geographic areas not served by ophthalmologists, although that
19 may not be so in Hawaii; and
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21 WHEREAS, the Hawaii Legislature has gone on record in the
22 past as encouraging competition in the marketplace when it may
23 result in a broader offering of services and lower prices for
24 consumers; and
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26 WHEREAS, Hawaii has had difficulty in developing reciprocity
27 agreements for optometric licensing since most states allowing
28 reciprocity require comparable licensing standards and also
29 require optometrists to be licensed to use TPAs in their home
30 states; and
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32 WHEREAS, the experience of the thirty-seven states that
33 currently authorize optometrists to use TPAs provides a database
34 that may help Hawaii to determine whether or not it should
35 authorize optometrists to use TPAs; now, therefore,

2 BE IT RESOLVED by the House of Representatives of the
3 Seventeenth Legislature of the State of Hawaii, Regular Session
4 of 1994, the Senate concurring, that the Legislative Reference
5 Bureau is requested to study the feasibility of expanding state
6 regulatory practices to allow optometrists to use therapeutic
7 pharmaceutical agents, including but not limited to a
8 comprehensive review of conditions in Hawaii and the studies and
9 regulatory practices of other states regarding the following:

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(1) The use of TPAs in the eye care industry, which TPAs are allowed to be used by optometrists in other states, and the number and percentage of optometrists availing themselves of the opportunity to use these TPAs;

(2) Patient safety;

(3) The effect of expanded regulatory practices on competition between optometrists and ophthalmologists and consumer costs, including consideration of Medicaid and Medicare rate schedules;

(4) Studies and other reviews required by the states which currently allow optometrists to use TPAs;

(5) Availability and accessibility of optometrists and ophthalmologists in those states that allow the use of TPAs in comparison to Hawaii, including but not limited to:

(a) The hours of availability for routine and urgent conditions;

(b) The geographic distribution of Hawaii's optometrists and ophthalmologists; and

(c) The number of complaints of lack of access with respect to Hawaii's optometrists and ophthalmologists;

and

(6) The impact that expanding the scope of optometric practices may have on the cost of eye care not only to the public, but also insurance carriers, and state and federal governments;

1 and

2

3 BE IT FURTHER RESOLVED that the Hawaii Ophthalmological
4 Society and the Hawaii Optometric Association are requested to
5 designate representatives authorized to speak on behalf of the
6 organization who may be consulted by the Bureau with respect to
7 issues in this study; and

8

9 BE IT FURTHER RESOLVED that the Bureau is further requested
10 to review experiences and studies in Hawaii and other states,
11 including but not limited to Pennsylvania, Maryland, South
12 Carolina, and Wisconsin, that may or may not have passed
13 legislation allowing the use of TPAs by optometrists, including
14 problems relating to misdiagnosis and treatment of patients as a
15 result of allowing optometrists to prescribe various medications;
16 and

17

18 BE IT FURTHER RESOLVED that the Insurance Commissioner is
19 requested to obtain data from and views of insurers authorized to
20 do business in this State regarding the following areas:

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22 (1) All claims filed against optometrists who are licensed
23 to practice in this State;

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25 (2) Potential increases in optometrists' liability and
26 malpractice insurance if allowed to use TPAs; and

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28 (3) Comparison of complaints and insurance rates in other
29 states before and after legislation allowing
30 optometrists to utilize TPAs;

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32 and

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34 BE IT FURTHER RESOLVED that the Board of Medical Examiners
35 is requested to obtain data on training requirements,
36 internships, and continuing education requirements, including but
37 not limited to pharmacological and experiential requirements, and
38 data on the quantity of eye medications prescribed, for each of
39 the following licensed physicians (medical doctors):

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41 (1) Ophthalmologists;

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43 (2) General practice physicians;

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45 (3) Family practice physicians;

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2 (4) Internists; and
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4 (5) Pediatricians;
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6 and
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8 BE IT FURTHER RESOLVED that the Board of Examiners in
9 Optometry is requested to obtain data on training requirements,
10 internships, and continuing education requirements, including but
11 not limited to pharmacological and experiential requirements, and
12 data on the quantity of eye medications prescribed by
13 optometrists; and
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15 BE IT FURTHER RESOLVED that the Insurance Commissioner, the
16 Board of Medical Examiners, and the Board of Examiners in
17 Optometry are requested to transmit their data and findings to
18 the Legislative Reference Bureau not later than August 1, 1994 in
19 order to give the Bureau adequate time to organize and analyze
20 the data and findings; and
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22 BE IT FURTHER RESOLVED that the Legislative Reference Bureau
23 is requested to submit drafts of the study to the Hawaii
24 Ophthalmological Society and the Hawaii Optometric Association
25 for external review for accuracy prior to submission to the
26 Legislature; and
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28 BE IT FURTHER RESOLVED that the Legislative Reference Bureau
29 is requested to submit a report of the findings and
30 recommendations to the Legislature at least twenty days prior to
31 the convening of the Regular Session of 1995; and
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33 BE IT FURTHER RESOLVED that certified copies of this
34 Concurrent Resolution be transmitted to the Director of the
35 Legislative Reference Bureau, the Director of Commerce and
36 Consumer Affairs, the Insurance Commissioner, the Chairperson of
37 the Board of Examiners in Optometry, the Chairperson of the Board
38 of Medical Examiners, and the chief executive officers of the
39 Hawaii Ophthalmological Society and the Hawaii Optometric
40 Association.

Appendix B

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September 23, 1994

TPA STATES ONLY

PHARMACEUTICAL AGENTS BY NAME OR TYPE THAT STATE LAW OR REGULATIONS PERMIT OPTOMETRISTS TO USE

ALASKA

ALASKA STATUTES

Title 8. Business and Professions.

Chapter 72. Optometry Law.

Article 3. Unlawful Acts.

Sec. 08.72.272. Use of pharmaceutical agents.

- (a) A licensee may prescribe and use a pharmaceutical agent in the practice of optometry if
- (1) the pharmaceutical agent is a drug topically applied to the human eye and its appendages; and
 - (2) the person holds a license endorsement issued by the board authorizing the prescription and use of pharmaceutical agents.
- (b) A licensee may not purchase, possess, prescribe, or use a pharmaceutical agent unless the licensee has obtained a license endorsement under AS 08.72.175.

ALASKA BOARD OF EXAMINERS IN OPTOMETRY

CHAPTER 48.

ARTICLE 1.

APPLICATION REQUIREMENTS.

12 AAC 48.021. PHARMACEUTICAL AGENT USE ENDORSEMENT.

- (c) A licensee with an endorsement issued under this section may use a pharmaceutical agent in the practice of optometry if the pharmaceutical agent is topically applied to the human eye and its appendages and is a drug
- (1) used for examination purposes only, within the categories of
 - (A) topically applied anesthetics;
 - (B) cycloplegics; or
 - (C) mydriatics; or
 - (2) within the category of miotics used, after consultation with an ophthalmologist or an optometrist who holds a pharmaceutical agent prescription and use endorsement, for treatment of inadvertently induced angle closure.

ARIZONA

ARIZONA REVISED STATUTES ANNOTATED

TITLE 32. PROFESSIONS AND OCCUPATIONS

CHAPTER 16. OPTOMETRY

ARTICLE 1. GENERAL PROVISIONS

s 32-1701. Definitions

In this chapter, unless the context otherwise requires:

5. "Practice of the profession of optometry" means the examination or refraction of the human eye and its appendages and the employment of any objective or subjective means or methods other than surgery for the purpose of diagnosing or treating with topical pharmaceutical agents any visual, muscular, neurological or anatomical anomalies of the eye, the use of any instrument or device to train the visual system or correct any abnormal condition of the eye or eyes and the prescribing, fitting or employment of any lens, prism, frame or

mountings for the correction or relief of or aid to the visual function, provided that superficial foreign bodies may be removed from the eye and its appendages. Optometrists may use topical pharmaceutical agents only after first satisfactorily completing a course in clinical pharmacology as required in s 32-1722.

ARKANSAS

ARKANSAS CODE ANNOTATED TITLE 17. PROFESSIONS, OCCUPATIONS, AND BUSINESSES SUBTITLE 3. MEDICAL PROFESSIONS CHAPTER 89. OPTOMETRISTS SUBCHAPTER 1. GENERAL PROVISIONS

17-89-101. Definition -- Applicability.

(a) The "practice of optometry" means.... The practice of optometry does not include laser surgery or the administration of any drug by injection, the use of prescription oral drugs, the use of controlled drugs, and the sale of prescription drugs, with the exception of contact lenses.

SUBCHAPTER 4. OPTOMETRIC DRUGS

17-89-403. Authority to possess, administer, and prescribe.

One who is engaged in the practice of optometry as a profession, as defined in s 17-89-101(1), and who has the education and professional competence, as determined by the Arkansas State Board of Optometry, and who has satisfied the educational requirements established by the Arkansas State Board of Optometry in general and ocular pharmacology...is authorized to possess, administer, and prescribe topically applied pharmaceutical agents limited to the general categories of antimicrobial, antihistaminic, decongestants, anti-inflammatory, antifungal, cycloplegics, mydriatics, miotics, dyes, analgesics, and anesthetics.

ARKANSAS STATE BOARD OF OPTOMETRY RULES AND REGULATIONS GOVERNING THE EDUCATIONAL QUALIFICATIONS FOR OPTOMETRISTS WHO POSSESS, ADMINISTER, AND PRESCRIBE PHARMACEUTICAL AGENTS

ARTICLE VII - Diagnostic Pharmaceutical Agents Certification

Section 1--

For those optometrists holding only a DPA certificate, the following rules and regulations shall apply.

Section 2--

The following general categories of pharmaceutical agents are hereby approved for use as diagnostic agents: Topical Anesthetics, Mydriatics, Cycloplegics, and Dyes.

ARKANSAS STATE BOARD OF OPTOMETRY RULES AND REGULATIONS GOVERNING THE USE OF THERAPEUTIC DRUGS FOR OPTOMETRIC CARE

ARTICLE I - Use of Therapeutic Drugs

Section 1--

The following pharmaceutical agents are authorized to be possessed, administered, and prescribed by a board-certified optometrist. The following agents are to be applied topically to the eye: anesthetics, anti-allergy, antibacterial/antiseptic, antibiotic, antifungal, anti-glaucoma, antihistamine/decongestant, artificial tear preparation, anti-inflammatory, anti-inflammatory/antibiotic, anti-inflammatory/antibacterial, decongestants, decongestants/astringent, demulcents, dyes, emollients, hyperosmotic agents, irrigation solution, lubricants, mydriatics, miotics, mydriatic/cycloplegics, and vasoconstrictors. The strength and manner in which these agents may be possessed, administered, and prescribed shall be in accordance with the reasonable standard of care accepted in the community in which the certified optometrist practices.

Section 2--

Prior to beginning the treatment of patients for glaucoma, a certified optometrist shall consult with an ophthalmologist and develop a written protocol. ...

COLORADO

WEST'S COLORADO REVISED STATUTES ANNOTATED TITLE 12. PROFESSIONS AND OCCUPATIONS HEALTH CARE ARTICLE 40. OPTOMETRISTS

s 12-40-102. Practice of optometry defined

(4) The classes of pharmaceutical agents approved for optometric use for examination purposes under this section are topically applied mydriatics, miotics, cycloplegics, and anesthetics.

(5) The classes of pharmaceutical agents and the procedures approved for optometric use for treatment of the anterior segment of the eye, including prescription, by certified therapeutic optometrists for treatment purposes under this section are as follows: Topical and oral antimicrobials (except oral antiviral and oral antifungal agents), topical and oral antihistamines, topical antiinflammatory agents, and no more than .6 grams of codeine per one hundred milliliters or not more than thirty milligrams per dosage unit, with one or more active, nonnarcotic analgesic ingredients in recognized therapeutic amounts;

CONNECTICUT

CONNECTICUT GENERAL STATUTES ANNOTATED TITLE 20. EXAMINING BOARDS AND PROFESSIONAL LICENSES CHAPTER 380. OPTOMETRY

s 20-127. Definition.

(a) For the purposes of this chapter:

(2) The "practice of optometry" means any one or more of the following practices and procedures:

(B) the use of tests, instruments, devices, ocular agents-D, ocular agents-T and

(3) "ocular agents-D" mean:

(A) topically administered agents used for the purpose of diagnosing visual defects, abnormal conditions or the diseases of the human eye and eyelid known generally as cycloplegics not to exceed one (1) per cent, mydriatics other than phenylephrine hydrochloride ten (10) per cent, and topical anesthetics, which are administered topically for the examination of the human eye and the analysis of ocular functions,

(C) fluorescein and similar dyes used in fitting contact lenses.

The drugs described in subparagraph A of this subdivision may be acquired and used only for diagnostic purposes. Nothing in this subdivision shall be construed to allow an optometrist to acquire or use a controlled substance listed under section 21a-243.

(4) "ocular agents-T" mean:

(A) topically administered ophthalmic agents used for the purpose of treating or alleviating the effects of diseases or abnormal conditions of the human eye or eyelid excluding the lacrimal drainage system, lacrimal gland and structures posterior to the iris, but including the treatment of iritis, excluding allergens, alpha adrenergic agonists, antiparasitics, antifungal agents, antimetabolites, antineoplastics, beta adrenergic blocking agent, carbonic anhydrase inhibitors, collagen corneal shields, epinephrine preparations, miotics used for the treatment of glaucoma, temporary collagen implants, and succus cineraria maritima;

(B) orally administered antibiotics, antihistamines and antiviral agents used for the purpose of treating or alleviating the effects of diseases or abnormal conditions of the human eye or eyelid excluding the lacrimal drainage system, lacrimal gland and structures posterior to the iris, but including the treatment of iritis; and

(C) orally administered analgesic agents used for the purpose of alleviating pain caused by diseases or abnormal conditions of the human eye or eyelid excluding the lacrimal drainage system, lacrimal gland and structures posterior to the iris, but including the treatment of iritis. Ocular agent-T does not include any controlled substance or drug administered by injection.

DELAWARE

DELAWARE CODE ANNOTATED TITLE 24. PROFESSIONS AND OCCUPATIONS CHAPTER 21. OPTOMETRY

s 2101. Definition of practice of optometry.

(a) ... the use of prescription of pharmaceutical agents for the diagnosis and treatment of ocular disease; ... provided that the "practice of optometry" does not include surgery or the use of narcotics, or therapeutic lasers.

(b) For purpose of this Chapter, the classifications of the practice of optometry shall be defined as:

(2) Diagnostically certified optometrists shall be permitted to perform the duties of a non-diagnostically certified optometrist. In addition, he/she may use the following drug groups:

- i. Topical anesthetics.
- ii. Mydriatics.
- iii. Cycloplegics.
- iv. Miotics.

(3) Therapeutically certified optometrists shall be permitted to perform the duties of a diagnostically certified optometrist. In addition, a therapeutically certified optometrist may use and/or prescribe the following pharmaceutical agents for the treatment of ocular diseases and conditions:

- i. Topical and oral administration:
 - (a) Antihistamines and decongestants.
 - (b) Antiglaucoma.
 - (c) Analgesics (non-controlled).
 - (d) Antibiotics.
- ii. Topical administration only:
 - (a) Autonomics.
 - (b) Anesthetics.
 - (c) Anti-infectives, including antivirals and antiparasitics.
 - (d) Anti-inflammatories.

FLORIDA

FLORIDA ADMINISTRATIVE CODE ANNOTATED TITLE 21. DEPARTMENT OF PROFESSIONAL REGULATION SUBTITLE 21Q. BOARD OF OPTOMETRY CHAPTER 21Q-18. TOPICAL OCULAR PHARMACEUTICAL AGENTS

Rule 21Q-18.002 Formulary of Topical Ocular Pharmaceutical Agents.

The topical ocular pharmaceutical formulary consists of pharmaceutical agents which a certified optometrist is qualified to administer and prescribe in the practice of optometry pursuant to Section 463.0055(4)(a), Florida Statutes, as created by Section 6, Chapter 86-289, Laws of Florida. The following topical ocular pharmaceutical agents are included in the formulary:

- (1) CYCLOPLEGIC AND MYDRIATICS
 - (a) Atropine Sulfate - 0.5%, 1.0%
 - (b) Scopolamine HBr - 0.25%
 - (c) Homatropine HBr - 2.0%, 5%
 - (d) Tropicamide - 0.5%, 1.0%
 - (e) Phenylephrine HCl - 2.5%
 - (f) Cyclopentolate HCl - 0.5%, 1.0%, 2.0%
 - (g) Hydroxyamphetamine HBr - 1.0%
- (2) MYDRIATIC COMBINATIONS
 - (a) Cyclopentolate HCl - 0.2%/Phenylephrine HCl - 1.0%
 - (b) Hydroxyamphetamine HBr - 1.0%/Tropicamide - 0.25%
- (3) LOCAL ANESTHETICS
 - (a) Tetracaine - 0.5%
 - (b) Proparacaine HCl - 0.5%
 - (c) Benoxinate HCl - 0.4%/ Fluorescein Sodium 0.25%
- (4) DIAGNOSTIC PRODUCTS
 - (a) Fluorescein Sodium - 2.0%
 - (b) Fluorexon - 0.35%
 - (c) Rose Bengal - 1.0%
 - (d) Glycerin

- (5) OPHTHALMIC DECONGESTANTS/ ANTIHISTAMINE COMBINATIONS
 - (a) Epinephrine HCl - 0.1%
 - (b) Naphazoline HCl - 0.012%, 0.02%, 0.025%, 0.03%, 0.05%, 0.1%
 - (c) Anatozoline Phosphate - 0.05%
- (6) COMBINATIONS
 - (a) Phenylephrine HCl - 0.125%/ Pheniramine Maleate - 0.5%
 - (b) Phenylephrine HCl - 0.12%/ Pyrilamine Maleate 0.1%/ Antipyrine 0.1%
 - (c) Naphazoline HCl - 0.025%/ Pheniramine Maleate 0.3%
 - (d) Naphazoline HCl - 0.05%/ Antazoline Phosphate 0.05%
- (7) ANTIBIOTICS
 - (a) Tetracycline
 - (b) Erythromycin
 - (c) Bacitracin
 - (d) Polymyxin B./Bacitracin
 - (e) Polymyxin B. Neomycin, Gramicidin
 - (f) Chlorotetracycline
 - (g) Gentamicin
 - (h) Tobramycin, commercially available, 0.3% or less
 - (i) Norfloxacin MSD - 0.3%
 - (j) Polymyxin B. Sulfate/Neomycin Sulfate
 - (k) Polymyxin B. Sulfate/Oxytetracycline HCl
 - (l) Polymyxin B. Sulfate/Neomycin/Bacitracin Zinc
 - (m) Ciprofloxacin HCl - 0.3%
- (8) SULFONAMIDE
 - (a) Sodium Sulfacetamide - 10%, 15%, 30%
 - (b) Sulfisoxazole - 4.0%
 - (c) Sulfacetamide - 15.0%/ Phenylephrine - 0.125%
- (9) STEROIDS
 - (a) Medrysone - 1.0%
 - (b) Prednisolone Acetate - 0.12%, 0.125% and 1.0%
 - (c) Prednisolone Sodium Phosphate - 0.125%, 0.25%, 0.5% and 1.0%
 - (d) Fluorometholone - 0.1% and 0.25%
 - (e) 0.25%, 0.05% Dexamethasone Sodium Phosphate
 - (f) 0.1% Dexamethasone Phosphate
 - (g) 0.1% Dexamethasone
 - (h) Fluorometholone Acetate - 0.1%
- (10) STEROID /ANTIBIOTIC COMBINATIONS
 - (a) Prednisolone Acetate - 0.20%, 0.25% and 0.5%/ Sodium Sulfacetamide
 - (b) Prednisolone Sodium Phosphate - 0.25% and 0.5%/ Sodium Sulfacetamide 10%
 - (c) 1.5% Hydrocortisone Acetate/0.5% Oxytetracycline (as HCl)
 - (d) 1.5% Hydrocortisone Acetate/0.5% Neomycin Sulfate
 - (e) 0.5% Hydrocortisone Acetate/0.5% Neomycin Sulfate
 - (f) 1.0% Hydrocortisone Acetate/0.5% Neomycin Sulfate/ 10,000 Units Polymyxin B Sulfate/ml
 - (g) 0.25% Prednisolone Acetate/0.5% Neomycin Sulfate
 - (h) 1.0% Hydrocortisone/ 0.5% Neomycin Sulfate/ 400 Units Bacitracin Zinc/ gm 10,000 Units Polymyxin B Sulfate/ml
 - (i) 0.25% Prednisolone Acetate/ 0.5% Neomycin Sulfate
 - (j) 1.0% Prednisolone/0.3% Gentamicin Base
 - (k) 0.3% Tobramycin/0.1% Dexamethasone
 - (l) Prednisolone Acetate - 0.5%/Neomycin Sulfate 0.5%/10,000 Units Polymyxin B Sulfate/ml
 - (m) Dexamethasone Phosphate - 0.1%/Neomycin Sulfate 0.5%
 - (n) Dexamethasone - 0.1%/Neomycin Sulfate - 0.5% and 10,000 Units (Polymyxin) B Sulfate/ml

- (o) Dexamethasone Phosphate - 0.05%/Neomycin Sulfate equivalent to 0.35%
Neomycin base
- (p) Polymyxin B Sulfate 10,000 Units/ml Trimethoprim 1 mg/ml
- (q) Fluorometholone - 0.1%/Sodium Sulfacetamide 10%
- (11) NON-STEROIDAL ANTI-INFLAMMATORY AGENTS
- (a) Diclofenac Sodium - 0.1%
- (12) ANTIVIRAL AGENTS
- (a) Idoxuridine - 0.1%, 0.5%
- (b) Vidarabine - 3.0%
- (c) Trifluridine - 1.0%
- (13) ANTI-GLAUCOMA AGENTS
- (a) Beta Blockers
- 1. Betaxolol HCl - 0.25%, 0.5%
- 2. Levobunolol HCl - 0.25%, 0.5%
- 3. Metipranolol HCl - 0.3%
- 4. Timolol Maleate - 0.25%, 0.5%
- 5. Carteolol HCl - 1.0%
- (b) Sympathomimetics
- 1. Dipivefrin - 0.1%
- (c) Miotics, Direct-acting
- 1. Carbachol 0.75% - 3.0%
- 2. Pilocarpine HCl 0.25% - 6.0%
- 3. Pilocarpine gel 4.0%
- 4. Ocular Therapeutic System 20 mcg Pilocarpine/hr for one week
- 5. Ocular Therapeutic System 40 mcg Pilocarpine/hr for one week
- (14) STEROID/CYCLOPLEGIC COMBINATIONS
- (a) Prednisolone Acetate - 0.25%/Atropine Sulfate 1.0%
- (15) MISCELLANEOUS
- (a) Hydroxypropyl Cellulose Ophth Insert
- (b) Sodium Chloride, Hypertonic - 5.0%
- (c) Cromolyn Sodium - 4.0%
- (d) Ophthalmic Irrigation Solution
- (e) Dapiprozole

GEORGIA

CODE OF GEORGIA TITLE 43. PROFESSIONS AND BUSINESSES CHAPTER 30. OPTOMETRISTS

43-30-1. Definitions.

As used in this chapter, the term:

- (2) (A) "Optometry" means Nothing in this chapter shall prohibit the use, administration, or prescription of pharmaceutical agents for diagnostic purposes and treatment of ocular disease in the practice of optometry
- (B) The board shall establish by rule a list, which may be modified from time to time, of pharmaceutical agents which optometrists shall be allowed to use for treatment purposes.
- (C) A doctor of optometry shall not administer any pharmaceutical agent by injection.
- (D) Pharmaceutical agents which are used by a doctor of optometry for treatment purposes and administered orally may only be:

(i) Schedule III or Schedule IV controlled substances which are oral analgesics;

(ii) Used for ocular pain; and

(iii) Used for no more than 72 hours without consultation with the patient's physician.

(E) Pharmaceutical agents which are used by a doctor of optometry for treatment purposes and administered topically shall be subject to the following conditions only when used for the treatment of glaucoma:

(i) If the pharmaceutical agent is a beta blocker, an optometrist certified to use pharmaceutical agents for treatment purposes must take a complete case history and determine whether the patient has had a physical examination within the past year. If the patient has not had such a physical examination or if the patient has any history of congestive heart failure, bradycardia, heart block, asthma, or chronic obstructive pulmonary disease, that patient must be referred to a person licensed under Chapter 34 of this title for examination prior to initiating beta blocker therapy;

(ii) If the glaucoma patient does not respond to the topically administered pharmaceutical agents after 60 days of treatment, that patient must be referred to an ophthalmologist; and

(iii) If the patient is diagnosed as having closed angle glaucoma, the patient shall be immediately referred to an ophthalmologist.

(H) Nothing in this chapter shall be construed to allow a doctor of optometry to dispense pharmaceutical agents to patients.

GEORGIA STATE BOARD OF EXAMINERS IN OPTOMETRY
RULES AND REGULATIONS
CHAPTER 430-10
CERTIFICATION FOR USE OF THERAPEUTIC AGENTS

430-10-.03 Approved Therapeutic Drugs.

(I) The following pharmaceutical agents may be used for treatment purposes, including ocular pain, by any doctor of optometry who has been certified pursuant to O.C.G.A. 43-30-1(2)(A) to use pharmaceutical agents for treatment purposes:

- (a) Acetaminophen;
- (b) Antazoline;
- (c) Atropine;
- (d) Aproclonidene;
- (e) Aspirin;
- (f) Bacitracin - in ophthalmic compounds;
- (g) Betaxolol;
- (h) Caffeine;
- (i) Carbochol;
- (j) Carteolol;
- (k) Chlorotetracycline;
- (l) Ciprofloxacin;
- (m) Codeine;
- (n) Cromolyn sodium;
- (o) Cyclopentolate;
- (p) Dapiprazole;
- (q) Demecarium;
- (r) Dexamethasone;

- (s) Diclofenac;
- (t) Dihydrocodeine;
- (u) Dipivefrin;
- (v) Echothiophate;
- (w) Epinephrine;
- (x) Epinephryl Borate;
- (y) Erythromycin;
- (z) Fluorometholone;
- (aa) Gentamicin;
- (bb) Gramicidin;
- (cc) Homatropine;
- (dd) Hydrocodone;
- (ee) Hydrocortisone - in ophthalmic compounds;
- (ff) Hydroxypropyl methylcellulose;
- (gg) Idoxuridine;
- (hh) Isoflurophate;
- (ii) Ketorolac Tromethamine;
- (jj) Levobunolol;
- (kk) Levocabastine HCl;
- (ll) Lodoxamide;
- (mm) Medrysone;
- (nn) Metipranolol;
- (oo) Naloxone;
- (pp) Naphazoline;
- (qq) Natamycin;
- (rr) Neomycin;
- (ss) Norfloxacin;
- (tt) Ofloxacin;
- (uu) Oxytetracycline;
- (vv) Pentazocine;
- (ww) Pheniramine - in ophthalmic compounds;
- (xx) Physostigmine;
- (yy) Pilocarpine;
- (zz) Polymyxin B;
- (aaa) Prednisolone;
- (bbb) Propoxyphene;
- (ccc) Pyrillamine - ophthalmic compounds;
- (ddd) Sodium chloride;
- (eee) Sulfacetamide sodium;
- (fff) Sulfisoxazole diolamine;
- (ggg) Suprofen;
- (hhh) Tetracycline;
- (iii) Timolol;
- (jjj) Tobramycin;
- (kkk) Trifluridine;
- (lll) Trimethoprim;
- (mmm) Vidarabine;
- (nnn) Vitamin A

(2) An optometrist certified to use therapeutic agents pursuant to O.C.G.A. 43-30-1(2)(A), shall only use those agents as authorized under O.C.G.A. 43-30-1(2)(D)(E)(F). A doctor of optometry shall not administer any pharmaceutical agent by injection.

(3) Any of the therapeutic agents listed in subparagraph (1) above to be used as an oral analgesic for ocular pain shall be limited to Schedule III or Schedule IV.

IDAHO

IDAHO CODE

TITLE 54. PROFESSIONS, VOCATIONS, AND BUSINESSES CHAPTER 15. OPTOMETRISTS

54-1501. Practice of optometry defined.

3. Employ in the examination, diagnosis, or treatment of another, any means, including the use of diagnostic pharmaceutical agents and pharmaceutical agents for therapeutic use, for the measurement, improvement, or development of any or all functions of human vision or the assistance of the powers of range of human vision or the determination of the accommodative or refractive status of human vision or the scope of its functions in general. The state board of optometry may, pursuant to regulations adopted by it, issue a certificate to optometrists licensed in this state authorizing the optometrist to prescribe, administer and dispense such therapeutic pharmaceutical agents for the treatment of conditions of the eye and/or eyelid, as approved by the board of optometry and as identified in rules and regulations adopted by the board of optometry.

RULES OF IDAHO STATE BOARD OF OPTOMETRY

T. BOARD CERTIFICATION OF OPTOMETRIST AUTHORIZED TO OBTAIN AND USE TOPICALLY APPLIED PHARMACEUTICAL AGENTS (Reference - Sections 54-1501, 54-1909(7) and 54-1509(16), Idaho Code)

a. Optometrists who have obtained a certificate from the Board of Optometry authorizing them to prescribe, administer and dispense therapeutic pharmaceutical agents shall obtain, from pharmacists licensed by the State of Idaho, or from any other source, and use only those agents listed below:

1 All topical ophthalmic products having documented optometric use in the human eye or eye lid. All oral medications having documented use in the treatment of the human eye and/or eye lid excluding Schedule I and II narcotics.

INDIANA

WEST'S ANNOTATED INDIANA CODE

TITLE 25. PROFESSIONS AND OCCUPATIONS

ARTICLE 26. PHARMACISTS, PHARMACIES, DRUG STORES

CHAPTER 15. INDIANA OPTOMETRIC LEGEND DRUG PRESCRIPTION ADVISORY COMMITTEE.

25-26-15-19 Administration of legend drugs

Sec. 19. (a) Optometrists may administer topical diagnostic legend drugs limited to:

- (1) miotics;
- (2) mydriatics;
- (3) anesthetics; and
- (4) cycloplegics;

without holding a certificate issued under this chapter. These pharmaceutical agents may be applied in diagnostic procedures only as a part of an examination of the eye.

(b) The board may authorize optometrists holding a certificate issued under this chapter to:

- (1) administer for therapeutic use;
- (2) dispense; or
- (3) prescribe;

legend drugs that are included in the formulary established by the committee under section 13 of this chapter, in the treatment of any condition of the eye or the associated structures of the eye.

INDIANA ADMINISTRATIVE CODE
TITLE 857. INDIANA OPTOMETRIC LEGEND DRUG PRESCRIPTION ADVISORY COMMITTEE
ARTICLE 2. FORMULARY OF LEGEND DRUGS
RULE 1. GENERAL PROVISIONS

857 IAC 2-1-1. APPLICABILITY

Sec. 1. This article establishes a formulary of legend drugs that may be prescribed, dispensed, or administered by an optometrist licensed in Indiana and certified under IC 25-26-15 and this title.

857 IAC 2-1-2. LEGEND DRUGS NOT LISTED IN THE FORMULARY

Sec. 2. All legend drugs which do not fall into the categories listed in the formulary as found in 857 IAC 2-3 are specifically excluded from use by an optometrist except for topical diagnostic legend drugs which an optometrist may administer under IC 25-26-15-19(a).

857 IAC 2-1-5. INJECTABLE PROHIBITION

Sec. 5. Optometrists shall not prescribe, dispense, or administer injectables by any means.

INDIANA ADMINISTRATIVE CODE
TITLE 857. INDIANA OPTOMETRIC LEGEND DRUG PRESCRIPTION ADVISORY COMMITTEE
ARTICLE 2. FORMULARY OF LEGEND DRUGS
RULE 3. FORMULARY

857 IAC 2-3-16. FORMULARY OF LEGEND DRUGS LISTED BY CATEGORY

Sec. 16. (a) Legend drugs which fall into the following categories are independent for treating the eye or associated structures of the eye:

- (1) Topically applied drugs.
- (2) Oral antihistamine drugs.
- (3) Oral decongestant drugs.
- (4) Oral antimicrobial drugs.
- (5) Oral nonsteroidal anti-inflammatory drugs (NSAIDs).
- (6) Oral antiglaucoma drugs.

(b) Controlled substances as defined in IC 35-48-1 are prohibited from use by an optometrist.

IOWA

IOWA CODE ANNOTATED TITLE VIII. THE PRACTICE OF CERTAIN PROFESSIONS AFFECTING THE PUBLIC HEALTH CHAPTER 154. OPTOMETRY

154.1. Optometry--certified licensed optometrists--therapeutically certified optometrists

Certified licensed optometrists may employ cycloplegics, mydriatics and topical anesthetics as diagnostic agents topically applied to determine the condition of the human eye for proper optometric practice or referral for treatment to a person licensed under chapter 148 or 150A.

Therapeutically certified optometrists may employ the following pharmaceuticals; topical pharmaceutical agents, oral antimicrobial agents, oral antihistamines, oral antiglaucoma agents, oral analgesic agents, and notwithstanding section 147.107, may without charge supply any of the above listed pharmaceuticals to commence a course of therapy.

KANSAS

KANSAS STATUTES ANNOTATED CHAPTER 65. PUBLIC HEALTH ARTICLE 15. REGULATION OF OPTOMETRISTS

65-1501. Practice of optometry defined; standard of care in use of topical pharmaceutical drugs.

(a) The practice of optometry means:

(b) The practice of optometry shall not include: (1) The management and treatment of glaucoma;

65-1501a. Definitions.

For the purposes of this act the following terms shall have the meanings respectively ascribed to them unless the context requires otherwise:

(h) "Topical pharmaceutical drugs" means drugs known generically as anesthetics, mydriatics, cycloplegics, anti-infectives and anti-inflammatory agents, which anti-inflammatory agents shall be limited to a fourteen-day supply, administered topically and not by other means for the examination, diagnosis and treatment of the human eye and its adnexae.

KENTUCKY

KENTUCKY REVISED STATUTES ANNOTATED TITLE XXVI. OCCUPATIONS AND PROFESSIONS CHAPTER 320. OPTOMETRISTS

s 320.240. Board's meetings, officers, powers, and duties.

(13) The board may authorize persons engaging in the practice of optometry under the provisions of this chapter to administer diagnostic pharmaceutical agents limited to miotics for emergency use only, mydriatics, cycloplegics, and anesthetics applied topically only, but excluding any drug classified as a controlled substance pursuant to KRS Chapter 218A. These pharmaceutical agents shall be applied in diagnostic procedures only as part of an eye examination.

....

(14) The board may authorize only those persons who have qualified for use of diagnostic pharmaceutical agents as set out in subsection (13) of this section to utilize and prescribe topical therapeutic pharmaceutical agents in the examination or treatment of any condition of the eye or its appendages.

(15) Any optometrist authorized by the board to utilize diagnostic pharmaceutical agents shall be permitted to purchase for use in the practice of optometry diagnostic pharmaceutical agents limited to miotics for emergency use only, mydriatics, cycloplegics, and anesthetics to be applied topically only. Any optometrist authorized by the board to utilize topical therapeutic pharmaceutical agents shall be permitted to prescribe in the practice of optometry topical therapeutic pharmaceutical agents.

LOUISIANA

LOUISIANA STATUTES ANNOTATED REVISED STATUTES TITLE 37. PROFESSIONS AND OCCUPATIONS CHAPTER 12. OPTOMETRY

s 1041. Definitions

As used in this Chapter, the following terms have the meaning ascribed to them in this Section, unless the context clearly indicates otherwise:

(4) "Diagnostic and therapeutic pharmaceutical agent" means any chemical in solution, suspension, emulsion, or ointment base other than a narcotic, when applied topically that has the property of assisting in the diagnosis, prevention, treatment, or mitigation of abnormal conditions and pathology of the human eye and its adnexa, or those which may be used for such purposes, or oral antibiotics, and oral antihistamines only when used in treatment of disorders or diseases of the eye and its adnexa.

MAINE

MAINE REVISED STATUTES ANNOTATED TITLE 32. PROFESSIONS AND OCCUPATIONS CHAPTER 34-A. OPTOMETRISTS SUBCHAPTER I. GENERAL PROVISIONS

s 2411. Definitions

1. Practice of optometry. The practice of optometry is defined as any one or any combination of the following practices:

3. Pharmaceutical agents. "Pharmaceutical agents" means topical medicinal diagnostic and therapeutical substances for use in the diagnosis, cure, treatment or prevention of ocular disease.

4. Diagnostic pharmaceuticals. "Diagnostic pharmaceuticals" means those pharmaceutical agents required to detect and diagnose an abnormal condition or eye disease.

5. Therapeutic pharmaceuticals. "Therapeutic pharmaceuticals" means those pharmaceutical agents required to prevent, manage or treat abnormal ocular conditions or diseases, excluding glaucoma.

Nothing in this section may be construed to permit the optometric use of pharmaceutical agents which are:

- A. Controlled substances as described in the United States Code, Title 21, Section 812;
- B. Any pharmaceutical agent administered by subdermal injection, intramuscular injection, intravenous injection, subcutaneous injection or retrobulbar injections; and
- C. Any pharmaceutical agent for the specific treatment of a systemic disease.

Notwithstanding any other provision of this Act, an optometrist may dispense, prescribe and administer nonlegend agents.

MAINE BOARD OF OPTOMETRY
RULES OF PRACTICE

AUTHORIZED DIAGNOSTIC PHARMACEUTICAL AGENTS

Topical Anesthetics:

- Proparacaine hydrochloride .5% (Ophthaine)
- Benocinate hydrochloride .4% (Dorsacaine)

Mydriatics:

- Hydroxyamphetamine hydrobromide 1.00% (Paradrine)
- Phenylephrine hydrochloride 2.5% (Neo-synephrine)

MINNESOTA

MINNESOTA STATUTES
HEALTH
CHAPTER 148. PUBLIC HEALTH OCCUPATIONS, LICENSING
OPTOMETRISTS

148.571 USE OF TOPICAL OCULAR DRUGS.

Subd. 2. Drugs specified. For purposes of sections 148.57, subdivision 3, and 148.571 to 148.574, "topical ocular drugs" means:

(1) commercially prepared topical anesthetics as follows: proparacaine HCl 0.5 percent, tetracaine HCl 0.5 percent, and benoxinate HCl 0.4 percent;

(2) commercially prepared mydriatics as follows: phenylephrine HCl in strength not greater than 2.5 percent and hydroxyamphetamine HBr in strength not greater than 1 percent; and

(3) commercially prepared cycloplegics/mydriatics as follows: tropicamide in strength not greater than 1 percent and cyclopentolate in strength not greater than 1 percent.

148.576 USE OF TOPICAL LEGEND DRUGS; LIMITATIONS; REPORTS.

Subd. 1. Authority to prescribe or administer. A licensed optometrist who is board certified under section 148.575 may prescribe or administer topical legend drugs to aid in the diagnosis, cure, mitigation, prevention, treatment, or management of disease, deficiency, deformity, or abnormality of the human eye and adnexa.

MISSISSIPPI

**MISSISSIPPI CODE ANNOTATED
TITLE 73. PROFESSIONS AND VOCATIONS
CHAPTER 19. OPTOMETRY AND OPTOMETRISTS
USE OF DIAGNOSTIC PHARMACEUTICAL AGENTS**

s 73-19-103. Duties of state boards of optometry, medical licensure and pharmacy; records.

(2) The authorized use of such diagnostic pharmaceutical agents shall be specifically limited to those pharmaceutical agents which, when applied topically to the eye, are utilized in a prescribed manner to assess ocular conditions for the purpose of referring any deviation from the normal to a physician for treatment. The pharmaceutical agents so authorized shall be limited to the following classes: anesthetics, mydriatics, cycloplegics, dyes and over-the-counter drugs.

s 73-19-____. [citation # not available at this time]

(2) The therapeutic pharmaceutical agents that may be prescribed and used by an optometrist certified under Sections 3 through 9 or this act shall be limited to the following:

- (a) Topical pharmaceutical agents; and
- (b) Over-the counter medications.

MISSOURI

**VERNON'S ANNOTATED MISSOURI STATUTES
TITLE XXII. OCCUPATIONS AND PROFESSIONS
CHAPTER 336. OPTOMETRISTS**

336.220. Pharmaceuticals, certification for administering--types which may be administered defined--removal of superficial foreign bodies--referral to physician required, when

1. The state board of optometry may adopt reasonable rules and regulations providing for the examination and certification of registered optometrists who apply to the board for authority to administer pharmaceutical agents in the practice of optometry. Such pharmaceutical agents may be "topically applied diagnostic pharmaceutical agents" or "therapeutic pharmaceutical agents". As used in this section, the term "topically applied diagnostic pharmaceutical agents" means anesthetics, mydriatics, and cycloplegics, and the term "therapeutic pharmaceutical agents" means topical and oral anti-microbial agents, anti-histaminic agents, topical anti-inflammatory agents and oral analgesic agents.

MISSOURI STATE BOARD OF OPTOMETRY

4 CSR 210-2.080 Certification of Optometrists to use Pharmaceutical Agents.

(4) Use of oral analgesic agents shall be limited to those specific uses as follows:

(A) Prior to the administration of oral analgesic therapy, a complete and careful history of current medications and past drug allergies and sensitivities must be documented in the record, with particular attention to interaction of analgesics with other systemic medications. Optometrists using these agents must be thoroughly familiar with the interactions of these drugs with other systemic medications;

(B) Prescription strength oral analgesic agents and particularly controlled substances are rarely required for the relief of pain in ocular conditions. Therefore, they may be used only for pain of which the etiology can be clearly demonstrated and in which, in the judgment of the optometrist, sufficient relief would not be obtained with noncontrolled substances;

(C) Ocular pain may not be treated with controlled substances over forty-eight (48) hours without referral or consultation with a physician skilled in the treatment of the eye unless marked improvement in the underlying condition can be demonstrated;

(D) When prescribing oral analgesic agents which are categorized as controlled substances, only schedule III, IV, and V oral agents that have been shown to be effective for ocular pain may be prescribed;

(E) Prescriptions for controlled substances may not exceed in number the recommended analgesic dosage for the duration of the prescription;

(F) Prescriptions for controlled substances may not be refilled without further examination and follow-up care; and

(G) Optometrists may not maintain inventories of controlled substances for dispensing or administering.

MONTANA

MONTANA CODE ANNOTATED TITLE 37. PROFESSIONS AND OCCUPATIONS CHAPTER 10. OPTOMETRY PART 1. GENERAL

37-10-101. Definitions -- practice of optometry.

(1) The practice of optometry is the profession constituting the art and science of visual care and is hereby defined to be any one of the following acts:

(b) the employment of any optometric means, excluding the use of surgery, for the purpose of detecting any condition of the process of vision that may have any significance in a complete optometric eye and vision examination, including the employment and administration of drugs topically applied for examination purposes, limited to cycloplegics, mydriatics, topical anesthetics, dyes such as fluorescein, and for emergency use only, miotics;

(d) the administration, dispensation, and prescription of the oral analgesics codeine, propoxyphene, hydrocodone, and dihydrocodeine, alone or in combination with nonscheduled or nonregulated drugs; and

(e) the administration, dispensation, and prescription of those topical drugs approved by the board for use in ocular treatment limited to the anterior segment of the eye and adnexa. Glaucoma may not be treated.

MONTANA BOARD OF OPTOMETRISTS CHAPTER 36 SUBCHAPTER 7 DIAGNOSTIC PHARMACEUTICAL AGENTS

8.36.704 PERMISSIBLE DRUGS (1) Upon licensure or certification, the permissible drugs are as follows:

- (a) Mydriatics
 - (i) Phenylephrine Hydrochloride
 - (ii) Hydroxyamphetamine Hydrobromide
- (b) Cycloplegics
 - (i) Tropicamide
 - (ii) Cyclopentolate
 - (iii) Homatropine Hydrobromide
 - (iv) Atropine Sulfate
- (c) Topical Anesthetics
 - (i) Proparacaine Hydrochloride
 - (ii) Benoxinate Hydrochloride
 - (iii) Piperocaine Hydrochloride
- (d) Miotic, only in the event of an emergency and after consultation with physician
 - (i) pilocarpine hydrochloride

SUBCHAPTER 8
THERAPEUTIC PHARMACEUTICAL AGENTS

8.36.801 THERAPEUTIC PHARMACEUTICAL AGENTS (1)

- (b) Only the topical pharmaceutical agents described in ARM 8.36.804 can be administered, dispensed or prescribed by Montana certified optometrists.
- (c) All licensed and therapeutically certified optometrists must obtain and use a DEA number on all prescriptions.

8.36.804 APPROVED DRUGS

- (1) Topical Drugs:
 - (a) Anti-biotic Agents
 - (b) Anti-viral Agents
 - (c) Anti-fungal Agents
 - (d) Anti-inflammatory Agents
 - (e) Anti-histamines
- (2) Oral drugs:
 - (a) Oral Analgesics
 - (i) Codeine
 - (ii) Propoxyphene
 - (iii) Hydrocodone
 - (iv) Dihydrocodeine
 - (b) The above may be administered alone or in combination with non-scheduled or non-regulated drugs.
 - (c) Over the counter.

NEBRASKA

NEBRASKA REVISED STATUTES
CHAPTER 71. PUBLIC HEALTH AND WELFARE
ARTICLE 1. LICENSES; PROFESSIONAL AND OCCUPATIONAL
(P) PRACTICE OF OPTOMETRY

s 71-1,133. Practice of optometry, defined.

For purposes of the Uniform Licensing Law, the practice of optometry is defined as being one or a combination of the following, without the use of surgery:

(2) The employment of instruments, devices, pharmaceutical agents, excluding anti-glaucoma agents,

s 71-1,135.01. Pharmaceutical agents, defined.

For purposes of the Uniform Licensing Law, unless the context otherwise requires:

(1) Pharmaceutical agents, for diagnostic purposes, shall mean anesthetics, cycloplegics, and mydriatics; and

(2) Pharmaceutical agents, for therapeutic purposes, shall mean topical ophthalmic pharmaceutical agents which treat eye infection, inflammation, and superficial abrasions, or oral analgesics, including oral analgesics enumerated in Schedules III and IV of section 28-405 necessary to treat conditions of the eye and visual system, or oral pharmaceutical agents for the treatment of infections of the eye and visual system, or oral anti-inflammatory agents to treat conditions of the eye and visual system excluding steroids and immunosuppressive agents.

NEW HAMPSHIRE

NEW HAMPSHIRE STATUTES ANNOTATED TITLE XXX. OCCUPATIONS AND PROFESSIONS CHAPTER 327. OPTOMETRY

327:1. Definitions

In this chapter:

III. "Pharmaceutical agents" means the following pharmaceutical products:

(a) Non-legend, over the counter, agents.

(b) Mydriatic and cycloplegic agents which are topically applied.

(c) Miotic agents approved by the joint pharmaceutical formulary board and included in the formulary.

(d) Antibiotics, sulfonamides, and combinations thereof, which are topically applied or orally administered to treat or alleviate the effects of disease or abnormal conditions of the human eye, adnexa, and eyelids, excluding treatment of the lacrimal drainage system, the lacrimal gland, or structures posterior to the iris, approved by the joint pharmaceutical formulary board and included in the formulary.

(e) Antihistamines, decongestants and mast-cell stabilizers which are topically applied.

(f) Anesthetics and dyes which are topically applied.

(g) Ocular lubricants and hypertonic agents which are topically applied.

(h) Orally administered analgesic agents used for the purpose of alleviating pain caused by a disease or abnormal condition of the human eye or eyelid, excluding treatment of the lacrimal drainage system, the lacrimal gland, or structures posterior to the iris. This may include class III and IV controlled substances approved by the joint pharmaceutical formulary board and included in the formulary.

(i) Other pharmaceutical agents, any solely diagnostic agents, and diagnostic agents combined with pharmaceutical agents as defined in this paragraph and as approved by the joint pharmaceutical formulary board.

(j) Non-steroidal anti-inflammatory agents approved by the joint pharmaceutical formulary board and included in the formulary.

III. "Practice of optometry" means

"Practice of optometry" shall not include and nothing in this chapter shall authorize or allow the treatment of glaucoma or other intraocular pressure elevation, or the prescribing, administering, or dispensing of corticosteroids in any form.

327:6-a Requirements; Authorization.

..IV. Nothing in this section shall be construed to permit an optometrist to administer any pharmaceutical product by intravenous injection; or to administer, prescribe or dispense any pharmaceutical product designated as a category I or II controlled substance defined by the United States Controlled Substances Act of 1970, as amended; or to administer, prescribe or dispense any pharmaceutical product except for the diagnosis or treatment of disease or conditions of the human eye, adnexa or eyelids.

V. Notwithstanding any other provision of law, an optometrist who is certified to use pharmaceutical agents in the practice of optometry shall be permitted to administer diphenhydramine, epinephrine or an equivalent medication to counter anaphylaxis or anaphylactic reaction.

NEW JERSEY

NEW JERSEY STATUTES ANNOTATED
TITLE 45. PROFESSIONS AND OCCUPATIONS
SUBTITLE 1. PROFESSIONS AND OCCUPATIONS REGULATED BY STATE BOARDS OF
REGISTRATION AND EXAMINATION
CHAPTER 12. OPTOMETRY

45:12-1. Optometry declared a profession; definition

Optometry is...the use and prescription of pharmaceutical agents, excluding controlled dangerous substances as provided in sections 5,6,7, and 8 of P.L. 1970, c. 226 (C. 24:21-5 through C. 24:12-8) and section 4 of P.L. 1971 c. 3 (C. 24:21-8.1) and excluding those prescription medications taken orally or by injection, except for injections to counter anaphylactic reaction, for the purposes of treating deficiencies deformities, diseases or anomalies of the human eye including the removal of superficial foreign bodies from the eye and adnexae.

NEW MEXICO

NEW MEXICO STATUTES, ANNOTATED
CHAPTER 61. Professional and Occupational Licenses
ARTICLE 2. Optometry

61-2-2. Definitions.

As used in the Optometry Act [this article]:

A. "practice of optometry" means:

(1) the employment of any subjective or objective means or methods, including the prescription or administration of topical ocular pharmaceutical agents, for the purpose of determining the visual defects or abnormal conditions of the human eye and its adnexa; and

(2) the employing, adapting or prescribing of lenses, prisms, contact or corneal lenses or other optical appliances and prescribing or administering of topical ocular pharmaceutical agents for the correction, relief or referral of visual defects or abnormal conditions of the human eye and its adnexa.

The "practice of optometry" shall not include the use of surgery, injections or any controlled substances in the treatment of eye diseases.

NORTH CAROLINA

GENERAL STATUTES OF NORTH CAROLINA CHAPTER 90. MEDICINE AND ALLIED OCCUPATIONS. ARTICLE 6. OPTOMETRY.

s 90-114. Optometry defined.

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

(2) The employment of instruments, devices, pharmaceutical agents and procedures, other than surgery, intended for the purposes of investigating, examining, treating, diagnosing or correcting visual defects or abnormal conditions of the human eye or its adnexa; or

(3) The prescribing and application of lenses, devices containing lenses, prisms, contact lenses, orthoptics, vision training, pharmaceutical agents, and prosthetic devices to correct, relieve, or treat defects or abnormal conditions of the human eye or its adnexa.

Provided, however, in using or prescribing pharmaceutical agents, other than topical pharmaceutical agents within the definition hereinabove set out which are used for the purpose of examining the eye, the optometrist so using or prescribing shall communicate and collaborate with a physician duly licensed to practice medicine in North Carolina designated or agreed to by the patient.

NORTH DAKOTA

NORTH DAKOTA CENTURY CODE TITLE 43. OCCUPATIONS AND PROFESSIONS CHAPTER 43-13. OPTOMETRISTS

43-13-01. Definitions.

In this chapter, unless the context or subject matter otherwise requires:

3. "Diagnosis and treatment" means the determination, interpretation, and treatment of any visual, muscular, neurological, or anatomical anomaly of the eye which may be aided, relieved, or corrected through visual training procedures or through the use of lenses, prisms, filters, ophthalmic instruments, pharmaceutical agents, or combinations thereof, held either in contact with the eye, or in frames or mountings, as further authorized by this chapter. Laser therapy and the use of invasive surgery are not permitted under this chapter, except superficial foreign bodies may be removed and primary care procedures may be performed. The treatment of glaucoma is not permitted under this chapter.

4. "Pharmaceutical agent" means diagnostic pharmaceutical agents or therapeutic pharmaceutical agents. The term does not include pharmaceutical agents that have no documented use in the treatment of ocular-related disorders or diseases, oral cortico-steroids, and controlled substances, as defined in chapter 19-03.1. As used in this subsection:

- a. "Diagnostic pharmaceutical agents" means pharmaceutical agents administered for the evaluation and diagnosis of disorders of the human eye including anesthetics, mydriatics, myotics, cycloplegics, diagnostic dyes, diagnostic stains, and pharmaceutical agents to evaluate abnormal pupil responses.
- b. "Therapeutic pharmaceutical agents" means topically administered and prescribed pharmaceutical agents for treatment of ocular-related disorders or disease, locally administered pharmaceutical agents for primary eye care procedures, oral anti-infective agents, oral antihistaminic agents, and oral analgesics for the treatment of ocular-related disorders or diseases. The dispensing of therapeutic pharmaceutical agents is not permitted under this chapter.

OHIO

PAGE'S OHIO REVISED CODE ANNOTATED
TITLE 47: OCCUPATIONS--PROFESSIONS
CHAPTER 4725: OPTOMETRISTS; DISPENSING OPTICIANS

s 4725.01 Definitions.

As used in this chapter:

(B) "Topical ocular pharmaceutical agents" means:

- (1) Proparacaine hydrochloride in a potency not exceeding five-tenths of one per cent ophthalmic solution;
- (2) Benoxinate hydrochloride in a potency not exceeding four-tenths of one per cent ophthalmic solution;
- (3) Phenylephrine hydrochloride in a potency not exceeding two and five-tenths per cent ophthalmic solution;
- (4) Hydroxyamphetamine hydrobromide in a potency not exceeding one per cent ophthalmic solution;
- (5) Tropicamide in a potency not exceeding one per cent ophthalmic solution;
- (6) Cyclopentolate in a potency not exceeding one per cent ophthalmic solution;
- (7) Any other topical ocular pharmaceutical agents if the primary indications for their use are consistent with the purposes set forth in division (A)(1) of this section, their new drug application is approved by and the potency in which they may be used for evaluative purposes has been established by the federal food and drug administration after January 1, 1983, and their use for the purposes set forth in division (A)(1) of this section has been approved by rule of the state board of optometry.

(C) "Therapeutic pharmaceutical agent" means a topical ocular pharmaceutical agent or any of the following drugs or dangerous drugs, as defined in section 4729.02 of the Revised Code, that is used for examination, investigation, diagnosis, or prevention of disease, injury, or other abnormal condition of the visual system or for treatment or cure of disease, injury, or other abnormal condition of the anterior segment of the human eye and is an anti-microbial, anti-allergy, anti-glaucoma, topical anti-inflammatory, or cycloplegic agent or an analgesic:

- (1) a topical ophthalmic preparation;
- (2) oral dosage of any of the following drugs:
 - (a) acetazolamide;
 - (b) astemizole;
 - (c) dichlorphenamide;
 - (d) diphenhydramine;
 - (e) glycerin in a fifty per cent solution;
 - (f) isosorbide in a forty-five per cent solution;
 - (g) methazolamide;
 - (h) analgesics that may be legally sold without prescription;
 - (i) terfenadine;
 - (j) ampicillin in a two hundred fifty milligram or five hundred milligram dosage;
 - (k) cefaclor in a two hundred fifty milligram or five hundred milligram dosage;
 - (l) cephalexin in a two hundred fifty milligram or five hundred milligram dosage;
 - (m) dicloxacillin in a two hundred fifty milligram or five hundred milligram dosage;
 - (n) doxycycline in a fifty milligram or one hundred milligram dosage;
 - (o) erythromycin in a two hundred fifty milligram, three hundred and thirty-three milligram, or five hundred milligram dosage;
 - (p) penicillin VK in a two hundred fifty milligram or five hundred milligram dosage;
 - (q) tetracycline in a two hundred fifty milligram or five hundred milligram dosage.
- (3) Any other oral dosage of a drug or dangerous drug that is listed by rule adopted by the state board of optometry under section 4725.04 of the Revised Code.

s 4725-16-01 Additional Topical Ocular Pharmaceutical Agent.

Dapiprazole Hydrochloride in a potency not exceeding five-tenths of one per cent ophthalmic solution is approved as a topical ocular pharmaceutical agent and may be administered by a licensed optometrist who has passed the general and ocular pharmacology examination prescribed in section 4725.08 of the Revised Code and has fulfilled the other requirements of Chapter 4725. of the Ohio Revised Code. The use of Dapiprazole is approved for reversing the diagnostic mydriasis induced by Phenylephrine and Tropicamide which are approved topical ocular pharmaceutical agents.

This agent and its potency, also known as "Rev-Eyes", were approved by the Federal Food and Drug Administration on December 31, 1990 and its use is consistent with the purposes set forth in the definition of the "practice of optometry".

OKLAHOMA

OKLAHOMA STATUTES ANNOTATED
TITLE 59. PROFESSIONS AND OCCUPATIONS
CHAPTER 13.—OPTOMETRY

s 581. Practice of optometry—Definition

The practice of optometry is defined to be the use of pharmaceutical agents The practice of optometry shall also include the prescribing of

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

OREGON

OREGON REVISED STATUTES TITLE 52. OCCUPATIONS AND PROFESSIONS CHAPTER 683. OPTOMETRISTS GENERAL PROVISIONS

683.010. Definitions.

As used in this chapter, unless the context requires otherwise:

(3) "Practice of optometry" means the employment of any means other than the use of drugs, except topically applied pharmaceutical agents for diagnosis and treatment in the human eye....

683.270. (2) Nothing in this section is intended to permit a doctor of optometry to perform invasive or laser surgery, to use or prescribe injectable or oral pharmaceutical agents, to use pharmaceutical agents other than topical ocular pharmaceutical agents or to use Schedule I and II controlled substances.
....

(4) Prior to instituting treatment with antiglaucoma medication, optometrists shall consult with an ophthalmologist or other Doctor of Medicine or Doctor of Osteopathy licensed under ORS chapter 677.

OREGON ADMINISTRATIVE RULES CHAPTER 852, DIVISION 80 -- BOARD OF OPTOMETRY PHARMACEUTICAL AGENTS

Designation of Formulary

852-80-005 Pursuant to ORS 683.270(j), doctors of optometry are qualified to use, administer, and prescribe topical pharmaceutical agents as designated by the Oregon Board of Optometry. The following formulary of pharmaceutical agents for topical use in the practice of optometry are designated, subject to the conditions in 852-80-008:

- Category 1 - Ocular lubricants, artificial tears, and irrigating solutions
- Category 2 - Mydriatics
- Category 3 - Cycloplegics
- Category 4 - Anesthetics
- Category 5 - Dyes
- Category 6 - Miotics
- Category 7 - Astringents and Antiseptics
- Category 8 - Antihistamines and decongestants
- Category 9 - Anti-lice agents
- Category 10 - Hyperosmotics
- Category 11 - Anti-infectives (Antibiotics, Anti-virals, Anti-fungals)
- Category 12 - Anti-glaucoma and Ocular hypotensives
- Category 13 - Anti-inflammatories

- Category 14 - Any combination of the above agents
- Category 15 - Other agents as approved by the Board

Conditions of Formulary Application

852-80-008 The following conditions apply to the designated formulary of pharmaceutical agents:

- (1) Diagnostic Pharmaceutical Agents (DPA) and Therapeutic Pharmaceutical Agents (TPA) certified doctors of optometry may use, administer, and prescribe any and all over-the-counter pharmaceutical agents.
- (2) Doctors of optometry certified for DPA use only, may use and administer pharmaceutical agents in Categories 2 through 5 for diagnostic purposes only. They may use Miotics (Category 6) for emergencies only.
- (3) Doctors of optometry certified for TPA use may use, administer and prescribe topical agents in Categories 1-15.
- (4) Treatment with Anti-virals (Category 11) for more than 14 day's requires consultation with an ophthalmologist.
- (5) Treatment with Anti-fungals (Category 11) requires consultation with an ophthalmologist prior to initiating treatment.
- (6) Treatment with Anti-glaucoma agents (Category 12) requires:
 - (a) a dilated internal eye health examination before treatment is initiated,
 - (b) measurement of intraocular pressure by applanation, and
 - (c) initial and annual consultation with an ophthalmologist, doctor of medicine, or doctor of osteopathy.
- (7) Treatment with steroids requires:
 - (a) a dilated internal eye health examination before treatment is initiated for intraocular inflammation.
 - (b) measurement of intraocular pressure by applanation, and
 - (c) consultation with an ophthalmologist for more than 14 days treatment, unless the condition is improving steadily and treatment is being tapered.

RHODE ISLAND

GENERAL LAWS OF RHODE ISLAND ANNOTATED TITLE 5. BUSINESSES AND PROFESSIONS CHAPTER 35. OPTOMETRISTS

5-35-1. "Optometry" and "optician" defined.

Optometry is defined as ... and the topical application of drugs to the eye, to wit, mydriatics, miotics, and the use of topical anesthetics, ... shall be permitted to apply drugs topically to the eye for the purpose of detecting any diseased or pathological condition of the eye, or the effects of any disease or pathological condition of the eye.

5-35-1.1. Use and prescription of topical pharmaceutical agents for ocular conditions -- Technical advisory panel -- Training and certification.

Notwithstanding the provisions of this chapter, qualified and duly licensed optometrists of this state may use and prescribe topical pharmaceutical agents in the treatment of ocular conditions of the human eye and its appendages, without the use of surgery or other invasive techniques.

STATE OF RHODE ISLAND BOARD OF OPTOMETRY
RULES AND REGULATIONS

Section 10.0 Practice of Optometry

10.1.2 Scope of Medications:

The medications which may be used include topical medication (mast cell inhibitors or stabilizers), lubricants, decongestants, mucolytics, antibiotics, and steroids with a clinical potency not exceeding 1/4% methylprednisolone or equivalent.

Topical steroid treatment required beyond fourteen (14) days may be continued only in consultation with an ophthalmologist.

SOUTH CAROLINA

CODE OF LAWS OF SOUTH CAROLINA ANNOTATED
TITLE 40. PROFESSIONS AND OCCUPATIONS
CHAPTER 37. OPTOMETRISTS

s 40-37-105. Topical application of pharmaceutical agents; use of miotics; certification.

A. Notwithstanding any other provision of law a diagnostically certified optometrist may purchase, possess, and administer pharmaceutical agents, including pharmaceutical agents for topical application, other than controlled substances as defined in s 44-53-110 for diagnostic purposes in the practice of optometry. For the purposes of this section,

"pharmaceutical agent" means: anesthetics, mydriatics, cycloplegics, miotics, dyes, and over-the-counter drugs. Miotics may be used only pursuant to the following restrictions:

- (1) miotics may not be used for treatment purposes;
- (2) miotics may be used only for emergency purposes involving the buildup of pressure within the eyeball and immediately upon this emergency use the optometrist shall refer the patient to an ophthalmologist and file with the South Carolina Board of Examiners in Optometry a written report of the incident in the manner prescribed by the board by regulation; and
- (3) the South Carolina Board of Examiners in Optometry shall ensure that the quality and quantity of miotics possessed by a diagnostically certified optometrist is consistent with the use of miotics only for emergency purposes involving the buildup of pressure within the eyeball.

B. Notwithstanding any other provision of law, a therapeutically certified optometrist may purchase, possess, administer, supply, and prescribe pharmaceutical agents, other than Schedule I and II controlled substances as defined in Section 44-53-110, for diagnostic and therapeutic purposes in the practice of optometry except that:

- (1) when prescribing oral medications a therapeutically certified optometrist is limited to these oral pharmaceutical agents: antihistamine, antimicrobial, antiglaucoma, over-the-counter drugs, and analgesics and may only prescribe these pharmaceutical agents for the treatment of ocular and ocular adnexal eye disease;

(2) when prescribing oral pharmaceutical agents, documentation must be made in the patient's chart;

(3) when prescribing analgesics, prescription must be limited to a seven-day supply;

(4) when prescribing topical steroids, if after ten days of treatment it is necessary to continue this medication, the optometrist shall communicate and collaborate with an ophthalmologist, and if after twenty-one days treatment it is necessary to continue this medication, the optometrist must refer the patient to an ophthalmologist;

(5) when treating glaucoma using beta blocking pharmaceutical agents, a therapeutically certified optometrist must consult personally with or refer to a family practitioner, general practitioner, internist, or other appropriate physician;

(6) no medications may be given by injection or intravenously.

SOUTH DAKOTA

SOUTH DAKOTA CODIFIED LAWS TITLE 36. PROFESSIONS AND OCCUPATIONS CHAPTER 36-7. OPTOMETRISTS

36-7-1. Scope of practice defined.

36-7-1. The practice of optometry is declared to be ... and the prescribing or employment of ... topical pharmaceutical agents and oral analgesic agents for diagnostic and treatment purposes, ...

36-7-1.1 Restrictions on scope of practice.

36-7-1.1. Notwithstanding anything in this chapter to the contrary, an optometrist, except an optometrist certified for diagnostic and therapeutic agents as provided by ss 36-7-15.1 to 36-7-15.3, inclusive, and as provided in section 7 of this Act, may not treat glaucoma or ocular hypertension.

36-7 be amended by adding thereto a NEW SECTION [no citation # available at this time] to read as follows:

No oral therapeutic agent may be prescribed by an optometrist therapeutically certified under this chapter for glaucoma or ocular hypertension.

TENNESSEE

TENNESSEE CODE ANNOTATED TITLE 63 PROFESSIONS OF THE HEALING ARTS CHAPTER 8 OPTOMETRISTS

63-8-102. Definitions.

When used in this chapter:

(12) "Practice of optometry as a profession" means:

(E) One who is engaged in the practice of optometry as a profession, as hereinabove defined, and who has sufficient education and professional competence, as determined by the board, is authorized to examine, diagnose, manage and treat conditions and diseases of the eye and eyelid including:

(i) The administration and prescribing of pharmaceutical agents rational to the diagnosis and treatment of conditions or diseases of the eye or eyelid.

(iv) Additionally, the authority to administer benadryl, epinephrine or equivalent medication to counteract anaphylaxis or anaphylactic reaction.

TEXAS

VERNON'S TEXAS STATUTES AND CODES ANNOTATED CIVIL STATUTES TITLE 71—HEALTH—PUBLIC CHAPTER TEN—OPTOMETRY ARTICLE 1. GENERAL PROVISIONS

Art. 4552-1.03. Therapeutic optometrists

Sec. 1.03.

(b) A therapeutic optometrist may administer and prescribe ophthalmic devices, over-the-counter oral medications, and topical ocular pharmaceutical agents, other than antiviral agents and antiglaucoma agents, for the purpose of diagnosing and treating visual defects, abnormal conditions, and diseases of the human eye and adnexa and may remove superficial foreign matter and eyelashes from the external eye or adnexa. If a therapeutic optometrist utilizes topical steroids of a strength of one percent concentration to treat a condition and the condition has not substantially improved within seven days of the initial topical steroid application, the therapeutic optometrist shall consult with an ophthalmologist and the ophthalmologist shall then establish the treatment regimen. If a therapeutic optometrist utilizes topical steroids of a strength of less than one percent concentration to treat a condition and the condition has not substantially improved within 14 days of the initial topical steroid application, the therapeutic optometrist shall consult with an ophthalmologist and the ophthalmologist shall then establish the treatment regimen. This subsection does not authorize an optometrist to treat glaucoma in a manner that was not permitted by law on August 31, 1991.

OFFICIAL TEXAS ADMINISTRATIVE CODE TITLE 22. EXAMINING BOARDS PART XIV. TEXAS OPTOMETRY BOARD CHAPTER 280. THERAPEUTIC OPTOMETRY

280.5 Prescriptions Written for Pharmaceutical Agents by the Therapeutic Optometrists

(g) A therapeutic optometrist may prescribe all:

- (1) ophthalmic devices;
- (2) over-the-counter oral medications; and
- (3) topical pharmaceutical agents used for treating visual defects, abnormal conditions, and diseases of the human eye and adnexa, which are included in the following classifications or are combinations of agents in the classifications. No drug falling within one of the following categories may be used for the treatment of glaucoma in a manner that was not permitted by law on August 31, 1991. Antiviral drugs falling within the anti-infective classification are not included in the formulary:

(A) anti-allergy:

- (1) antihistamine;
- (11) membrane stabilizer;

- (B) anti-fungal:
 - (i) imidazoles;
 - (ii) polyenes;
 - (C) anti-infective:
 - (i) aminoglycoside;
 - (ii) anti-cell membrane;
 - (iii) anti-cell wall synthesis;
 - (iv) anti-DNA synthesis;
 - (v) anti-protein synthesis (excluding chloramphenicol);
 - (vi) anti-ACHase;
 - (vii) cephalosporin;
 - (viii) agents affecting intermediary metabolism;
 - (D) anti-inflammatory:
 - (i) nonsteroidal anti-inflammatory drug (NSAID);
 - (ii) steroid;
 - (E) antiseptic;
 - (F) chelating agent;
 - (G) chemical cautery;
 - (H) cycloplegic: parasympatholytic;
 - (I) hyperosmotic;
 - (J) miotic:
 - (i) anti-ACHase;
 - (ii) parasympathomimetic;
 - (K) mucolytic;
 - (L) mydriatic: sympathomimetic (Alpha 1 agonists only);
 - (M) vasoconstrictor: sympathomimetic (Alpha 1 agonists only).
- (h) The following are those drugs which are classified as antiglaucoma drugs and may not be used in a manner that was not permitted by law on August 31, 1991:
- (1) Pilocarpine 1.0%-10%;
 - (2) Carbachol 0.75%-3.0%;
 - (3) Carteolol;
 - (4) Epinephrine 0.25%-2.0%;
 - (5) Dipivefrin 0.1%;
 - (6) Betaxolol 0.5%;
 - (7) Levobunolol 0.5%;
 - (8) Metipranolol 0.3%;
 - (9) Timolol 0.25%-0.5%;
 - (10) Physostigmine 0.25%-0.5%;
 - (11) Demecarium 0.125%-0.25%;
 - (12) Echothiophate 0.03%-0.25%;
 - (13) Isoflurophate 0.25%.
- (i) This formulary specifically lists the types of drugs which may be prescribed by a therapeutic optometrist. Subject to the antiglaucoma and antiviral limitations described in subsections (g) and (h) of this section, a therapeutic optometrist may possess and administer any topical ocular pharmaceutical agent which has a legitimate diagnostic or therapeutic use.

UTAH

UTAH CODE TITLE 58. OCCUPATIONS AND PROFESSIONS CHAPTER 16a. UTAH OPTOMETRY PRACTICE ACT

58-16a-102. Definitions.

As used in this part:

(6) "Pharmaceutical agents" means those drugs state law requires to be dispensed by prescription and the division, in consultation with the board, allows optometrists to use for diagnostic and therapeutic purposes in accordance with this part.

UTAH ADMINISTRATIVE CODE

Commerce

R156. Occupational and Professional Licensing

R156-16a. Rules of the Optometrist Licensing Board.

R156-16a-14. Utilization Plan.

(1) The written utilization plan shall contain a definitive statement with respect to the diagnosis and treatment of eye disease and injury and the use of the following over-the-counter and prescription medications in a form provided by the division:

(a) diagnosis and treatment of eye disease and injury without the use of medication;

(b) diagnosis and treatment of eye disease and injury with FDA approved topically applied over-the-counter ophthalmic medications;

(c) diagnosis and treatment of eye disease and injury with other FDA approved topical ophthalmic medications;

(d) diagnosis and treatment of eye disease and injury with FDA approved topically applied ophthalmic antihistamines;

(e) diagnosis and treatment of eye disease and injury with FDA approved topically applied ophthalmic antibiotics;

(f) diagnosis and treatment of eye disease and injury with FDA approved topically applied ophthalmic antiviral agents;

(g) diagnosis and treatment of eye disease and injury with FDA approved topically applied ophthalmic steroids and topically applied ophthalmic non-steroidal anti-inflammatory drugs;

(h) removal of a foreign body including rust rings from the eye and the adnexa;

(i) prescribing and administering of FDA approved locally acting topical glaucoma medications; and

(j) prescribing and administering of FDA approved systemic effecting topical glaucoma medications.

VERMONT

VERMONT STATUTES ANNOTATED

TITLE TWENTY-SIX. PROFESSIONS AND OCCUPATIONS

CHAPTER 30. OPTOMETRY

SUBCHAPTER 5. DIAGNOSTIC PHARMACEUTICAL AGENTS

s 1723. Use of diagnostic pharmaceutical agents

Notwithstanding any prohibition on the use of drugs in section 1703 of this title, an optometrist licensed under this chapter, and pursuant to the further limitations of this subchapter may procure and use certain drugs topically applied to the eye and known as mydriatics, cycloplegics, and topical anesthetics. Such use shall be for detection purposes only, and nothing in

this subchapter shall be construed to permit the administering of drugs for the medical or therapeutic treatment of any disease or the performing of surgery.

s 1724. Specific drugs; concentrations

After 30 days notice to and consultation with an ophthalmologist designated by the head of ophthalmology at the University of Vermont, the board shall define the specific drugs and the concentrations thereof which optometrists shall be allowed to use pursuant to this subchapter and subchapter 6 and shall notify the state board of pharmacy of the board's actions.

SUBCHAPTER 6. THERAPEUTIC PHARMACEUTICAL AGENTS

s 1728. Use of Therapeutic Pharmaceutical Agents

(a) Notwithstanding the provisions of sections 1703 and 1723 of this title to the contrary, an optometrist licensed under this chapter who possesses the endorsement required under section 1729 of this title, may:

(1) prescribe anti-infective, anti-inflammatory and dilation reversal drugs, provided that those drugs are prescribed only for topical application to the eye. When steroids are prescribed under this section, the optometrist shall:

(A) consult with an ophthalmologist if the patient's condition has not improved within seven days after initiation of treatment; and

(B) refer the patient to an ophthalmologist if the steroid is to be used for longer than ten days.

(b) Nothing in this subchapter shall be construed to permit ... the treatment of glaucoma.

[NOTE: The following diagnostic drugs are approved for optometric use. The definition of specific therapeutic drugs for optometric use by the Board of Optometry has not been made at this time.]

VERMONT DEPARTMENT OF HEALTH
PART III, CHAPTER 2

Diagnostic Drugs Permitted for Use by Optometrists

1. Optometrists qualified pursuant to Title 26 VSA, Chapter 30, may topically apply the following pharmaceutical agents to the eye for detection purposes:

- | | | |
|----|--|------|
| a) | Anesthetics | |
| | 1. Proparacaine Hcl | 0.5% |
| | 2. Fluress (fluorescein sodium 0.25%
benoxinate hydrochloride 0.4%) | |
| b) | Mydriatics | |
| | 1. Phenylephrine Hcl | 2.5% |

c) Cycloplegics	
1. Tropicamide	0.5%
2. Tropicamide	1.0%
3. Cyclopentolate Hcl	0.5%
4. Cyclopentolate Hcl	1.0%

VIRGINIA

CODE OF VIRGINIA

TITLE 54.1. PROFESSIONS AND OCCUPATIONS.

SUBTITLE III. PROFESSIONS AND OCCUPATIONS REGULATED BY BOARDS WITHIN THE DEPARTMENT OF HEALTH PROFESSIONS.

CHAPTER 32. OPTOMETRY.

ARTICLE 4. CERTIFICATION FOR ADMINISTRATION OF DIAGNOSTIC PHARMACEUTICAL AGENTS.

s 54.1-3221. "Diagnostic pharmaceutical agents" defined; utilization; acquisition.

A. Certified optometrists may administer diagnostic pharmaceutical agents only by topical application to the human eye. "Diagnostic pharmaceutical agents" shall be defined as the following drugs in strengths not to exceed those stated:

1. Mydriatics and cycloplegics known as tropicamide in a 1.0 percent solution, phenylephrine hydrochloride in a 2.5 percent solution and cyclopentolate hydrochloride in a 1.0 percent solution to be used only on persons three years of age or older;
2. Anesthetic agents known as proparacaine hydrochloride in a 0.5 percent solution, tetracaine in a 0.5 percent solution and benoxinate hydrochloride in a 0.4 percent solution; and
3. The miotic known as pilocarpine in a 1.0 percent solution.
4. Dapiprazole hydrochloride in a 0.5 percent solution.

CODE OF VIRGINIA

TITLE 54.1. PROFESSIONS AND OCCUPATIONS.

SUBTITLE III. PROFESSIONS AND OCCUPATIONS REGULATED BY BOARDS WITHIN THE DEPARTMENT OF HEALTH PROFESSIONS.

CHAPTER 29. MEDICINE AND OTHER HEALING ARTS.

ARTICLE 1. GENERAL PROVISIONS. RELEVANT SECTIONS RELATING TO THERAPEUTIC PHARMACEUTICAL AGENTS.

Section 54-1.2900. Definitions.

"Certified optometrist" means an optometrist who is licensed under Chapter 32 of this title and who has successfully completed the requirements of certification established by the Board of Medicine. Such certification shall enable an optometrist to treat certain diseases, including abnormal conditions, of the human eye and its adnexa, as specified by the Board of Medicine, with certain therapeutic pharmaceutical agents specified by the Board. However such certification shall not permit treatment through surgery or other invasive modalities.

VIRGINIA BOARD OF MEDICINE

VR465-09-01

CERTIFICATION OF OPTOMETRISTS TO PRESCRIBE FOR AND TREAT
CERTAIN DISEASES, INCLUDING ABNORMAL CONDITIONS, OF THE HUMAN EYE
AND ITS ADNEXA WITH CERTAIN THERAPEUTIC PHARMACEUTICAL AGENTS

PART IV

SCOPE OF PRACTICE FOR AN OPTOMETRIST CERTIFIED TO USE THERAPEUTIC DRUGS

SECTION 4.3. - Therapeutic pharmaceutical agents which a certified optometrist may administer and prescribe are all topical and are as follows:

- A. Tetracycline
- B. Erythromycin
- C. Bacitracin
- D. Polymyxin B/Bacitracin
- E. Chlorotetracycline
- F. Sodium Sulfacetamide - 10%
- G. Sodium Sulfacetamide - 30%
- H. Sulfisoxazole - 4.0%
- I. Sulfacetamide - 15% / Phenylephrine - 0.125%
- J. Cromolyn Sodium - 4.0%
- K. Naphazoline HCl - 0.1%
- L. Phenylephrine HCl - 0.125% / Pheniramine Maleate - 0.5%
- M. Phenylephrine HCl - 0.12% / Phyrilamine Maleate - 0.1% / Antipyrine - 0.1%
- N. Naphazoline HCl - 0.025% / Pheniramine Maleate - 0.3%
- O. Naphazoline HCl - 0.05% / Antazoline Phosphate - 0.5%
- P. Hydroxypropyl Cellulose Ophthalmic Insert
- Q. Polytrim Ophthalmic Solution
- R. Neomycin

SECTION 4.4. Standards of Practice:

- C. The list in section 4.3. does not preclude optometrists treating emergency cases of anaphylactic shock with intra-muscular epinephrine, such as obtained from a beesting kit.
- D. The treatment of certain diseases, including abnormal conditions, of the human eye and its adnexa with the administration of certain therapeutic pharmaceutical agents by certified optometrists is prohibited in children five years of age or younger.

WASHINGTON

WASHINGTON BOARD OF OPTOMETRY
ADMINISTRATIVE CODE

WAC 246-851-410 Drug formulary. Pursuant to RCW 18.53.010(3) the optometry board adopts the following drug formulary of topically applied drugs for diagnostic and treatment purposes.

- (1) Drugs for diagnostic or therapeutic purposes.
 - (a) Mydriatics
 - (b) Cycloplegics
 - (c) Miotics

- (d) Anesthetics
- (2) Drugs for therapeutic purposes only.
- (a) Anti-infectives
- (b) Antihistamines and decongestants
- (c) Ocular lubricants
- (d) Antiglaucoma and ocular hypotensives
- (e) Anti-inflammatories
- (f) Hyperosmotics
- (g) Other topical drugs approved for ocular use by the FDA

WEST VIRGINIA

WEST VIRGINIA CODE CHAPTER 30. PROFESSIONS AND OCCUPATIONS. ARTICLE 8. OPTOMETRISTS.

s 30-8-2. Practice of optometry defined.

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

(a) The examination of the human eye, with or without the use of drugs prescribable for the human eye, which drugs may be used for diagnostic or therapeutic purposes for topical application to the anterior segment of the human eye only, and, by any method other than surgery, to diagnose, to treat or to refer for consultation or treatment any abnormal condition of the human eye or its appendages;

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

(c) The prescribing and application or the replacement or duplication of lenses, prisms, contact lenses, orthoptics, vision training, vision rehabilitation, diagnostic or therapeutic drugs for topical application to the anterior segment of the human eye, or the furnishing or providing of any prosthetic device, or any other method other than surgery necessary to correct or relieve any defects or abnormal conditions of the human eye or its appendages.

Nothing in this section shall be construed to permit an optometrist to perform surgery, use drugs by injection or to use or prescribe any drug for other than the specific purposes authorized by this section.

WISCONSIN

DEPARTMENT OF REGULATION AND LICENSING WISCONSIN ADMINISTRATIVE CODE CHAPTER RL 10 USE OF PHARMACEUTICAL AGENTS BY LICENSED OPTOMETRISTS

RL 10.01 Definitions. As used in the rules in this chapter:

(8) "Diagnostic pharmaceutical agent" means any topical ocular diagnostic pharmaceutical agent which is an optometric means used to determine the visual efficiency of the human visual system, including refractive and functional

abilities, or to diagnose the presence of ocular disease or ocular manifestations of systemic disease and other departures from normal. "Diagnostic pharmaceutical agents" include but are not limited to:

- (a) Mydriatics
 - 1. Phenylephrine 2.5%
 - 2. Hydroxyamphetamine 1%
- (b) Cycloplegics
 - 1. Tropicamide 1%
 - 2. Cyclopentolate 1%
- (c) Topical Anesthetics
 - 1. Benoxinate 0.4%
 - 2. Proparacaine 0.5%
 - 3. Tetracaine 0.5%
 - 4. Benoxinate 0.4% - Fluorescein 0.25% Combination
- (d) Dyes
 - 1. Fluorescein 0.25% - Benoxinate 0.4% Combination"
- (e) Miotics.
 - 1. Dapiprazole HCl
 - 2. Pilocarpine .125%
- (f) Any drug which is used for an ophthalmic diagnostic purpose and which is the subject of a new drug application approved by the food and drug administration under s. 505(c)(1) of the federal food, drug and cosmetic act, 21 USC s. 355, as amended.
- (g) Any drug which is used for an ophthalmic diagnostic purpose and which is generally exempt from the new drug application approval requirement contained in s. 505 of the federal food, drug and cosmetic act, 21 USC s. 355, as amended.

(10) "Therapeutic pharmaceutical agent" means a drug which is prescribed or administered for ocular therapeutic purposes. Therapeutic pharmaceutical agents include but are not limited to:

- (a) Oral analgesics.
 - 1. Acetaminophen
 - 2. Aspirin
 - 3. Salicylate
 - 4. Schedule III, IV and V narcotic analgesics
- (b) Topical decongestant agents and decongestant combinations.
 - 1. Epinephrine HCl
 - 2. Hydroxyamphetamine HBr
 - 3. Naphazoline HCl
 - 4. Oxymetazoline HCl
 - 5. Phenylephrine HCl
 - 6. Tetrahydrozoline HCl
 - 7. Combinations of the above agents with antihistamines or zinc sulfate
- (c) Antiallergy agents.
 - 1. Topical and oral antihistamine agents in the following drug categories.
 - a. Alkylamines
 - b. Ethanolamines
 - c. Ethylenediamines
 - d. Phenothiazines
 - e. Piperazines
 - f. Piperidines
 - g. Terfenadines

2. Cromolyn sodium, a mast cell stabilizing agent
- (d) Artificial tear solutions, ophthalmic irrigants and ocular lubricants.
- (e) Hypertonic sodium chloride, a topical hyperosmotic agent.
- (f) Yellow mercuric oxide, a miscellaneous preparation and product.
- (g) Topical anesthetics.
 1. Benoxinate HCl
 2. Benoxinate HCl and sodium fluorescein
 3. Proparacaine HCl
 4. Tetracaine HCl
- (h) Antibiotics.
 1. Topical antibiotics
 - a. Aminoglycosides
 - b. Bacitracin
 - c. Cephalosporins
 - cm. Ciprofloxacin HCl
 - d. Erythromycin
 - e. Gramicidin
 - em. Norfloxacin
 - f. Penicillins
 - g. Polymyxin B
 - h. Sulfonamides
 - i. Tetracyclines
 - j. Trimethoprim
 - k. Zinc sulfate
 2. Oral antibiotics
 - a. Erythromycin
 - b. Tetracycline
 3. Topical antiviral agents
 - a. Acyclovir
 - b. Idoxuridine
 - c. Trifluridine
 - d. Vidarabine
 4. Acyclovir, an oral antiviral agent
- (i) Anti-inflammatory agents
 1. Oral non-steroidal anti-inflammatory agents
 - a. Fenoprofen
 - b. Ibuprofen
 - c. Ketoprofen
 - d. Naproxen
 2. Topical corticosteroid agents
 - a. Dexamethasone
 - b. Fluoromethalone
 - c. Medrysone
 - d. Prednisolone
 - e. Prednisolone and atropine combinations
 - f. Topical corticosteroid and antibiotic combinations
 - g. Topical corticosteroid and mydriatic combinations
 3. Topical non-steroidal agent, diclofenac sodium
- (j) Topical anticholinergic agents.
 1. Atropine
 2. Atropine sulfate
 3. Cyclopentolate
 4. Homatropine

5. Homatropine hydrogen bromide
6. Scopolamine
7. Tropicamide
- (k) Antiglaucomatous agents
 1. Sympathomimetics
 - a. Dipivefrin
 - b. Epinephrine
 2. Miotics, direct acting
 - a. Acetylcholine
 - b. Carbachol
 - c. Pilocarpine
 3. Miotics, cholinesterase inhibitors
 - a. Demecarium bromide
 - b. Echothiophate
 - c. Isoflurophate
 - d. Physostigmine
 4. Topical beta-adrenergic blocking agents
 - a. Betaxolol
 - am. Carteolol HCl
 - b. Levobunolol
 - bm. Metipranolol HCl
 - c. Timolol
 5. Oral carbonic anhydrase inhibitors
 - a. Acetazolamide
 - b. Dichlorphenamide
 - c. Methazolamide
- (l) Any drug which is used for an ophthalmic therapeutic purpose and which is the subject of a new drug application approved by the food and drug administration under s. 505(c)(1) of the federal food, drug and cosmetic act, 21 USC s. 355, as amended.
- (m) Any drug which is used for an ophthalmic therapeutic purpose and which is generally exempt from the new drug application approval requirement contained in s. 505 of the federal food, drug and cosmetic act, 21 USC s. 255, as amended.
- (n) Any drug which is used for an ophthalmic therapeutic purpose and which is certified by the food and drug administration pursuant to s. 507(a) of the federal food, drug and cosmetic act, 21 USC s. 357, or is exempt from certification under s. 507(c) of the act, as amended.

NOTE: Section 161.39, Stats., contains certain limitations relating to the prescribing and administering of controlled substances by optometrists certified under s. 449.18, Stats.

WISCONSIN ADMINISTRATIVE CODE
OPTOMETRY EXAMINING BOARD
CHAPTER RL 10
USE OF PHARMACEUTICAL
AGENTS BY LICENSED OPTOMETRISTS

RL 10.02 Restrictions and reports. (1)(b) PRESCRIBING. Therapeutic pharmaceutical agents may be prescribed or administered by an optometrist holding a current TPA certificate only for the ocular therapeutic purposes for which the drugs are intended. These drugs shall be prescribed or administered

in accordance with minimum standards and procedures established in the optometric profession. An optometrist shall not prescribe or administer a therapeutic pharmaceutical agent which is not allowed under s. RL 10.01 (10). Approved agents may be used in combination only with other approved agents when appropriate. Prior to prescribing beta blockers or carbonic anhydrase inhibitors for the treatment of glaucoma, or any oral antiviral, or any other therapeutic pharmaceutical agent, as may be identified and designated in the future by the optometry examining board, which might prove to have significant systemic adverse reactions, the optometrist shall inform the patient's primary physician of his/her treatment plans and document that contact on the patient's chart. If the patient does not identify a primary physician, the patient shall be referred to a physician to determine the presence or absence of any systemic contraindications to the intended therapeutic agent. Following that assessment, and prior to prescribing, the prescribing optometrist shall contact the examining physician, documenting that contact on the patient's chart. Closed-angle glaucoma shall be considered an emergency in which the treating optometrist shall make immediate referral directly to a physician who specializes in the treatment of diseases of the eye and shall institute such emergency procedures as are directed by that physician.

WYOMING

WYOMING STATUTES TITLE 33. Professions and Occupations CHAPTER 23. Optometrists

s 33-23-102. Optometrist's use of certain drugs; limitation.

An optometrist licensed according to the statutes of the state of Wyoming shall be allowed to administer and prescribe pharmaceutical agents which are topically applied.

Appendix C

A-5
February 6, 1994

USE OF STEROIDS BY OPTOMETRISTS

In the 50 United States, the District of Columbia and Puerto Rico optometric statutes include the following provisions related to the use of steroids:

STEROIDS PROHIBITED

States prohibiting the use of steroids by optometrists:

• Diagnostic States	15
• Therapeutic States	<u>3</u>
TOTAL number PROHIBITING States	18

STEROIDS RESTRICTED

Number of states that impose time restrictions for steroids and require referral to an ophthalmologist

4

Number of states allowing topical pharmaceuticals that do not specify steroids but impose time restrictions and require referral to an ophthalmologist

3

Number of states that impose time restrictions for topical steroids
TOTAL number LIMITING States

1
8

STEROIDS PERMITTED

Number of states that specify topical steroids

6

Number of states that permit the use of topical pharmaceuticals, or pharmaceuticals, but do not specify steroids

18

Number of states that permit and specify use of steroids
TOTAL number PERMITTING States

2
26

SUMMARY EXPLANATION OF CATEGORIES

All diagnostic states prohibit the treatment of steroids by optometrists:

- 15 Alabama, California, Delaware, District of Columbia, Hawaii, Illinois, Maryland, Massachusetts, Michigan, Mississippi, Nevada, New York, Pennsylvania, Puerto Rico (non-diagnostic), Vermont

- Therapeutic states that prohibit the use of steroids:
 - 3 Nebraska, New Hampshire, North Dakota¹
- States that allow topical steroids and impose time restrictions and require referral to an ophthalmologist:
 - 4

Rhode Island	14 days - required referral
South Carolina	10 days - collaboration; 21 days - referral
South Dakota	07 days - from onset of treatment
Texas	07 or 14 days - depending on concentration of steroid
- States that allow topical pharmaceuticals that do not specify steroids but impose time restrictions and require referral to an ophthalmologist:
 - 3

Arizona	Referral
Oregon	Refer after 72 hours - if patient fails to show improvement
Virginia	Refer after 72 hours - if patient fails to show improvement
- States imposing time restrictions for topical steroids:
 - 1 Kansas 14 days
- States that specify topical steroids only:
 - 6 Colorado, Missouri, Ohio, Utah², Washington, Wisconsin
- States that permit topical pharmaceuticals, or pharmaceuticals, but do not specify steroids:
 - 18 Alaska, Connecticut, Florida, Georgia, Idaho³, Iowa, Kentucky, Louisiana, Maine, Minnesota, Montana, New Jersey, New Mexico, North Carolina, Oklahoma, Tennessee⁴, West Virginia, Wyoming
- States that permit and specify the use of steroids:
 - 2 Arkansas, Indiana⁵

¹ Specifically prohibits oral corticosteroids

² Based on utilization plan agreed on by ophthalmologist and optometrist

³ Allows pharmaceuticals

⁴ Allows pharmaceuticals

⁵ Allows oral non-steroidal anti-inflammatory drugs.

Use of Steroids by Optometrists in the 37 States with Therapeutic Laws

Steroids are generally interpreted as both anti-inflammatories and corticosteroids in the existing statutes of the states listed below.

Alaska -- Topical pharmaceuticals allowed — per formulary only, may include anti-inflammatories.

Arizona -- Topical pharmaceuticals allowed — per formulary only, may include anti-inflammatories; requires referral to physician if treatment is outside scope of practice.

Arkansas -- Specifically allows use of anti-inflammatories.

Colorado -- Limits anti-inflammatories to topical use.

Connecticut -- Topically administered ophthalmic agents allowed — per formulary only, may include anti-inflammatories.

Florida -- Limited to topical ocular pharmaceuticals — per formulary only, may include anti-inflammatories.

Georgia -- Topical pharmaceuticals are allowed — per formulary only, may include anti-inflammatories.

Idaho -- Allows pharmaceutical agents.

Indiana -- Allows oral non-steroidal anti-inflammatory drugs - encouraged to notify the patient's physician of use of legend drugs.

Iowa -- Allows pharmaceutical agents.

Kansas -- Allows use of topical anti-inflammatories for a 14-day supply only.

Kentucky -- Allows topical ocular pharmaceuticals — per formulary only, may include anti-inflammatories.

Louisiana -- Allows topical ocular pharmaceuticals — per formulary only, may include anti-inflammatories.

Maine -- Allows use of topical pharmaceutical agents — per formulary only, may include anti-inflammatories.

Minnesota -- Allows use of topical pharmaceutical agents — per formulary only, may include anti-inflammatories.

Missouri -- Limits use to topical anti-inflammatories.

Montana -- Allows use of topical pharmaceuticals — per formulary only, may include anti-inflammatories.

Nebraska -- Prohibits use of steroids or immunosuppressive agents.

New Hampshire -- Prohibits corticosteroids in any form, allows use of non-steroidal anti-inflammatories.

New Jersey -- Allows use of topical pharmaceuticals — per formulary only, may include anti-inflammatories.

New Mexico -- Allows use of topical ocular pharmaceuticals — per formulary only, may include anti-inflammatories.

North Carolina -- Topical pharmaceuticals allowed — per formulary only, may include anti-inflammatories. Usage of non-topical agents only after communication and collaboration with a physician.

North Dakota -- Topical pharmaceutical agents allowed, specifically prohibits the use of oral corticosteroids.

Ohio -- Topical anti-inflammatories are allowed.

Oklahoma -- Allows use of ocular topical pharmaceuticals — per formulary only, may include anti-inflammatories.

Oregon -- Topical pharmaceuticals allowed — per formulary only, may include anti-inflammatories, refer after 72 hours, if patient fails to show improvement.

Rhode Island -- Allows use of steroids of ¼ % strength — referral required after 14 days.

South Carolina -- Allows use of topical steroids — after 10 days collaboration and after 14 days referral required.

South Dakota -- May prescribe topical steroids for not more than 7 calendar days from onset of treatment. Thereafter, steroid use only after consultation with an ophthalmologist.

Tennessee -- Pharmaceutical agents allowed.

Texas -- Topical steroids are permitted: strength of one percent concentration must show improvement in condition within 7 days; less than one percent must show substantial improvement in 14 days. With no improvement, an ophthalmologist must be consulted who will establish treatment.

Utah -- Permits topical steroids only when utilization plan agreed on by ophthalmologist and optometrist.

Virginia -- Topical therapeutic pharmaceuticals allowed — per formulary only, may include anti-inflammatories. Referral to an ophthalmologist if patient fails to improve within 72 hours.

Washington -- Allows use of topical ocular anti-inflammatories.

West Virginia -- Allows use of topical diagnostic and therapeutic agents — per formulary only, may include anti-inflammatories.

Wisconsin -- Allows use of topical anti-inflammatories.

Wyoming -- Topical pharmaceuticals allowed — per formulary only, may include anti-inflammatories.

END OF REPORT

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Appendix D

A-6
February 6, 1994

PHYSICIAN CONSULTATION & REFERRAL REQUIREMENTS

In the 37 states with optometric therapeutic laws, the statutes include the following provisions for consultation and referral by optometrists to ophthalmologists or other physicians:

THERAPEUTIC STATES WITH REFERRAL PROVISIONS

Consultation Requirements	9
Referral Requirements	8
Other Requirements	<u>4</u>
TOTAL therapeutic states WITH referral provisions	21
<i>Therapeutic states WITHOUT referral provisions</i>	<u>16</u>
TOTAL therapeutic states	37

SUMMARY EXPLANATION OF CATEGORIES

Consultation Requirements — 8

ARKANSAS: treatment of glaucoma with prior consultation and approval of a treatment course by an ophthalmologist

NEW MEXICO: upon diagnosis of glaucoma or iritis optometrist shall consult with physician eye specialist, and then shall prescribe ongoing treatment plan (1986 amendment)

NORTH CAROLINA: other than topical pharmaceutical agents prescribed with collaboration of physician of patient's choice

NORTH DAKOTA: when any diseased or pathological conditions of eye do not respond to treatment, optometrist shall consult with a physician

OREGON: treatment of glaucoma requires consultation with physician or doctor of osteopathy. Also, when using topical therapeutics, if no improvement within the first 72 hours, other appropriate care must be initiated

SOUTH DAKOTA: may prescribe topical steroids for not more than 7 calendar days from onset of treatment. Thereafter, steroid use only after consultation with an ophthalmologist

TEXAS: use of topical steroids is permitted as follows: strength of one percent concentration must show substantial improvement in condition within seven days; less than one percent concentration must show substantial improvement in 14 days. With no improvement, therapeutic optometrist must consult with an ophthalmologist, who shall establish the treatment regimen. This does not authorize an optometrist to treat glaucoma in a manner that was not permitted by law on August 31, 1991

UTAH: the division of licensing, in consultation with the board shall establish by rule the scope of optometry practice to include: 1. a protocol jointly developed by the supervising physician and the optometrist that permits the optometrist to treat eye disease and injury; 2. requirement for direct supervision of an optometrist by an ophthalmologist. An ophthalmologist is limited to supervising six optometrists, and "direct voice contact" between them for consultation is mandated; and 3. a utilization plan describing the details of the scope of practice, and permitted prescribing authorization for an optometrist

Referral Requirements — 9

ARIZONA: requires referral of patients to a physician when an optometrist finds an indication of the presence of a disease or condition of the eye requiring treatment outside of his/her scope of practice

COLORADO: prohibits post-operative care management without referral from a ophthalmologist within 90 days of surgery; physician may extend post-op period if medically necessary; or patient is released by physician. (Note: this clause basically allows post-op management if the surgeon agrees to it.)

CONNECTICUT: examination of the human eye and the eyelid for the purpose of diagnosis, treatment, or referral for consultation, or where appropriate to an ophthalmologist (referral of iritis or corneal ulcer not later than 72 hours after initial treatment, if no noted improvement)

FLORIDA: an optometrist who believes a patient may have glaucoma shall promptly advise the patient of the serious nature of glaucoma and note in the patient record that this advice was given. An optometrist shall refer to physician/medical specialist patients diagnosed with:

- 1) infectious corneal disease which has not responded to standard methods of treatment;
- 2) sudden onset of spots or "floaters;"
- 3) adverse drug reactions (when appropriate)

MISSOURI: shall refer patient to physician for further medical diagnosis or treatment

RHODE ISLAND: allows anti-virals and steroids of ¼ %, with referral after 14 days

SOUTH CAROLINA: glaucoma treatment with beta blockers requires consultation personally with or refer to a family practitioner, general practitioner, internist or other appropriate physician. Must strive to achieve a stable range of intraocular pressures. If no progress is achieved in realizing the selected range of pressures within 60 days, patient to be referred to an ophthalmologist. Acute angle closure glaucoma requires optometrist to initiate treatment and refer to ophthalmologist. Therapeutic optometrists must refer a patient to an appropriate medical or osteopathic doctor, including, but not limited to, corneal, glaucoma, or retinal ophthalmological specialists when additional evaluation or treatment is necessary. Non-therapeutic optometrists may refer to a therapeutically certified optometrist for additional necessary evaluation or treatment, or to a medical doctor

VIRGINIA: referral to an ophthalmologist required under the following conditions: after diagnosing and treating a patient for a disease (listed in the statute) that fails to improve, usually within 72 hours; and, treatment of a patient with a superficial corneal abrasion that fails to significantly improve within 24 hours. An optometrist shall establish a written protocol for the management of patient emergencies and referrals to physicians

WISCONSIN: prior to prescribing beta blockers or carbonic anhydrase inhibitors for glaucoma treatment, or oral antivirals, the optometrist must inform the patient's primary physician of treatment plans and document the contact. If there is no primary physician, the patient shall be referred to a physician for determination of any systemic contraindications to the TPA. Prior to prescribing, the optometrist shall contact the examining physician and note this on the patient's chart. Closed-angle glaucoma requires immediate referral to an ophthalmologist. Optometrist shall institute emergency procedures directed by that physician

Other Statute Requirements — 4

INDIANA: optometrist is encouraged to notify patient's physician of use of legend drugs

KANSAS: treat with anti-inflammatory agents, administered topically, for up to 14 days (implied referral or consultation)

MINNESOTA: optometrists are required to advise patient to seek evaluation by an appropriate licensed physician for diagnosis and treatment and not to treat such condition by the use of drugs or any other means, if a patient shows signs or symptoms which may be evidence of disease that requires treatment that is beyond the practice of optometry permitted by law

WEST VIRGINIA: examination of the human eye with topical pharmaceuticals of the anterior segment of the human eye, to diagnose, to treat or to refer for consultation or treatment any abnormal condition

Therapeutic States Without Consultation or Referral Requirements — 16

ALASKA, GEORGIA, IDAHO, IOWA, KENTUCKY, LOUISIANA, MAINE,
MONTANA, NEBRASKA, NEW HAMPSHIRE, NEW JERSEY, OHIO, OKLAHOMA,
TENNESSEE, WASHINGTON and WYOMING.

END OF REPORT

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Appendix E

December 21, 1993

SUMMARY of OPTOMETRIC MALPRACTICE CASES

- ▶ Of the 22 listed optometric malpractice cases, 17 occurred in diagnostic states.
- ▶ **Disease or Disorder** — Patients with glaucoma comprised 50% of cases; tumors were involved in 9% of cases. Patients' diseases or disorders were:

Cataract, Postop Care	01	case
Contact lens use	01	case
Contact lens/corneal disease	01	case
Corneal ulcer	01	case
Diabetic retinopathy	01	case
Glaucoma	11	cases
Retinal tear or detachment	02	cases
Systemic disorder	01	case
Tumor, brain	01	case
Tumor, lacrimal	01	case
Vision loss, binocular	01	case

- ▶ **Patient Outcomes** — Of the 22 cases, two cases (or 9%) resulted in total blindness. One of these patients suffered brain damage. Of all patients, 45% were partially blind or likely to be blind. Over half of the cases resulted in diminished vision. One case specifically resulted in preventable surgery. Patient outcomes were:

Blindness	01	case
Blind/brain damage	01	case
Blind in one eye	05	cases
Blindness to 90%	01	case
Blindness projected	02	cases
Diminished vision	11	cases
Surgery	01	case

- ▶ **Type of Violation** — Failure to diagnose occurred in 77% of all cases. In therapeutic states failure to diagnose or diagnostic error occurred in 100% of cases. Failure to diagnose or diagnostic error occurred in 90% of all cases. Negligent or improper treatment occurred in 13% of cases. Type of violation:

State Status:	Diagnostic	Therapeutic	Unknown
Failure to Diagnose	11	2	1
Failure to diagnose and refer	2		
Misdiagnosis	2		
Delayed diagnosis		1	
Negligent treatment, failure to refer	1		
Improper treatment	1		
Improper treatment, failure to diagnose		1	

The cases were reported from Medical Malpractice Verdicts, Settlements & Experts, Jury Verdict Research, and an attorney.

OPTOMETRIC MALPRACTICE CASES

In response to requests by state legislators concerning potential problems when optometric licensure laws are expanded, the American Academy of Ophthalmology has compiled the attached list of malpractice cases.

The summaries note the following information about each case: the state; whether the state permitted diagnostic or therapeutic drug usage at the time of occurrence; the year of occurrence; type of violation; disease or disorder; amount of settlement; source of publication and date; short title; and a case description. In the interest of space constraints, repetitive or extensive legal terminology in the text from journals has been edited.



The American Academy of Ophthalmology does not claim to have first hand knowledge of any of the cases included in this listing. Further, we draw no conclusions as to the quality of care rendered by any individual. The information contained in this index is reliable as reported. This list was prepared in response to requests by state legislators and is intended for use solely within the legislative process.

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Optometric Malpractice Case Summaries

State: AL
Year occurred: 1988
OD law status: DPA
Type of violation: Failure to diagnose
Disease/disorder: Brain tumor
Settlement amount: \$2,000,000

Optometrist Found Liable for Failing to Diagnose Symptoms of Brain Tumor in Child - Brain Damage and Blindness - \$2 Million Post-Trial Settlement Reached Following \$6.5 Million Alabama Verdict

The plaintiffs claimed that the defendants, an optometrist, Darlene Forsyth Harris, OD and a pediatrician, Gerald Woodruff, Jr., MD failed to diagnose a rare brain tumor in their son, age 11, despite headaches and failing vision. The child is now blind, brain damaged and requires twenty-four hour care. A jury returned a verdict against the optometrist for \$6.5 million in mid-April 1991 but found in favor of the pediatrician. According to published accounts a \$2 million post-trial settlement was reached in May 1991. Joshua Medders, a minor, by Carl T. Medders v. Gerald Woodruff, Jr., MD and Darlene Forsyth Harris, OD, Calhoun County (AL) Circuit Court, Case No. CV-88-364. David Carnes, Gadsden, AL for the plaintiffs. Michael Worel, Mobile, AL for Dr. Woodruff. William A. Mudd, Birmingham, AL for Dr. Harris. (Note: This is one of the longest medical malpractice verdicts in Alabama history.)

Source/date: 09/91 - Medical Malpractice Verdicts, Settlements & Experts

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State: CT
Year occurred: 1987
OD law status: DPA
Type of violation: Failure to diagnose; failure to refer
Disease/disorder: Retinal tear
Settlement amount: \$275,000

Plaintiff Suffered Haze in One Eye - Defendant Optometrist Failed to Diagnose Retinal Tear and Failed to Refer the Plaintiff to an Ophthalmologist - Plaintiff Was Left with 20/400 Vision in His Eye - \$275,000 Settlement in Connecticut.

The plaintiff, a 42-year-old man, visited the defendant optometrist because of a complaint of haze in one of his eyes. He was told that it was floaters and not to worry but to come back in ten days if the

floaters increased. The plaintiff returned with the complaint that the haze or spot had moved. He was referred to an ophthalmologist who diagnosed the haze or spot as a result of a retinal tear in his eye. The allegations of negligence against the defendant were failure to detect a retinal tear and failure to promptly refer the plaintiff to an ophthalmologist. According to the published accounts, the parties negotiated a \$275,000 Settlement. Joseph W. Siebert, Sr. V. New England Vision Associates, P.C., d/b/a Optivision Eyecare Center, et al., Superior Court, Hartford/New Britain Judicial District, Case No. CV-87-0333403S. Leo Rosen of Poliner, Poliner and Rosen, P.C., Hartford, CT, for the plaintiff.

Source/date: Medical Malpractice Verdicts, Settlements & Experts - 09/90

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State:	FL
Year occurred:	1981
OD law status:	DPA/Currently TPA
Type of violation:	Misdiagnosis
Disease/disorder:	Glaucoma
Settlement amount:	\$200,000

Optometrist Malpractice: Professional Negligence: Eye Condition

An 82-year-old hotel maid suffered an acute attack of glaucoma after she underwent an examination by the defendant optometrist. The plaintiff presented herself to the defendant because she wanted stronger lenses for her glasses. Under the assumption that the plaintiff desired a complete eye exam, the defendant placed drops of neosynephrin into the plaintiff's eyes. She suffered the attack later that day. The plaintiff alleged that the defendant failed to properly examine her eyes before placing the drops and that he never informed her of the potential risk accompanying the use of the drops. The defendant claimed that he properly examined the plaintiff's eyes prior to adding the drops and that the odds of complications accompanying the use of the drops were very slim. Finally, the plaintiff alleged that as a result of the initial injury, she was forced to undergo cataract extractions and iridectomies in both eyes and sustained a complication which diminished her vision, corrected and uncorrected, greatly. The defendant countered that the plaintiff's vision went unchanged. LeBlanc v. Brennan; State Farm Fire & Casualty Company. Compensatory Damages: \$200,000; Trial/Settlement date 8603; JV Number 7731; Court Docket 82-9382; State/County FL/Broward. Milton S. Blaut for the plaintiff, Young T. Tindall for the defendant.

Source/date: Jury Verdict Research/1991 Data Search

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State: FL
Year occurred: March, 1989
OD law status: TPA
Type of violation: Delayed diagnosis
Disease/disorder: Glaucoma
Settlement amount: \$750,000.00

Delayed Diagnosis of Glaucoma Results in Uncorrectable Injury

A forty-nine year-old postal employee, was under the care of Margate Opticians, Inc. including Leslie T. Bukstel, O.D. and Peter Cigalotti, for problems he was having with his eyesight. Advanced glaucoma in both eyes was diagnosed on March 13, 1989. The plaintiffs asserted that the condition should have been diagnosed earlier when the plaintiff's condition could have been corrected. The defendants testified that the physician, Dr. Bukstel, who allegedly failed to make the diagnosis was an optometrist. Cigalotti was not permitted to make a diagnosis because he is an optician. Dr. Bukstel and Great American Insurance, settled with the plaintiffs for \$750,000. The jury found for Margate Opticians Peter Cigalotti. Plaintiffs' Experts: Paul Palmberg, M.D., ophthalmology, Miami, FL. Harlington Hanna, OD, optometry, Miami, FL. Defendants' Expert: Harry Hamburger, M.D., ophthalmology, Miami, FL, Richard J. Small and Priscilla Small, his wife v. Margate Opticians, Inc. and Peter Cigalotti, Broward County (FL) Circuit Court, Case No. 90-358214. Gary Cohen of Sheldon J. Schlesinger, PA, Ft. Lauderdale, FL and Brian Scott Henry, Lauderhill, FL for the plaintiffs. Jonathan Davis and Harvey Ginsberg of Walton Lantaff, Ft. Lauderdale, FL for the defendants. Note: Great American Insurance is the company brokered by Poe & Associates, that has the "endorsement" of the American Optometric Association. Poe has sent representatives to state legislatures to testify in favor of expanding the optometric scope of practice.

Source/date: Medical Malpractice Verdicts, Settlements & Experts - 8/92

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State: IN
Year occurred: 1981
OD law status: TPA
Type of violation: Failure to diagnose
Disease/disorder: Systemic
Settlement amount: \$400,000

Optometrist Failed To Diagnose or Refer Patient Suffering From Intracranial Pressure Vision Loss - Panel Awards \$400,000

The Indiana Patients Compensation Panel has awarded the maximum allowable at the time the claim arose to a man, age 20, who was seen by the defendant optometrist complaining of progressive vision loss. Glasses were prescribed. The claim alleged the defendant failed to diagnose intracranial

pressure. The plaintiff was finally diagnosed as hydrocephalus and a ventricular shunt was performed, but the procedure did not save the claimant's vision and he is legally blind. The thrust of the claim was failure to refer. The incident occurred in 1981. Michael Placek v. Loy Hudson, OD, Allen County (IN) Circuit No. CC84-1070. Jack E. Morris for plaintiff.

Source/date: Medical Malpractice Verdicts, Settlements & Experts - 11/85

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State: AZ
Year occurred: Unknown
OD law status: DPA/TPA State, 1993
Type of violation: Failure to diagnose
Disease/disorder: Cataract-Postop Care
Settlement amount: \$110,500

Retired Colorado Man Undergoes Cataract Surgery - Subsequent Infection in Eye Results in Loss of Sight - Infection Missed by Optometrist at Ophthalmologist's Office - Plaintiff Argues Use of Optometrist Was Negligent

A seventy-two year old retired man underwent cataract surgery by the defendant ophthalmologist. Thirty hours post-surgery, the plaintiff experienced extreme pain in the eye, and contacted the defendant, who instructed him to go to the defendant's clinic for examination. The plaintiff's eye was examined, but other than a slightly elevated intraocular pressure, everything appeared to be normal. Six hours later, a second examination was performed, which revealed an intraocular infection. Despite aggressive antibiotic therapy, the plaintiff lost all vision in the eye. During the second examination, the plaintiff learned that the party who initially examined him was an optometrist, not an ophthalmologist. He argued that this was a breach of the applicable standard of care, and that the optometrist's failure to diagnose the infection resulted in an increased risk of loss, due to the fulminating nature of the infection. According to The Trial Reporter of Southern Arizona, the parties settled before trial for \$110,500. Plaintiff's Expert: Denis M. O'Day, MD, ophthalmology, Nashville, TN. Defendant's Experts: Lynden Lothaire, MD, ophthalmology, Herbert S. Woldoff, MD, ophthalmology, Phoenix, AZ. Bennett v. Katz, MD, County Superior Court, Case No. CV 283213.

Source/date: Medical Malpractice Verdicts, Settlements & Experts April, 1993

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State: NJ
Year occurred: 1981
OD law status: DPA
Type of violation: Failure to diagnose
Disease/disorder: Glaucoma
Settlement amount: \$200,000

Failure To Perform Test For Rare Form of Glaucoma - Permanent Blindness in One Eye

This was an optometry malpractice action in which the 37-year-old plaintiff contended that the defendant optometrist deviated in failing to conduct an ophthalmoscope test and a slit lamp test to determine if the plaintiff was suffering from closed angle glaucoma, resulting in total blindness in one eye. The plaintiff's expert related that the slit lamp test advanced by the plaintiff is the only means of discovering the rare form of glaucoma. It was undisputed that the defendant was aware that the plaintiff was far sighted. The plaintiff's expert contended that in view of the greater risk of far sighted patients developing closed angle glaucoma and the absence of alternative means of discovering the insidious condition, an optometrist is obligated to perform this slit lamp test on every far sighted patient examined or refer the patient to an ophthalmologist. The plaintiff argued that based upon the statute which authorizes an optometrist to conduct internal examinations of the eye, the optometrist would be required to conduct a thorough examination. This case was complicated by the fact that the plaintiff suffered from reduced mental capacities and emotional conditions. These conditions limited the plaintiff's ability to communicate. The plaintiff had been utilizing the defendant's services for 10 years and that symptoms were probably present for at least 2 years prior to the blindness. The jury found for the plaintiff and awarded \$200,000. Interest in the amount of \$65,000 was then added. The award reflected the fact that the plaintiff suffered an especially serious injury when the loss of vision in one eye was added to his mental limitations. Plaintiff's Expert: George Spaeth, MD, Wills Eye Hospital, ophthalmologist. Defendant's Expert: Lewis Catina, Philadelphia College, Optometrist. Docket #L-67673-8 1; Judge Richard Hyland, 4-17-85. Arthur Ballen and Roseann S. Oliver for the plaintiff. James Mullen, Jr. for the defendant.

Source/date: Jury Verdict Review/Verdict Trak - 12/91 data search

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State: NJ
Year occurred: 1988
OD law status: DPA
Type of violation: Failure to diagnose
Disease/disorder: Glaucoma
Settlement amount: \$1,038,276

Glaucoma Not Diagnosed, Resulting in Loss of Vision - \$1,038,276 New Jersey Default Judgment

According to published accounts the plaintiff, a dentist, claimed that the defendant, an optometrist, failed to detect glaucoma, resulting in the loss of vision in her right eye. The plaintiff began complaining of vision problems in 1988 and various prescriptions were given, without success. The

plaintiff has been forced to cut back on her practice due to the vision impairment. A \$1,038,276 judgment was awarded by Superior Court Judge Robert A. Longhi in October, 1990 when he ruled that the defendant defaulted in the case by failing to appear in court or respond to the allegations against her. Etta Wilson v. Sandra Robbins, Middlesex County (NJ) Superior Court, Case No. L-1292-90. George Hendricks, New Brunswick, NJ for the Plaintiff. The firm of Hoagland, Longo & Oropollo, New Brunswick, NJ for the defendant.

Source/date: Medical Malpractice Verdicts, Settlements & Experts - 03/91

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State: NY
Year occurred: 1988
OD law status: DPA
Type of violation: Failure to diagnose; failure to refer
Disease/disorder: Glaucoma
Settlement amount: \$450,000

90% Visual Field Loss In Both Eyes

Malpractice action by a 48-year-old pharmacist, loss of consortium for the wife. The plaintiff, a pharmacist, has four minor children, the oldest is 10 years of age. Plaintiff alleged that the defendant optometrists had failed to refer him to an ophthalmologist upon noting "deep cups," had failed to perform a visual field test, had failed to schedule a follow up visit, had failed to perform a necessary additional examination and glaucoma work-up. The plaintiff developed an open angle glaucoma. Plaintiff has lost 90% of his visual field in both eyes. Plaintiff's Experts: Steven Perrone, MD ophthalmologist, Professor George Obssuth, Professor Paul L. Owens, SUNY, Dr. Thomas Fitzgerald, Economist. Defendant's Expert: Joseph C. Rosenbluth, MD, ophthalmologist. Akbar Lakhaney and Nusrat Lakhaney v. Jamica Avenue Opticians, Inc., and Martin Grossman, OD. Supreme Court of the State of New York, County of Queens, Index #1927 - 88, Calendar # M342. Laura Wein and Michael Furst of Furst, Wein & Taryan, Manhattan for the plaintiffs. Brian W. McElhenny of Curtis, Zaklukiewicz, Vasile & Devine for the defendants.

Source/date: Michael L. Furst, JD - 07/89

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State: OH
Year occurred: July, 1991
OD law status: DPA
Type of violation: Negligent treatment; failure to refer
Disease/disorder: Loss of Binocular Vision
Settlement amount: \$36,000

Negligent Treatment of "Crossed" Eye in Two Year Old – Loss of Binocular Vision

The plaintiff developed a "crossed" eye. He was examined by an ophthalmologist and the defendant optometrist, Dr. John Zettel. The defendant treated the plaintiff for sixteen to eighteen months with an unsupported "nasal" patch on his eyeglasses. The plaintiff nearly lost his vision before his parents had him examined by an ophthalmologist. The plaintiff's vision was restored, but he lost the opportunity for binocular vision. The plaintiff alleged that the defendant was negligent in using totally inadequate and untested treatment techniques, in failing to disclose the limits of his treatment options, in misrepresenting his credentials and in failing to refer him to an ophthalmologist. The defendant contended that he used ordinary care in treating the plaintiff and that any negligence on his part was not the causative element in the loss of the plaintiff's binocular vision because most children must be treated by age two to achieve binocular vision. Plaintiff's Expert: Laurence Baker, M.D., ophthalmology, Lexington, KY. Defendant's Expert: Merrill Allen, M.D., ophthalmology, Bloomington, IN. Steve and Debra Brandt, as parents of Douglas Brandt v. John Zettel, O.D., Hamilton County (OH) District Court, Case No. A-8603897. Michael Boylan, Cincinnati, OH for the plaintiffs. Bruce McIntosh, Middletown, OH for the defense.

Source/date: Medical Malpractice Verdicts, Settlements & Experts - 05/92

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State: PA
Year occurred: 1985
OD law status: DPA
Type of violation: Failure to diagnose
Disease/disorder: Glaucoma
Settlement amount: \$80,000

Women Claims Glaucoma Was Not Diagnosed During Examination-Loses Partial Vision Due to Two Year Delay in Diagnosis-Defendant Denies Negligence but \$80,000 Settlement Is Reached in Pennsylvania

The plaintiff consulted the defendant, an optometrist, for an eye examination in July 1985. The plaintiff, age 53 at the time, reported problems seeing at a distance and close up; she also had blurred vision in her right eye. The examination performed at the time included evaluation and testing to detect the presence of glaucoma. In July 1987 the plaintiff went to an ophthalmologist for evaluation. At this time the plaintiff was experiencing increased vision loss, inability to see distances, headaches

and blurred vision. The plaintiff was diagnosed with an end stage glaucomatous optic disc in her right eye and a mild glaucomatous optic disc in her left eye. The glaucoma condition stabilized with eye drop medication taken daily. The plaintiff alleged that the defendant failed to properly perform the glaucoma testing and advise the plaintiff of the findings of his testing, failed to advise her of the possible dangers if her complaints persisted, and did not obtain a consultation from another physician. She contended that the defendant's negligence had caused her to lose substantial vision in her right eye and some vision in her left eye. An \$80,000 settlement was reached on May 1, 1990. Plaintiff's Experts: David S. C. Pao, MD., ophthalmology, Levittown, PA. Kenneth R. Fox, MD ophthalmology, McLean, VA. Defendant's Experts: Richard P. Wilson, MD, Philadelphia, PA. Robert Kirscher, MD Mae Coyne v. John McEwan, Jr., OD, Bucks County (PA) Court of Common Pleas, Case No. 88-7614-1-288. Robert J. Mellon of Mellon, Webster & Mellon, Doylestown, PA for the plaintiff. John F. McDevitt, Jr. of McDevitt & Cobb, Bala Cynwyd, PA for the defendant.

Source/date: Medical Malpractice Verdicts, Settlements & Experts - 08/90

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State:	PA
Year occurred:	1986
OD law status:	DPA
Type of violation:	Failure to diagnose
Disease/disorder:	Glaucoma
Settlement amount:	\$750,000

Glaucoma Not Diagnosed Due to Lack of Screening by Optometrist - Irreversible When Diagnosed

The plaintiff was under the care of a local optometrist since March 1974 for his eye care. He was evaluated by the optometrist for his need of corrective lenses, and was given a prescription for glasses. His intraocular pressures were not measured or recorded by the local optometrist. On his last visit to the local optometrist in November 1986 the plaintiff advised the optometrist that his left eye was slightly blurry, even with his prescription. It was noted by the optometrist that the plaintiff had temporal pallor of the disc of the left eye. During a routine physical examination with his family physician the plaintiff complained of having some problems with his vision. His family physician referred him to another optometrist, who diagnosed him as having advanced glaucoma in both eyes, which had been present for many years. Because of the failure to diagnose earlier, irreversible damage has occurred and the plaintiff is losing vision in his eyes and will eventually be blind. The defendant admitted liability and a \$750,000 settlement was reached prior to trial. Doe v. Anonymous Optometrist, Pennsylvania Venue and Docket Number not provided. Clifford A. Rieders of Rieders, Travis, Mussina, et al., Williamsport, PA for the plaintiff.

Source/date: Medical Malpractice Verdicts, Settlements & Experts, - 1/93

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State: SC
Year occurred: 1983
OD law status: DPA
Type of violation: Failure to diagnose
Disease/disorder: Glaucoma
Settlement amount: \$200,000

Failure of Optometrist to Diagnose Open-Angle Glaucoma Results in Advancement of Condition With Blindness Anticipated - \$200,000 South Carolina Settlement

The plaintiff alleged that in June 1983, he went to optometrist Dr. William C. Oliver's office to have his eyes examined. He complained of blurred vision, reduced vision, turning out of the left eye and increased eye pressure and sensitivity to sunlight. The defendant Oliver examined him and prescribed stronger glasses. Approximately one year later, in June 1984, the plaintiff's problems worsened and he again returned to Dr. Oliver's office. Dr. Oliver again examined the plaintiff's eyes and again prescribed stronger glasses. In February 1985, the plaintiff consulted an ophthalmologist who diagnosed far advanced open angle glaucoma. The plaintiff was a factory worker making \$5.65 an hour and was 45 years old at the time he first saw Dr. Oliver. The plaintiff contended that the defendant was negligent in failing to test the eye pressure, failing to diagnose glaucoma, and in failing to refer the plaintiff to an ophthalmologist. The patient was treated by an ophthalmologist, and although he had not yet lost all of his vision in his left eye, it was anticipated that at some point in the not too distant future, he would be blind. He was already blind in his other eye from prior accident having nothing to do with this defendant. The plaintiff has had to quit his job and is receiving Social Security disability benefits. The case was settled in early May 1987 for a \$200,000 lump sum payment. Plaintiff's experts: Michael Laughlin, MD, ophthalmologist (treating physician); Dr. John Hartsfield, optometrist (retired), Birmingham, AL. John W. Hefney v. William C. Oliver, Court of Common Pleas, York County, SC, Civil Action No. 86-CP-46-139. Seth H. Langson of Karro, Sellers & Langson, Charlotte, NC and Jim Fewster, Rock Hill, SC for the plaintiff. James W. Alford of Barnes, Alford, Stork & Johnson, Columbia, SC for the defense.

Source/date: Medical Malpractice Verdicts, Settlements & Experts - 09/88

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State: SD
Year occurred: Unknown
OD law status: Unknown
Type of violation: Failure to diagnose
Disease/disorder: Glaucoma
Settlement amount: \$201,001

Failure to Diagnose Glaucoma-Loss of Vision-\$201,001 South Dakota Verdict Against Optometrist

Published accounts indicate that a federal jury has awarded Ardis Hayslip, 30, of Midland, Texas \$201,001 after finding a Rapid City, South Dakota optometrist, James W. King, negligent in failing to test the man for the eye disease glaucoma. The jury award included \$150,000 for loss of enjoyment of life, \$20,000 for future mental anguish, \$10,000 for past medical care, \$16,000 for past lost wages but nothing for future lost wages, \$5,000 for future psychological treatment, but only \$1 for vision loss. The suit alleged that the optometrist was negligent in failing to test for glaucoma during a routine \$34.00 check up. Plaintiff's attorneys argued that an eye pressure test should have been administered. The defense maintained that Hayslip already suffered from glaucoma prior to the examination and that the optometrist had conducted a reasonable examination and had referred Hayslip to an Albuquerque optometrist, the patient's place of residence at the time. Arlis Hayslip v. James W. King, Optometrist. U.S. District Court, Rapid City, SD No. ___. Gregory A. Eiseland, Rapid City, SD for the plaintiff. William Porter, Rapid City, SD, for the defendant.

Source/date: Medical Malpractice Verdicts, Settlements & Experts - 04/87

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State: TN
Year occurred: Unknown (before TPA law)
OD law status: DPA
Type of violation: Misdiagnosis
Disease/disorder: Tumor - lacrimal
Settlement amount: \$18,000

Optometrist "Diagnoses" Eye Infection and (Through His Physician Wife) "Prescribes" Medication - Suit Alleges Failure to Refer to Ophthalmologist - Benign Tumor Discovered - Suit Settles for \$18,000 in Tennessee - Was There a Physician-Patient Relationship with the Physician Wife? - Trial Court Says that Plaintiff's Part Payment of Medical Insurance Premium Means He Can Claim All Expenses, That Is, Collateral Source Rule Not Abolished

This case of alleged optometric malpractice is unique as the optometrist's wife, a physician, actually called in the plaintiff's medication. The case has been settled for \$18,000. The plaintiff, a 33-year-old security guard, went to the defendant optometrist complaining of tearing and pain as if something were in his eye. The defendant, Phillip Patterson, OD said there was nothing in his eye, said it was

an allergic reaction, and told the plaintiff that he would "call in a prescription." (Note: This episode happened before the statute was changed that allowed optometrists to write certain prescriptions.) When the condition did not improve, the plaintiff went to a Tullahoma optometrist, Dr. Edward Hoge, who diagnosed the condition as conjunctivitis and said that it would go away. Facing no improvement, the plaintiff finally saw an ophthalmologist, Clark Woodfin, MD who immediately sent the plaintiff to ophthalmic plastic surgeon Ralph Wesley, MD who diagnosed and removed a tumor in the right lacrimal area. The tumor was benign, but the plaintiff's suit claims he has been left with a weaker and more light sensitive eye. An interesting side issue arose regarding whether there was a cause of action against Teresita Patterson, MD, the defendant's wife. The theory offered was something akin to conspiracy to aid someone in the practice of medicine who was not licensed, as well as aiding in her husband's malpractice. Anticipating a defense argument of "no liability" during the interrogatory, the plaintiff's attorney substantiated his theory that Dr. Teresita Patterson did, by her own admission, make a diagnosis of the plaintiff's condition, chose a medication, had a desired purpose in mind for the medication and made an evaluation based on her husband's findings. Wayne Mines v. Phillip L. Patterson, OD, Teresita Patterson, MD, and Edward R. Hoge, OD, Coffee County (TN) Circuit Court, Case No. 22,430. Larry R. Williams, Nashville, TN for the plaintiff.

Source/date: Medical Malpractice Verdicts, Settlements & Experts - 07/91

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State:	UT
Year occurred:	1987
OD law status:	DPA
Type of violation:	Mistreatment
Disease/disorder:	Contact lens; corneal disease
Settlement amount:	\$30,000

Negligent Prescription of Contact Lenses-Scratched and Eroded Cornea-\$30,000 Settlement in Utah

According to the Utah Tort News Reporter, the plaintiff, a 32-year-old male, consulted with the defendant in the summer of 1987 regarding the advisability of wearing contact lenses. The plaintiff informed the defendant that he had a history since early childhood of corneal ulcers caused by herpes simplex keratitis. He had been treated conservatively from time to time for minor flare-ups of this condition and reported he had experienced no flare-ups for three years. The defendant prescribed and sold to the plaintiff gas permeable daily wear contact lenses. The plaintiff and the defendant entered into a contract for follow-up visits, eye exams, etc. The plaintiff began to have problems shortly after he purchased the contacts and repeatedly advised the defendant of the problems he was having. The plaintiff ultimately had a severe episode of pain, irritation, etc., in his left eye, to the point where he was unable to wear his lenses. An examination revealed that the cornea in his left eye had been

scratch or eroded seriously. His vision was damaged so seriously that he was required to undergo a corneal transplant. Although after surgery his vision was restored to normal, there is a slight risk that he may lose sight in the damaged eye again. The case was settled for \$30,000. Plaintiff's Expert: Darrel Carter, optometry, Berkeley, CA. Guy Monty v. America's Best Contacts, Inc. Salt Lake County (UT) District Court, Case No. 900901724. Colin Pl King for the plaintiff. David W. Slage for the defendant.

Source/date: Medical Malpractice Verdicts, Settlements & Experts - 06/91

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State: VA
Year occurred: 1980
OD law status: DPA
Type of violation: Failure to diagnose
Disease/disorder: Glaucoma
Settlement amount: \$25,000

Failure of Optometrist to Diagnose Open Angle Glaucoma Results in \$25,000 Virginia Settlement

On February 7, 1980, the plaintiff, Tad Jones, sought the services of the defendant, Q.O. Sutphin, OD. The complaint alleges that the defendant failed to diagnose the condition of open angle glaucoma. The plaintiff accepted a \$25,000 settlement which had been offered by the insurance carrier after the plaintiff's extensive discovery. The case was settled in December 1985. Tad Jones v. Q.O. Sutphin, OD, U.S. District Court, Western District of Virginia, Roanoke Division, Civil Action No. 82-0312-R. Raymond R. Robrecht, Salem, VA for the plaintiff, Carroll D. Rea of Hazelgrove, Dickinson, Rea, Smeltzer & Brown, Roanoke, VA for the defendant. MEDMAL case No. 002751

Source/date: Medical Malpractice Verdicts, Settlements & Experts - 07/87

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State: WI
Year occurred: 1984
OD law status: DPA
Type of violation: Failure to diagnose
Disease/disorder: Diabetic retinopathy
Settlement amount: \$150,000

Failure of Wisconsin Optometrist to Diagnose Diabetic Retinopathy Results in Loss of Vision in Right Eye and \$150,000 Settlement

In July 1984, Claudine Ostrowski, a 43-year-old housewife, had an eye examination at Sterling Optical as a result of recent changes in vision and some intermittent flashing. She knew that the Sterling outlet had a "doctor" on the premises. Mrs. Ostrowski, was unaware of the differences between an optometrist and ophthalmologist. She had been a diabetic for approximately 12 years with oral medication for eight years. She informed the optometrist of these facts and that it had been eight years since her last eye examination. The optometrist examined her eyes without dilating the pupils, found nothing amiss in his fundus examination, and prescribed corrective glasses. The best correction he was able to obtain in her right eye was 20/50 although he was able to correct the left eye to 20/30. Mrs. Ostrowski said the doctor told her to come back in about two years, and at no time referred her to an ophthalmologist. Diabetics are at high risk for blood vessel changes in the retina, but diabetic retinopathy is susceptible to treatment if caught early. Optometrists, under Wisconsin law, are limited in the type of tests which they can perform to detect retinopathy, but a long history of diabetes, with an inability to obtain a good correction, strongly suggested the presence of a systemic disease. Six months later, in January 1985, Mrs. Ostrowski experienced a sudden loss of vision in the right eye. The plaintiff's expert retinalogist testified that a prompt referral may have saved most of the sight in the right eye. Plaintiff's left eye remains intact and has responded well to laser treatment. An internist, a third party defendant, who had been caring for Mrs. Ostowski's diabetic condition for several years, was also obligated to refer his patient to an ophthalmologist. Wisconsin statutes licensing and governing optometrists requires them to make referrals to medical specialists when their examination reveals a suspicion of systemic disease. The case was settled for \$150,000 in September 1987. The settlement contribution was equally divided between Sterling Optical and the insurance company for the internist. Claudine Ostrowski, et al. v. IPCO Corporation (Sterling Optical Group), et al., Milwaukee County Circuit Court, Case No. 706-081. Gerald J. Bloch of Warshafsky, Rotter, Tarnoff, Gesler, Reinhardt & Bloch, S. C., Milwaukee, WI for the plaintiff.

Source/date: Medical Malpractice Verdicts, Settlements & Experts - 11/87

* * * * *

State: WI
Year occurred: Unknown
OD law status: TPA, 1989
Type of violation: Improper treatment, failure to diagnose
Disease/disorder: Contact lens use
Settlement amount: \$159,000

Woman Claims Instructions to Use Distilled Water Instead of Sterilized Water to Clean Contacts Caused Infection - Infection Not Treated Properly Early, Causing Loss of Vision in Eye

The plaintiff, in her mid-thirties, went to the defendant optometrist for soft contact lenses. The defendant allegedly told her that cleaning the lenses with distilled water would be okay despite the fact that the package for the salt tablets which are also used in cleaning these lenses is said to have specifically called for the use of sterilized water. According to the plaintiff, the bad advice given to her resulted in bacteria, specifically *acanthamoeba keratitis*, which developed on one of the lenses which then infected her eye. As a result of the infection the plaintiff entirely lost the use of one of her eyes, despite undergoing numerous surgeries on the eye. She now wears a large cosmetic contact lens over her useless eye which disguises its deteriorated condition. In addition to the claim that the defendant gave improper advice concerning cleaning the contacts, the plaintiff claimed that once she started complaining of pain in her eye the defendant failed to promptly diagnose the problem, allegedly losing the ability to remedy it in its early stages. *K.L., et al v. St. Paul Fire and Marine Ins. Co., et al*, Milwaukee County (WI) Circuit Courts, Case No 89-CV-03685. Timothy Aiken of Aiken and Sceptur, Milwaukee, WI and Joseph Doherty of Bunk, Doherty and Griffin, West Bend, WI for the plaintiff. Scott Ritter of Hogan Law Offices, Milwaukee, WI for the defendant.

Source/date: Medical Malpractice Verdicts, Settlements & Experts, - 1/93

* * * * *

State: WI
Year occurred: Unknown
OD law status: DPA
Type of violation: Failure to diagnose
Disease/disorder: Glaucoma
Settlement amount: \$90,000

Optometrist Fails to Diagnose Glaucoma - \$90,000 Settlement in Wisconsin

The plaintiff was a welding supervisor in his forties. He went to the defendant optometrist for a driver's license check-up. The defendant failed to advise the plaintiff of elevated intraocular pressure, a sign of glaucoma, from which the plaintiff was unknowingly suffering, and which went undiagnosed and untreated for another year. Subsequently, the plaintiff underwent multiple laser surgeries and suffered a constriction in his field of vision. The defense contended that the surgeries would have been necessary and the constriction inevitable, even if the condition had been spotted a year earlier by the defendant. According to Verdicts and Settlements in Wisconsin Circuit Courts, the plaintiff contended that he would eventually be unable to perform his present supervisory job, and so he claimed future lost income as well as medical special damages. The parties reached a settlement of \$90,000. Richard et al., v. ABC Insurance Co., et al., Milwaukee County (WI) Circuit Court Case No. 737422, Susan Rosenberg of Aiken & Mawicke, Milwaukee, WI for the plaintiffs. Kathleen Bonville of Gutglass, Erickson & Bonville, Milwaukee, WI for the defendants.

Source/date: Medical Malpractice Verdicts, Settlements & Experts - 05/91

* * * * *

State: WI
Year occurred: Unknown
OD law status: DPA/Currently TPA
Type of violation: Failure to diagnose
Disease/disorder: Corneal Ulcer
Settlement amount: \$75,000

Doctor and Hospital Malpractice: Lack of Informed Consent - Visual Impairment

A 29-year-old female suffered from a corneal ulcer after being treated by the defendant optometrist. The plaintiff had been wearing daily-wear contact lenses for several years and was being examined by the defendant to be fitted for extended-wear contact lenses. Shortly after her release from the clinical program, the plaintiff developed soreness and redness in one eye and was diagnosed with a corneal ulcer. The plaintiff contended that the optometrist and optical clinic failed to obtain informed consent and provide adequate follow up care. Wagner v. D.O.C. Optical. Trial/settlement date: 8805, JV number 37984, Court Docket: Circuit/745-163, State/County: WI/Milwaukee, Plaintiff Attorney: Melita M. Biese, Milwaukee, WI. VR1C ED.

Source/date: Jury Verdict Research - 1991 Data Search

* * * * *

State: WV
Year occurred: 1984
OD law status: TPA
Type of violation: Failure to diagnose
Disease/disorder: Retinal detachment
Settlement amount: \$75,000

**Optometrist Fails to Perform Dilated Examination and Retinal Detachment Not Diagnosed-
Vision Reduced in One Eye-\$75,000 Settlement in West Virginia**

Annette Carter, a 27-year-old telephone company employee, went to the defendant optometrist for new contact lenses. A dilated examination of the plaintiff's eyes was not performed despite the fact that the plaintiff complained of having blurry vision. The defendant optometrist assumed that this was caused by contact lens solution. The plaintiff continued to complain of blurry vision, but no dilated examination was performed. The defendant's records did not indicate that the complaints had been made. The plaintiff was seen by the defendant from January to March 1984. In May 1984 the plaintiff went to an ophthalmologist, who immediately diagnosed retinal detachment. At this time the detachment reached the macula. The plaintiff's vision was reduced from 20/20 corrected to 20/40 corrected in the left eye. The plaintiff alleged that the demarcation lines seen at the time the diagnosis of retinal detachment was made indicated that the detachment was present at the time the defendant was treating her. In addition, if a dilated examination had been performed, the defendant would have noted the detachment and appropriate action could have been taken to reattach the retina. The retina was reattached, but there was some vision loss. A \$75,000 settlement was reached in March 1989. Annette Lynne Carter v. Ross G. Childress, Kanawha County (WV) Circuit Court, Case No. 86-C-1856. William Druckman, Hunt & Wilson, Charleston, WV, for plaintiff. Steve Annand, Charleston, WV for defendant.

Source/date: Medical Malpractice Verdicts, Settlements & Experts - 07/89

* * * * *

Appendix F

August 11, 1992

Secretary Marlene Cummings
Department of Regulation & Licensing
1400 E. Washington Avenue
P.O. Box 8935
Madison, WI 53708

Dear Secretary Cummings:

Thank you for forwarding a summary of the 1991 Use of Therapeutic Pharmacologic Agents by Optometrists in Wisconsin. After reviewing this document, I felt the need to respond to the summary and the conclusions drawn from the data compiled.

One chief concern regarding this data is whether a disease entity was treated with the appropriate pharmaceutical agent. Reviewing the different diagnoses and treatments reveal many cases where inappropriate medications were prescribed for the stated disease and yet a resolution of the condition was observed. This either means the diagnosis of the condition was inappropriate or the condition would have resolved on its own without medication. Numerous instances of these are apparent in the summary, and a lengthy addendum to this letter lists some of the treatments in question. One of the more common discrepancies indicates the use of benoxinate, a drop containing an anesthetic with fluorescein; this is a diagnostic agent, not a therapeutic agent. Somehow, this drop cured cases of blepharitis, blepharoconjunctivitis, conjunctivitis, both chronic and acute, corneal abrasion, corneal foreign bodies, corneal ulcers, narrow angle glaucoma, superficial keratitis, and trichiasis.

The most serious example of inappropriate treatment is that of narrow angle glaucoma. Only half of these cases were correctly treated. A miotic, i.e. pilocarpine, is the appropriate initial therapy. If this is inadequate, a surgical, iridotomy can cure this condition. The summary indicates pilocarpine was not used in almost half the cases and that in some cases the glaucoma was cured with an anesthetic drop.

The summary shows interstitial keratitis as successfully treated with antibiotics. The two most common causes of interstitial keratitis are syphilis and herpes, and the appropriate topical treatment would either be a steroid drop or an anti-viral medication. Over half of these cases were inappropriately treated.

Secretary Marlene Cummings
August 11, 1992
Page 2

Orbital cellulitis is a potentially severe soft tissue infection that can be life threatening, yet only one of the nine cases was referred to another health care provider, and this case was inappropriately treated with steroids.

Other discrepancies are documented in the addendum to this letter.

Regarding the classifications list for treatment, many conditions which are listed as the disease entity are, in fact, not a diagnosis but a clinical finding. It does not indicate whether, for example, conjunctivitis is infectious, allergic, or immune, and so one cannot discern whether the appropriate medication was given in any of these cases. Diagnoses such as conjunctival edema, chemosis, acute conjunctivitis, chronic conjunctivitis, dermatitis, eyelid inflammation, hyperemia, keratitis, superficial keratitis, keratoconjunctivitis, pain in the eye, and swelling of the eye are all descriptions which do not specify any cause. Therefore, in all of these conditions, one cannot say whether the treatment was appropriate for the condition cited. I would suggest that more definitive etiologic diagnoses be used when collecting this data.

It is interesting that the Optometry Board did not address some of these diagnostic and treatment problems when reviewing the summary, and I cannot believe this summary can give any support to expanding the use of therapeutics by optometrists or that it was received positively by the Department of Regulation & Licensing. Prior to expanding the Therapeutic Drug Bill it would be worthwhile to discuss the summary with you and members of the Optometry and Pharmacy Boards. It is apparent that some continuing medical education should be required of optometrists using therapeutics, as it is required of other health care providers.

Though 12,000 uses of therapeutics sounds impressive, the total administration of therapeutic agents prescribed by 312 optometrists during all of 1991 averages only 38 prescriptions per optometrist or only 3.2 administrations per month for each optometrist. This does not seem to support the contention that initial or further the expansion of therapeutics to optometry is warranted.

Secretary Marlene Cummings
August 11, 1992
Page 3

I look forward to discussing the results of this survey with you.

Sincerely,

Peter J. McCanna, M.D.

PJM/s11

Enc: Addendum

CC: Medical Examining Board
1400 E. Washington Avenue
P.O. Box 8935
Madison, WI 53708

Optometry Examining Board
1400 E. Washington Avenue
P.O. Box 8935
Madison, WI 53708

Pharmacy Examining Board
1400 E. Washington Avenue
P.O. Box 8935
Madison, WI 53708

Assembly Public Health Regulations Committee
State Capitol
Madison, WI 53708

ADDENDUM to Dr. McCanna's letter of August 11, 1992

Blepharitis is an inflammation of the eyelids and benoxinate, an anesthetic, would not be expected to improve this condition, yet was prescribed in 21 cases, all of which resolved.

Blepharoconjunctivitis is an inflammation of the eyelid and eye for which benoxinate, an anesthetic, was prescribed 36 times, all of which cases resolved.

Burns of the eyelids may require prophylactic antibiotic treatment, but naphazoline, an anti-histamine, was prescribed.

Chalazion is an inflammatory condition which may or may not be infectious, yet naphazoline, an anti-histamine, was prescribed.

Chemosis is a swelling of the conjunctiva and is most often due to allergies. This is a diagnostic finding and does not designate an etiology as to the cause of the chemosis, whether it is infectious or inflammatory. Whether the appropriate treatment was given cannot be ascertained.

Concretions of the conjunctiva most often are asymptomatic and must be removed mechanically and would not be effectively treated with either antibiotics or steroids which were prescribed.

Conjunctival cysts are asymptomatic and are not infectious nor inflammatory, so neither antibiotics nor steroids would be indicated in this condition, yet were prescribed.

Conjunctival edema is the same as chemosis, and neither of these conditions designate whether the etiology is infectious, either bacterial or viral, or whether it is allergic or inflammatory, requiring a steroid medication.

Conjunctivitis both acute or chronic is not an etiologic diagnosis, and this might better be separated into infectious, allergic, or traumatic causes. In this category, a benoxinate is again used in 6 cases, causing a resolution of symptoms? In addition, epinephrine and phenylephrine are also used inappropriately. Acute conjunctivitis again was treated with benoxinate with resolution of symptoms. Homatropine and hydroxamphetamine are also inappropriately used. Allergic conjunctivitis, by description is allergic, and one would use either an anti-inflammatory medication, but rather immunoglycosides and Polymyxin antibiotics were prescribed. Chronic conjunctivitis was again treated with benoxinate, an anesthetic, with resolution of symptoms. Hydroxyamphetamine, a dilating agent, was also prescribed, but would be of no benefit in conjunctivitis.

Corneal abrasions were treated in over 13 cases with benoxinate inappropriately.

Corneal foreign bodies are inappropriately treated with benoxinate in 20 cases.

Corneal ulcers are inappropriately treated with aspirin in 1 case and benoxinate in 6 cases.

Ecchymoses of the conjunctiva, eye, and eyelids are non-inflammatory, non-infectious, hemorrhagic conditions and they were unnecessarily treated in 36 cases using antibiotics, antihistamines, benoxinate, and topical steroids.

Epiphora is tearing of the eyes and does not indicate whether this is an infectious, allergic, or mechanical problem, so one cannot assess whether these cases were appropriately treated.

Episcleritis is an immunologic inflammation of the eye for which steroids are indicated, yet 21 cases are treated with antibiotics, antihistamines, or hydroxyamphetamine.

Eyelid inflammation is a non-specific diagnosis, the cause being either infectious, allergic, or immunologic is not stated.

Foreign body of the conjunctiva was successfully treated somehow with benoxinate on 3 occasions and with dipivefrin, a glaucoma agent, yet this condition successfully resolved.

Narrow angle glaucoma which is a specific diagnosis for which the initial treatment is a miotic and for which the ultimate treatment is surgery. This was inappropriately treated with benoxinate in 6 cases and glaucoma medications other than pilocarpine in 18 cases.

Open angle glaucoma was inappropriately treated with an antibiotic in 1 case and benoxinate in 5 cases. Other cases were treated with homatropine, a dilating drop, and prednisone, a steroid, and these conditions were reported to successfully have resolved.

Hordeolum is an infection of the eyelid, yet 3 cases were treated with dipivefrin and 1 case with levobutanol, both glaucoma medications, each of which resolved the condition.

Hyperemia of the conjunctiva is a description of an inflamed conjunctiva and does not denote any specific etiology, so one cannot ascertain the appropriateness of these treatments.

Hyperemia of the eyelids - see hyperemia of the conjunctiva.

Inflammation of the eye - see hyperemia of the conjunctiva.

Inflammation of the eyelid - see hyperemia of the conjunctiva.

Iridocyclitis is a non-bacterial inflammation of the eye, yet antibiotics were inappropriately prescribed. These include immunoglycosides, gramacidin, Bacitracin, and tetracycline. In addition, Pilocarpine and Proparazine were inappropriately prescribed. Timolol, a glaucoma agent, was also inappropriately prescribed, unless there was an associated glaucoma.

Keratitis is a change seen in the cornea for which there may be many causes. Benoxinate was again inappropriately used to treat this condition on two occasions. Dendritic or herpetic keratitis was inappropriately treated with benoxinate, yet this condition resolved.

Interstitial keratitis is an inflammation of the cornea most often caused by syphilis or herpes. Other causes are rare, yet this condition was treated with immunoglycosides, Bacitracin, erythromycin, sulfa, and trimethoprim, none of which would improve an interstitial keratitis, yet these conditions were noted either to stabilize or resolve.

Punctate keratitis was treated with benoxinate, a non-therapeutic drug.

Keratoconjunctivitis is a descriptive term not a etiologic diagnosis. Again, no indication of infection, either viral or bacterial, allergy or immunologic etiology is mentioned. Four cases of this were "successfully" treated with benoxinate, an anesthetic.

Lagophthalmos is incomplete closure of the eyelid and would not benefit from the use of timolol, a glaucoma agent, which was prescribed.

Orbital cellulitis is a potentially severe infection of the tissues around the eye. Only 1 of 9 cases was referred to another health care provider, and this was inappropriately treated with fluoromethalone, a steroid.

Pain around the eye is a descriptive term and does not designate any etiology, therefore whether treatment was appropriate cannot be ascertained.

Photophobia is also a descriptive turn and may be caused by iritis, but would not be appropriately treated with aminoglycosides (antibiotics) which were prescribed.

Pinguecula is a non-infectious growth on the conjunctiva, and this was inappropriately treated with benoxinate, aminoglycosides, and Polymyxin.

Pre-glaucoma might more appropriately be called ocular hypertension. One of these cases was treated with an antibiotic, Bacitracin, rather than a glaucoma drop, and yet this condition was noted to resolve.

Pterygium is a non-infectious growth on the eye and 3 cases were inappropriately treated with immunoglycosides.

Swelling of the eye is a descriptive term and does not define any etiology. Whether the treatments were appropriate cannot be determined.

Trichiasis of the eyelid are lashes rubbing on the cornea and, in 2 cases, this was inappropriately treated with benoxinate.

Verrucae of the eyelids are warts of the eyelid which are not responsive to medical therapy and were inappropriately treated with fluoromethylone, a steroid.

Xanthelasma of the eyelids are non-inflammatory fatty deposits on the skin, are not responsive to medical therapy, and which were inappropriately treated with steroids.

Appendix G

Optometric Education:

An Analysis of the Current Status, and A Comparison of Differences between Ophthalmology and Optometry

Note: Charts and footnotes have been omitted.

American Academy of Ophthalmology
Health Services Research Department
Draft 4/26/94

COMPARISON OF DIFFERENCES IN EDUCATION AND TRAINING BETWEEN OPHTHALMOLOGY AND OPTOMETRY

	Ophthalmologist	Optometrist
Degree	M.D.	O.D.
School accreditation	<p>Medical programs are accredited by the Liaison Committee on Medical Education, a joint committee of the Association of American Medical Colleges and the American Medical Association.</p> <p>The LCME is empowered to accredit by the Council on Postsecondary Accreditation.</p> <p>The LCME has determined minimum compliance outcomes and standards.</p>	<p>Optometry programs are accredited by the American Optometric Association's Council on Optometric Education.</p> <p>Optometry schools are also accredited by regional college and university accrediting agencies.</p> <p>Accreditations above are recognized by the Council on Postsecondary Accreditation.</p> <p>The COE has no minimum compliance outcomes or standards.</p>
Admission requirements	<p>4-year undergraduate degree</p> <p>Completion of premedical program</p>	<p>3 years of undergraduate courses (most complete 4 year degree programs)</p> <p>Completion of preoptometry program</p>
Curriculum requirements: Didactic	<p>Medical school: didactic course work (first two years): 2,000 hours in class, at least 1,250 hours of basic and clinical sciences, according to minimum accreditation standards.</p> <p>Ophthalmology residency: 360 hours in basic and clinical sciences for eye care, plus 50 hours in pathology, according to minimum accreditation standards.</p>	<p>Optometry school: didactic course work (first three years) 1,700 hours in class: includes 380 hours of basic and clinical sciences.</p> <p>and</p> <p>300 hours of basic and clinical sciences for eye care (no accreditation standard minimums)</p> <p>and</p> <p>1,000 hours of optometry (optics, lenses, visual science).</p>

**Curriculum requirements:
Clinical**

Medical school: clinical training (second two years). Clinical rotations in hospital and other health care settings. 2,000 hours in basic medical specialty services and an additional 1,200 hours in elective rotations, according to minimum accreditation standards.

Optometry school: no minimum requirements; Average is 2,000 hours. Most 4th year students train full-time in the on-campus eye clinic; most schools encourage an additional external placement to a VA health clinic, private practice clinic, or community satellite clinic, to increase exposure to patients with disease. On-campus optometry clinics attract few patients with health or eye problems other than refractive error, and opportunities to learn disease detection is limited (less than 10%).

Post-graduate hospital internship: Required 50 week service. 80 hour a week limit (60 hours week average = 3,000 hours)

Postgraduate internships: None required.

Residency in ophthalmology: Required 36 month service (80 hour week maximum. Accreditation minimum patient contact requirements: 3,000 outpatient visits (including 1,500 refractions, and 2,000 primary management), 150 consultations involving disease, 25 cataract / 10 strabismus surgeries, and 288 hours of clinical conferences.

Post-graduate residencies: Optional. Residencies offer additional in-clinic training for one year, and are unrelated to professional credentials or formal specialties. These positions are very low in supply or demand (less than 10% of graduates pursue an optometry residency, usually in a VA clinic or on-campus clinic).

Residency programs are accredited by the Accreditation Council for Graduate Medical Education.

Accredited by COE.

**Optometry Education:
An Analysis of Educational Goals,
Processes, Programs and Potentials**

The purpose of this paper is to summarize the status quo and recent changes in optometric education in the United States. The report is based on a review of recent literature, and an analysis of the most recent optometry school catalogues of schools and colleges of optometry. This report will describe the average optometric curriculum, and evaluate the credentials related to the education and licensing of the practicing optometrist.

Main Issues:

- Traditional optometric training has been compressed to make room for content required for the expanded scope of practice.
- Optometry students spend an average of 2000 hours in optometry clinics seeing patients.
- Optometric training programs have difficulty providing students enough patient contacts, especially for pathological conditions.
- VA training has greatly expanded the access of optometric training in hospital and primary health care settings for both optometry students and optometry "residents".
- Ophthalmologists play a small, but increasing, role in optometric training, primarily as preceptors for students in placements.
- Faced with dropping applications, training programs have sacrificed the quality of the students accepted for admission to preserve quantity (income).
- Optometric training programs face financial strains, hampering development needed to support the expanded scope of practice.
- Fifth year postgraduate residencies, while strongly advocated as a way to overcome inadequacies of clinical training, are low in supply and demand (voluntary, less than 10% of graduates take them).
- The National Board of Examiners in Optometry (NBEO) prepares and administers national proficiency tests that serve as the main written tests required for licensure in most states. The tests measure entry-level knowledge in basic science, clinical science, and currently patient management problems.
- The International Association of Boards of Examiners in Optometry (IAB) promotes an examination titled "Treatment and Management of Ocular Disease", now used as an additional written test for licensure in states with a therapeutic scope of practice (administered by the NBEO).
- The national groups (NBEO, IAB) are making serious efforts to define, promote and

measure training and entry-level competence better, seeking to add validity to the claims justifying the expanded scope of optometric practice. Point-by-point comparisons may be necessary to understand the differences in competence.

- Accreditation of optometric education is recognized by traditional accreditation authorities.
- The Council on Education (COE) of the American Optometric Association (the accrediting body) determines basic standards for accreditation, and recently raised requirements for pre-optometry admissions (goal: match pre-medical requirements by appearance).
- The Council on Education (COE) of the American Optometric Association determines basic standards, and recently clarified accreditation requirements without eliminating program "flexibility" (no uniform minimum standards).

Update on Educational Reform Issues Facing Optometric Education

In 1992, 85 representatives from the Association of Schools and Colleges of Optometry, the American Optometric Association, and other groups gathered to conduct the "Georgetown Conference - Summit on Optometric Education". The purpose of the summit was to begin to determine the present and future educational needs of optometry, and reconstruct the future curriculum. The summit, and the reactions that have followed, more clearly identify the issues that must be faced in the future. The two quotes below illustrate the goals for change in the education and practice of optometry:

Definition of an Optometrist: "Doctors of optometry are independent primary health care providers who specialize in the examination, diagnosis, treatment and management of diseases and disorders of the visual system, the eye and associated structures as well as the diagnosis of related systemic conditions" (American Optometric Association, 1993)

The Mission of Optometric Education: "the education of doctors of optometry who are able to practice the fullest scope of optometry consistent with the laws of the state in which they plan to practice." (Northeastern State University College of Optometry 1993 catalogue)

The Georgetown summit pointed out how optometric education has undergone significant change in the last 30 years, having established the adoption of the Doctor of Optometry as the required professional degree and basing it on a four year plan that includes clinic instruction. Optometric education exploded after World War II, with support from the G.I. Bill, and surged again in the mid 1960's with support from the Health Professions Educational Assistance Act, which provided funds for construction of facilities and funds for optometry student scholarships and loans.

The summit pointed out that last 20 years has seen the expansion of the optometric scope of practice, and with three-fifths of the states licensing optometrists to treat some ocular disease. Of primary concern is that the demands on the educational system have been strong, and have not been easy to meet. In general, the expanded scope of practice came first legislatively, then educationally. The curriculum for the expanded scope of practice had to be developed as a result of the legislation. Traditionally, optometry has been founded

with a strong base in the optical and classic vision sciences, emphasizing the management of refractive error and binocular vision anomalies, requiring four years of training in optics and management of anomalies. The expansion of the curriculum to include subjects of anatomy, physiology, pharmacology and pathology, and clinical courses into an already crowded curriculum has not been easy. Vision sciences have been condensed to make room, and pressure continues to cut more from this area.

Analysis of Current Curriculum Content of Optometry

How has the traditional four-year training program in optometry been affected by the legislative redefinitions of the scope of optometric scope of practice? What are the main curricular components of these programs, and do they vary? How do the latest changes in optometry curriculum compare to a medical education and the preparation of an ophthalmologist?

While colleges and schools of optometry differ by type of credit system (either quarter or semester), the following general format can be routinely observed: The first year of training focuses on basic and clinical sciences, and the second year introduces optometric theory and methods and vision science, with laboratory training to learn the technical skills of optometry and ophthalmic dispensing.

The third year generally completes optometric training, including focused areas of practice (i.e., low vision rehabilitation of the elderly, pediatric visual training, contact lens management). Some programs introduce students to part-time training and patient interaction under supervision of optometric faculty in the school-based optometry clinic part-time in the third year. The fourth year is typically devoted to full-time training in the school-based optometry clinic with placements in the clinic's primary and special services. External placements are usually offered as well, in VA clinics and in private optometry practices. Brief curriculum descriptions for each optometry programs are attached.

Credit Hour Analysis:

Fourteen of the 15 optometry programs listed their required courses in their admissions catalogues, with descriptions and assigned credit hours. The following analysis is based on a compilation of courses by type and credit hour. Semester credits were converted to quarter credits for purposes of comparison. On average, the typical optometry program consumes 242 quarter credits, or approximately 20 quarter credits per term for 12 quarters. Minimum credits hours for graduation vary between schools, from a minimum of 222 to a maximum of 272. Schools with more credit hour requirements usually require summer session attendance in the third or fourth year, or both. The extra summer sessions are usually devoted to clinic training. The total curriculum by credit hour can be categorized as follows:

- 42% of credit hours relate to traditional optometry subjects,
- 29% of credit hours relate to supervised clinic training with students seeing patients,
- 28% of credit hours relate to subjects of basic science, disease, health care and pharmacology-subjects relevant to the expanded scope of practice.

Given that optometry programs have remained four years in length, the traditional study of optics, refractive assessment, vision processes and assessment of visual anomalies has been reduced (estimated to be 60% of the previous total) to make way for courses related to an expanded scope of practice. The curricular content areas are broken down by credit hours, averaged over 14 schools, as follows:

Credit Content Area (and sub-groups)

102.1 Traditional Optometry:

- 39.0 optics
- 33.8 visual processes, rehabilitation, vision training
- 17.5 optometric assessment procedures
- 11.8 practice management, other

70.9 Practical Clinic Training:

Primarily in the fourth year, full-time in on-campus clinic, with external placements in private optometry practices and VA clinics (some third year, part-time). Students serve an average of 2,000 patient total contact hours in clinics. No program lists a minimum number of individual patient contacts. All programs claim to encourage diversity in patient exposure, without mentioning any specific, required minimums.

38.2 Basic and Clinical Sciences (General):

- 19.8 human gross anatomy, physiology, microbiology, immunology, microchemistry, neuroanatomy
- 8.6 general pathology, systemic disease, health assessment
- 5.0 public health & epidemiology
- 4.8 general pharmacology

30.3 Basic and Clinical Sciences (Ocular):

- 9.6 ocular anatomy, physiology, microbiology, neuro-ophthalmology
- 15.9 ocular pathology, disease, assessment
- 4.8 ocular pharmacology & pharmaceutical therapeutics

Didactic distribution:

- 102.1 (60%) Traditional Optometry
- 38.2 (22%) Basic and Clinical Sciences (General)
- 30.3 (18%) Basic and Clinical Sciences (Ocular)
- 170.6 Total didactic training

The goal of the didactic curriculum is to prepare optometry students for the 4th year of supervised clinic practice, equipped with the necessary knowledge to begin the practice of optometric assessment and rehabilitation, including, to some degree, the diagnosis of ocular and some systemic conditions. The learning of therapeutic skills may be more limited, given the setting of the clinic, and the state laws governing the therapeutic scope of practice.

Do 102 credits (5 quarters) of didactic study in visual sciences and optometric methods prepare a student to begin conducting routine vision exams, and fitting patients with glasses or contact lenses? Even though the curriculum in this category has been significantly condensed, the answer is probably yes. But the scientific rationale for the reduction of the original traditional curriculum has not been addressed. It is possible that the overall quality of the traditional curriculum is declining. Do 68 credits (3 quarters) of didactic study in fundamental basic and clinical science subjects (including an average of only 5 credits of general pharmacology and 5 credits of ocular pharmacology) prepare a student to begin diagnosing ocular and other health conditions, and within the limits of therapeutic laws, correctly managing ocular therapeutics? It does not appear so, if it is compared to medicine or ophthalmology.

Comparison of Optometry to Medicine and Ophthalmology

The above analysis is a fresh look at the average optometry curriculum of the 1990's. How does optometry compare to medical school and residency training in ophthalmology? Medical school training in general and ophthalmology training in particular have been summarized before, and the basic findings will be outlined here for comparison. This comparison does not include the most recent advancements or changes in medical or ophthalmologic training. Didactic training (classroom hours):

Content	Optometry School	Medical School	Ophthalmology Residency
Basic and Clinical Sciences-General	382 hrs	2,000 hrs	**
Basic and Clinical Sciences-Ocular	303 hrs	*	360-BCSC 50-Pathology
Optometry	1,021 hrs	*	**

* some general medical education covers topics in optometry and eye care

** 8% of the Academy's 12 volume, 3,000 page Basic and Clinic Science Course (BCSC) covers an update on general medicine, and 11% covers optics, refraction, and contact lenses. Optometric assessment methods are covered in various sections of the BCSC. The BCSC is only an outline for the didactic curriculum: each residency program determines additional required readings and scholarship for content areas.

Clinic Education:

If the curriculum of optometry is as congested as described, it must be difficult to provide students with enough clinic training, especially with a sufficient volume of patient care experiences and the necessary diversity of pathologic conditions to develop diagnostic and therapeutic skills. On-campus eye clinics offering services to the public by schools and colleges of optometry have traditionally been the major source of supervised patient contact for students. Admittedly the typical optometry eye clinic patients do not present with the pathological conditions frequently enough needed for training. Previous estimates of patient

visits to optometry students that involve eye health issues other than routine eye exams, fitting of glasses or contact lenses have been only between 4% to 10%.

In response, several schools have attempted to increase student placements into settings ("externships", "outreach" sites) that can "broaden and supplement their experience in evaluating, diagnosing and treating conditions of the eye and visual system". Most external placements are in private optometry practices (some boasting of co-management experience), but some placements can be found in community health clinics, the Indian Health Service and in Military health clinics. Some programs within universities with hospitals have established placements in clinical areas, and some school-based clinics are broadening their services to include physicians offering medical and ophthalmology services. The Veterans Administration provides approximately 500 12-week, full-time training placements for 4th year optometry students at 82 academically affiliated facilities nationwide, and is the primary source for placements in health clinic settings.

Colleges and schools of optometry been expanding and promoting their eye clinics locally and establishing satellite clinics, in order to increase the volume of patient visits and the types of disease conditons presented. Such expansion can also enhance much needed revenues, but requires a huge start-up investment in facilities and staff, and threaten to take patients away from angered local optometrists in private practice.

Number of contacts with patients during O.D. training:

Upon examination of the literature and catalogue course descriptions of 14 fully accredited schools and colleges of optometry in the US, students spend an average of 2000 hours in clinics seeing patients under supervised conditions. The range of clinic hours varies widely, from a high of 2500 hours to a low of 1350. Fourth year students are assigned to internal rotations, for several weeks each, through the specialty services of the school optometry clinic. Several programs require an external rotation for a term to a VA hospital or community health clinic as well. The degree of exposure and experience of students in the clinics is highly variable, depending on the services provided, the patient mix, the strengths of the faculty of the school, and the available external resources.

The number of cases and the diversity of case mix seen by each student is difficult to determine from the catalogue descriptions. For example, the Illinois College of Optometry's Illinois Eye Institute reports over 70,000 visits per year. The IEI offers the following services: primary care (refractions, prescriptions, screenings), binocular vision/pediatric, low vision, cornea and contact lens, sports vision, and the center for advanced ophthalmic care. ICO has a large student body and approximately 130 fourth year students. Assuming that most services are provided by the students, and that one-quarter of the students are gone on an external placement during any quarter, there are approximately 100 students available to the clinic to handle the 1300 average weekly visits at the IEI (13 visits per student per week). External placements may require more clinic hours and offer more patient exposures per week.

Given the average of 2,000 clinic hours per graduate, it is unlikely that any optometry student will participate in more than 2,000 patient visits (1 patient per hour) altogether.

Draft 4/26/94

Given the variation in individual school requirements, assignments, required hours and clinic traffic, it is more likely to be half that many, on average. Historically, on-campus optometry clinics have attracted cases with refractive error only, in need of glasses or contact lenses. Less than 10% of the cases presented with other significant eye or health conditions. It is likely that 90%+ of the patients optometry students see will be healthy (other than refractive error), giving them little opportunity to develop diagnostic or clinical skills.

Clinic Hour Comparison to Medicine and Ophthalmology

Clinic training in optometry is significantly less than found in medicine and ophthalmology. The last two years of medical school emphasize clinic rotations in hospital and clinic services. On average, medical students spend 50 weeks (2,000 hours) in basic medical specialties, with an additional 30 weeks (1,200) in elective rotations. One-year, post-graduate primary care internships are required in hospitals in preparation for becoming a licensed physician (60 to 80 hours a week for 50 weeks = 3,000-4,000 hours). Internships provide intensive exposure to unhealthy patients.

Ophthalmology residencies must meet national accreditation standards that specify minimum patient contacts and surgical procedures. They must last at least 36 months (duty hours must be limited to 80 hours per week/150 weeks maximum: an average of 60 hours a week for 150 weeks equals approximately 3,000 clinic hours). Ophthalmology residents must conduct at least 3,000 patient examinations (with at least 1,500 refractions), and perform a minimum number of surgical procedures. Many ophthalmology programs are reported to exceed these minimums.

Analysis of Listed Faculty

Optometric educational authorities admit that there is a shortage of faculty trained and experienced to meet the needs of the new optometric education. A review of 15 recent catalogs and bulletins of accredited optometry programs in the United States was conducted to determine the mix of the listed faculty. In general, the full-time academic faculty of optometric educational institutions are dominated by Doctors of Optometry (86%). The O.D.s are supported primarily by Ph.D. faculty from specific scientific disciplines (13%), with little or no involvement by Doctors of Medicine on the full-time staff (only 2%-which includes no ophthalmologists).

Most of the part-time clinic, adjunct or consulting faculty are O.D.s as well (85%). Non-ophthalmologist M.D.s make up 3%, while a growing number of ophthalmologists make up 7%. In 1991, 40 Ophthalmologists were identified in 12 of 15 programs. Today, 64 ophthalmologists were identified in 15 programs, an increase of 60% in the past two years. For example, the State University of New York increased from 9 ophthalmologists listed to 25. The Hahnemann University Department of Ophthalmology is affiliated with the Pennsylvania College of Optometry and the PCO Eye Institute, and lists 9 ophthalmologists.

Students:

The drop in numbers of college graduates in general is related to the decreasing number of

18 year olds in the population. The number of 18 year-olds in the population is bottoming out now and will increase in the future (the babies of the baby boomers). But fewer undergraduates now continues to mean fewer professional school applications. Colleges and schools of optometry experienced large drops in admission applications throughout the late 80's. In order to keep enrollments from dropping, schools accepted less talented applicants for admission. Educational authorities in optometry admit that in many cases, students of lesser ability have been admitted to maintain student enrollment, because fewer students meant fewer dollars. Yet the accrediting body for optometry, the AOA Council on Education (COE), responding to the basic science needs of optometric education under the expanded scope of practice, has recently increased the admission requirements for accredited programs by adding more prerequisite courses in basic sciences. Given these higher standards, programs worry about their ability to attract talented applicants with the proper background, especially minority applicants.

Finance:

Schools and colleges of optometry are experiencing financial strains. Older schools are completely private, and are supported primarily by tuition and fees. Newer programs are affiliated with state-supported universities, and are subsidized by the university and state (for students meeting residency requirements).

Optometric training is expensive, and students graduating from schools and colleges of optometry face high levels of indebtedness. Four years of tuition and fees average \$66,000 for private schools, and \$56,000 (non-resident) / \$25,000 (resident) students at a state university. Optometry as a profession is said to pay well, but entry-level salaries are not high and debts are not quickly paid off (\$41,000 first year, \$53,000 by fifth year, \$66,000 by eighth year). In addition, it costs between \$75,000-100,000 to start-up a private practice.

On the revenue side of optometry training programs, subsidies for state university programs have been affected by state and federal cutbacks, causing painful tuition increases. On the expense side, the expanded scope of practice has forced programs to hire more staff, expand facilities and purchase new equipment. Colleges and schools of optometry were in a position to benefit numerically (thus financially) from the influx of the "Baby Boom" generation, but have had difficulties adjusting the post baby boom "bust" that followed.

VA Training:

The following discussion amplifies the opportunities created by the Veterans Health Administration for the entrance of optometry in primary care settings.

The Veterans Health Administration (VHA) is mandated and funded by the US Congress to provide medical care for the nation's veterans, to provide education for the health professions, and to enhance patient outcomes through clinic research. The VHA administers the world's largest comprehensive health care system for the nation's 27 million veterans. Operating 172 medical centers and 700 outpatient clinics and health care facilities on a budget of over \$13 billion, the VHA treats 1.1 million inpatients and records over 23 million outpatient visits annually.

Prior to 1974, virtually all vision care in the VA was provided through the ophthalmology service by staff ophthalmologists and residents-in-training. In 1974, only 8 optometrists were employed in the entire VA system. The growing health care needs of the aging WWII generation of veterans led to the expansion of the VA medical services, including optometry. A VA Director of Optometry was established in 1974, and a separate Optometry Service was established in 1976. Resistance by ophthalmology services and low civil service pay scales limited the growth of the optometry service. Expansion was encouraged by the General Accounting Office in 1978, and combined with a reclassification of the pay scale, the number of optometrists in the VA system jumped to 70 by 1980.

Straining under the decline of federal funds throughout the 1980s, the increasing patient loads, and the costs of providing eye care by physicians alone, the VA apparently looked to optometry as the means to stretch the federal dollar. Currently the VA employs 220 (151 FTEE) optometrists.

In a VA medical center, the Chief of Optometry reports to the Chief of Surgery, on an level equal to Ophthalmology Section Chief. The result of this structure is that the optometry service does not report to the ophthalmology service; they have a common non-ophthalmologist physician supervisor. Surgery chiefs hold greater authority and therefore have been ultimately responsible for promoting the model of co-management and cooperation between ophthalmologists and optometrists.

The VA as a federal system authorizes clinic privileges governed solely on individual credentials, not state law or prior constraints. Once credentialed, an optometrist practices under the watchful eyes of the local quality assurance committee, not the ophthalmology service. The VA system provides staff optometrists with access to the entire health care team, patient medical history and medical records, laboratory and pharmacy services.

Educationally, the VA provides 3-month, full-time rotations for 500 4th year optometry students, and 53 one-year optometry resident positions (from 34 residency programs) at 82 academically affiliated facilities. The VA system provides for about half of all student and resident training in optometry nationwide.

Post-Graduate Residencies:

Post-graduate clinic training in optometry, or "residencies" are few in number, but have been growing slowly since 1975. Optometric "residencies" have evolved to continue educationally approved, supervised clinic training. Some critics within optometry say that O.D. graduates are not as prepared as they should be for the expanded scope of practice under the current educational system, and fear that students are not being trained well enough for "expanded" practice, while, at the same time, getting less training in the traditional vision sciences. To meet the need for more training, a fifth year of postgraduate residency training has been encouraged for all graduates.

But the marketplace for optometric residencies seems to suffer from both a lack of supply and demand. Residencies are expensive to provide, low-paying, voluntary, and involve only between 5% and 10% of graduates. On average, there are approximately 1,000 graduating

O.D.s each year, but only approximately 85 residency positions in 56 locations. An optometric resident receives a small stipend (approx. \$20,000) for a year's services in an clinic under an accredited supervisor. The AOA Council on Education accredits residency programs separately from the O.D. program. The residency must meet certain COE requirements, and programs must make a considerable investment to provide for just a few positions.

An optometry residency is not a requirement for any type of practice; optometry has no formal specializations, and an optometry residency can be creatively designed for one of many purposes. Of the optometric residencies described in the optometric literature, the most frequently described were:

- 39% hospital-based (all VA)
- 13% "ocular disease" oriented
- 16% traditional optometry (vision therapy, rehabilitative optometry, contact lens care)
- 32% "specialty" areas (a combination family-practice, primary care, geriatric and pediatric)

Residencies are primarily found in the VA (approx 50%) followed by school-based clinics (40%), with the remainder found in private optometry clinics and a few "co-management" sites. Without the expansion of clinic training for optometry by the VA in the previous decade, the growth of residency programs would have been much slower.

There are three classifications of residency training programs within the VA: Hospital-based, rehabilitative, and geriatric. Most of the residency training programs are hospital-based (70%). In 1986, it was reported that residents spend 86% of their time in direct patient care and conduct an average of 41 examinations a week in a VA program. At that rate, a typical VA optometry resident would examine a maximum of approximately 2,000 patients during the one-year residency period.

A Required Post-Graduate Residency?

Some leaders in optometry feel that a fifth year of clinic training is needed for all graduates, would raise the competence level of the profession, and would mimic the approach to graduate medical education. A fifth year could allow optometry schools to expand the curriculum in the basic and clinical science areas.

Other leaders in optometric education prevailed at the Georgetown summit, which concluded that, while a residency would improve the competency of the graduate, they should remain voluntary, and that the "four year optometric education is definitely adequate for entry-level competence", and that the schools, colleges and state boards should NOT require residencies for entry-level optometrists. They feel that the addition of a fifth year residency would delay the professional start and increase the already high indebtedness level, and discourage admission in the first place. The cultivation of several hundred more supervised positions (from 85 to 1,000!) would be very difficult to achieve. Additionally, leaders in optometry fear that residencies will increase specialized practice interests leading to a push for therapeutic "specializations" in optometry. This would diminish the profession's self-image as primary health providers.

Update on National Board Testing and Licensure:

Optometry is a limited-license profession, regulated by state laws. In order to practice, optometrists must be licensed by the state in which they wish to practice. States establish Boards of Optometry to determine licensing requirements, which can vary by state according to differences in laws and board rules. All state boards require candidates to be graduates of an accredited optometric degree program, and to pass examinations developed by the board, written and/or practical.

Most state boards have ceased developing their own proficiency tests, and instead use the nationally administered examinations of the National Board of Examiners in Optometry (NBEO), an independent organization. The NBEO is dedicated to the development of competency evaluation, the administration of an objective written test, and the determination of minimum "passing" score for candidates (8). The National Board first developed a national examination system in 1951, in cooperation with the optometry schools and colleges.

Because the National Board's tests are used by most states, they are the main tests used to regulate entry into the profession, and must be rigorous enough to withstand legal challenge. The NBEO has statistically established the reliability and validity of the National Board tests. State boards who choose to accept the results of NBEO tests are relieved of that difficult and expensive responsibility. The national board tests are based on broad consensus (within optometry) concerning descriptions and expectations of a minimum "entry level competence" level. "Entry-level competence" is a dynamic, changing concept, but in the opinion of the NBEO, it is best defined and measured by their tests.

While the NBEO does not regulate optometry education, the content outline used by the National Board suggests a template for an ideal optometry curriculum. The National Board test is said by the NBEO to be based on the annual work of hundreds of practitioners and academics, who reach a consensus on the appropriate knowledge and skills needed to enter into practice. Each exam is based on a curriculum content developed by committees of the National Board. The content is based on the expected "entry-level" knowledge and skills, and questions are developed to assess the "minimum achievement" needed for entry-level practice. Since 1981, NBEO has used a "criterion-referenced" technique for determining the passing score, using teams of experts grouped together on committees for the various subjects to determine minimal competency (or passing) levels for the exam (9).

Comprehensive exams for basic science and clinical science were developed in 1987, replacing a testing system which previously consisted of nine smaller section exams. The exam is taken by practitioners who have not already passed in the second and third professional years. The exam is administered twice each year at schools and colleges of optometry during the student's academic career, usually beginning at the end of the second year of training. Ten of fifteen schools surveyed require completion of the National Board test for graduation (10). The scope of the basic and clinic sciences exams has increased. Below is shown the and distributions of questions in 1987-1992 and 1993:

Draft 4/26/94

Part I, Basic Science:	87/92	1993
Human biology	70	195
Ocular/visual biology	84	90
Theoretical, ophthalmic & physiological optics	125	125
Psychology	21	25
Total:	300	435

Part II, Clinical Science:

Systemic conditions	32	70
Ocular disease/trauma	114	165
Refractive/oculomotor/sensory integrative conditions	125	125
Perceptual conditions	27	33
Public health	15	15
Clinicolegal issues	12	12
Total:	325	420

Both of the above tests are lengthy, appear to be very broad in scope, and probably take two days to complete. Today the testing consists of three parts: Part I "Basic Science", Part II "Clinical Science" and Part III "Patient Care".

The emphasis has clearly changed for 1993: In the basic science test, the human biology section has been greatly increased, with everything else remaining the same. In the clinical science test, the number of questions about systemic conditions and ocular disease/trauma have greatly increased, with everything else remaining the same. Also beginning in 1993 was Part III, Patient care examination, aimed at assessing the skills of examinees on Patient Management Problems (test data not revealed).

The National Board test is offered twice each year at schools and colleges of optometry during the student's academic career, usually beginning at the end of the second year of training. In April 1991, 1,056 students and candidates took the basic science exam, and 929 took the clinic science exam. 37.8% of the examinees failed the basic science exam, and 9.4% failed the clinic science exam. The items, grouped and ranked, are distributed as follows:

320 (37%)	Traditional optometry (Refractive/oculomotor/sensory integrative conditions, Theoretical, ophthalmic & physiological optics, Perceptual conditions, Psychology, Clinicolegal issues)
280 (33%)	Basic and Clinical Sciences-General (Human biology, Systemic conditions, Public health)
255 (30%)	Basic and Clinical Sciences-Eye Care (Ocular/visual biology, Ocular disease/trauma)

Didactic course content credits from optometry school curriculum are grouped and ranked as follows:

102 (60%)	Traditional Optometry credits
38 (22%)	General Basic Sciences credits
30 (18%)	Eye Care Basic Sciences credits
170	Total didactic training credits

Comparing the two lists above, the National Board test aims two-thirds of the items at content areas related to the basic sciences supporting the expanded scope of practice, while only 40% of the credit hours in the didactic curriculum covers the same general content. The NBEO, through its selection of items, may be attempting to "pull" the curricula toward the subjects related to the expanded scope of practice, especially because the state Boards of Optometry require the passing of the National Board test as a condition of licensure.

The National Board test, especially the basic sciences section, has been difficult for students to pass. The Review of Optometry has published articles and letters in recent years about the controversial high failure rate (approx. 50%) of students, usually first-time test takers, especially on the basic sciences part, and a high variation of failure between schools. Most optometry education programs require taking and passing the National Boards as a graduation requirement.

As described above, most states use the NBEO National Board tests for part or all of the written test requirements. Most states that regulate and allow the use of therapeutic pharmaceuticals, as well as some non-therapeutic states, require successful completion of an examination entitled, "Treatment and Management of Ocular Disease (TMOD)". The TMOD was developed by the NBEO for the International Association of Boards of Examiners in Optometry (IAB), an independent, non-profit organization established for the purpose of improvement of the standards of the profession and improvement in the services of state regulatory licensing agencies (7). State boards cooperate and support one another through membership in the IAB. This exam is purported to measure entry-level competence of optometrists in the use of pharmaceuticals. In April 1993, 899 USA candidates took the TMOD, with a failure rate of 15%. Each state reserves the right to examine candidates on the practical and/or clinical aspects of the profession.

With the support of the IAB and NBEO, state boards are able to further develop practical/clinical skills examinations as a part of the licensing process as well. A practical exam is used in many states. The IAB has developed a model examination distributed in the Manual for the Assessment of Entry-Level Clinic Skills in Optometry. It includes a series of 35 tests and a procedure to follow in order to set the "criticality" (expected passing) levels for each objective.

The efforts toward optometry competency assessment, as described, suggest a considerable investment in competency testing. The general problems related to psychometric testing, passing scores, criterion-referencing, etc., which apply to all certifying groups, appear to have been seriously addressed by optometry state boards, NBEO, IAB, etc. Neither the test statistics, item analysis statistics, nor the history of the development of the test have been

published, and the true merits of the testing process are unknown. For security reasons that could compromise the test itself, and assurances of confidentiality, specifics of such examinations are not usually available for scrutiny.

Accreditation:

In the United States, public authority in education is constitutionally reserved to the states. The system of voluntary non-governmental evaluation, called accreditation, has evolved to promote both regional and national approaches to determination of educational quality. Accrediting bodies have come to be viewed as quasi-public entities with broad responsibilities to the many constituencies of the educational community. The **Council On Postsecondary Accreditation (COPA)**, was formed to be the national coordinating organization designed to foster and facilitate accrediting organizations in the United States. COPA states that it is a "non-governmental, non-profit association established to review, evaluate and publicly designate, through a recognition process, reputable and responsible accrediting bodies, to coordinate their accrediting activities, and to re-evaluate the bodies periodically to help insure that they maintain acceptable levels of performance" (2).

The COPA plays a national leadership role in accreditation, and controls how accreditation is conducted. An institution, or a specialized program, seeking accreditation from the COPA recognized accrediting body must provide a written **self-study report** that measures progress according to previously accepted objectives. The objectives must be the stated objectives of the institution or program. Accrediting bodies may establish standards which must be addressed in the objectives and outcomes of the applicant. The self-study is followed by an evaluation site visit from representatives (chosen experts) of the accrediting body who evaluate the institution or program and prepare a **site visit evaluation report**. The institution or program prepares a written response to the site-visit, and all reports are reviewed by an accreditation commission for action.

The COPA provides two types of accreditation recognition: institutional and specialized. The COPA recognizes institutional accrediting bodies who collectively serve most chartered or licensed institutions of higher learning in the United States. These groups accredit total operating units only. The COPA also recognizes specialized accrediting bodies of professional and occupational groups set up by national professional organizations in such fields as business, dentistry, engineering, law, and numerous health care groups. The Commission on Institutions of Higher Education, offers institutional accreditation through one of its COPA recognized regional "Association of Colleges and Secondary Schools", to assure the public of high quality institutional support for educational degree programs and educational administration (1a, 1b, 1c).

The American Optometric Association's (AOA) Council on Optometric Education (COE) is recognized by the COPA as the accrediting body for specialized programs of optometry. Schools and colleges of optometry can therefore hold both institutional accreditation (from the regional "Association of Colleges and Secondary Schools"), and specialized accreditation (from COE). In addition, COE accredits postgraduate residency programs of the schools and colleges of optometry.

Draft 4/26/94

The COE (like most other accrediting bodies) is also recognized by the **United States Department of Education (USDE), Office of Postsecondary Educational Accreditation**, in connection with its statutory duty to determine institutional eligibility for federal funds (3a, 3b). The USDE has been verifying institutions since the establishment of the GI Bill, and evaluates, recognizes and reviews accrediting bodies to ensure that they are reliable indicators of the quality of programs offered by the accredited institutions. In general, Department of Education recognition of COE makes accredited optometry programs eligible for federal funds, such as federal college work study, federal student financial aid, research funds, funds for equipment and facilities (if available), etc.

Optometry schools can secure program or curriculum "approval" from other sources, such as the Department of Education of the home state of the program or institutions (which may be necessary for state support) (4). Also, the Office of Private Postsecondary Education for the United States Veterans Administration and/or various state Department of Veteran Affairs, approve programs of veterans' education and eligibility for VA education benefits (5).

Optometry schools are also recognized by the Association of Schools and Colleges of Optometry (ASCO) as members. The mission of the ASCO is to assist member institutions in the promotion of optometric education and preparation of students for the practice of optometry. Among other activities, the ASCO runs the Optometric Admission Testing Program (OAT), a standardized normative test designed to measure knowledge required for admission. The OAT exam measures knowledge of:

- biology (40 items),
- general chemistry (30 items),
- organic chemistry (30 items),
- physics (40 items),
- reading comprehension (3 passages, 50 items), and
- quantitative reasoning (no item count given).

OAT scores are used, among other criteria, for determining admission to optometry programs (6). The raw OAT scores are converted into a distribution ranging from 200 to 400, with a mean of 300 and a standard deviation of 60. The average OAT score of the entering optometry class across schools is 324, meaning that most students selected are above average for all applicants taking the OAT exam (5b).

In optometry, COE "entry-level competence" has been the expected goal for the accredited programs, but each program was free to uniquely define the outcomes and curriculum it provided. In 1992, the COE adopted apparently "clearer" standards for accreditation, requiring programs to be more explicit concerning intentions, processes and outcomes. The accreditation review now more clearly addresses COE standards, but COE admits that "the standards are still broad enough that they shouldn't stifle academic innovation" (6b).

In 1991 the COE strengthened the pre-optometry admission requirements, requiring a minimum of three years of undergraduate study in disciplines and subjects that, according to James Boucher OD, chair of COE, is "almost identical to pre-medical students". The three year requirement (previously two years minimum) was designed so that optometry schools

Draft 4/26/94

could compete with medical schools recruiting top undergraduates who complete pre-med requirements in their first three years (6b). The typical undergraduate pre-optometry admission course requirements include:

First year: general chemistry, algebra, trigonometry, biology;

Second year: organic chemistry, microbiology/bacteriology, physics, psychology, calculus;

Third year: physics, biochemistry, anatomy.

The subjects required are general, and nowhere is it stated that they must be taken in a "pre-medical" track of undergraduate preparation. Any claim to pre-medical equivalency is on the basis of general subject headings, not specific course content. Departments of chemistry, biology, etc., typically offer pre-med sections of courses designed to meet the needs of medical training, and optometry candidates are not required to qualify or enroll in the pre-medical track.

Summary and Implications:

Optometric programs have expanded their curricular offerings to address the needs of the expanded scope of practice. Additional didactic course work in basic and clinical science subjects, both general and ocular-oriented, have been added in recent years in all programs. Sixty percent of the didactic training on average remains traditional, without a scientific rationale for the reduction.

The clinic training has not been significantly expanded (one year), and primarily trains optometry students for refractive and visual assessment, dispensing and visual training therapies. On-campus optometry clinics typically attract patients in need of vision care, and who do not present with many disease conditions important for clinical training for diagnostics or therapeutics. In response, various programs require off-campus, external placements in health care settings, especially in the VA.

The continuing efforts of to expand the scope of practice could be jeopardized by the legislation's forcing optometric education into fiscal crisis that prevents expansion of training. Is it possible for the system of optometric education to adequately meet the requirements of the optometric scope of work as defined by legislation?

Optometric organizations continue to make the investment to improve the credentials that they present to the public, narrowing the gap the public may perceive between ophthalmology and optometry, and reinforce their scope of practice positions in state legislatures. The COE has raised pre-optometry admission requirements to move closer in appearances to pre-medical requirements. The previous educational accreditation standards and expected outcomes of the COE were admittedly unclear, and they have been strengthened (but remain "flexible"). The NBEO, through its criterion-referenced testing technique, is defining and measuring the attributes of entry-level competence "nationally", and the testing has grown in basic science, clinic science and now patient care management. The IAB is further promoting the testing of therapeutic skills (the TMOD exam), which can bolster the confidence of state boards of optometry to claim that they can assess skills and regulate the expanded scope of practice.

These national groups (in particular COE, NBEO, IAB) are making serious efforts to better define, promote and measure training and entry-level competence, seeking to add validity to the claims justifying the expanded scope of practice. Point-by-point comparisons may be necessary to expose the differences in competence and counter these claims.

Optometry programs attempt to assure the public that their COPA approved accreditation for training is comparable to many other accredited professional programs and institutions, even medical schools. The COE is free, as are all accrediting bodies, to establish and impose national minimums and standards for educational outcomes, but they have not done so. Programs that are accredited are judged to deliver the education they say they will deliver. The COPA policies encourage freedom for accrediting bodies and applicant programs to accomplish their missions in their own way, according to their self-defined needs of the profession. Minimum national standards and outcomes might be difficult for many of the schools to achieve, but the public deserves to know that graduates of accredited schools have achieved educational outcomes.

The expanding scope of practice in optometry has been likened by some to a "big bang"--ever increasing. However, the educational programs are a collection of various sized "balloons", stretched, finite, limited in resources. Legislation for practice does not automatically or necessarily expand education. Other forces control the educational process, and if education cannot expand, neither can the scope of practice, however legislated.

There is a great need to evaluate the content and quality of the curriculum and training of optometry more rigorously, especially the training related to the expanded scope of practice. Additionally, the need exists to evaluate the competence of nonphysician providers by means other than their own examining groups. The examining groups are advancing the scope of practice based on their ability to define competence, measure it, and establish the licensure requirements of their own profession.

SEP 12 1994

Kansas Optometric Association

1266 SW Topeka Blvd., Topeka, KS 66612
913-232-0225

September 8, 1994

Samuel B.K. Chang, Director
Legislative Reference Bureau
State of Hawaii
State Capitol
Honolulu, Hawaii 96813

Dear Mr. Chang:

I am sorry for the long delay in responding to your request. Between vacation and meetings, I haven't had an opportunity to respond sooner to your questions.

QUESTION 1 - The Kansas Optometric Association is an advocate for legislation authorizing optometrists to use TPAs. TPA usage is consistent with the training and education received by optometrists. It is also necessary to provide complete primary eye care.

QUESTION 2 - Since 1987, Kansas citizens have experienced a positive experience with TPA usage by ODs. Prior to 1987, I had visited with recent graduates of optometry school who were frustrated that state law prevented them from practicing to the full extent of their training. It was hard to explain why when they wanted to enter private practice they couldn't use the same scope of practice they had experienced on a military base. TPA usage by optometrists has become the standard of care to assure the public they are receiving quality vision care. In fact, dentists were impressed that optometrists had more hours of training in pharmacology than dentists received. Yet Kansas dentists were able to administer and utilize a broad range of drugs.

QUESTION 3 - It has allowed us to compete more effectively with other states for new graduates from optometry school. We are still at a disadvantage with states who allow treatment of glaucoma and use of oral drugs by optometrists. It has allowed optometrists to treat a wide variety of routine vision problems without having to refer to another practitioner.

QUESTION 4 - TPA legislation has had a positive impact on controlling the cost of eye care for Kansas citizens. Attached is an article published in our Journal entitled, "The Impact of the Use by Kansas Optometrists of Therapeutic Pharmaceutical Agents." While the actual number of dollars saved by Kansas citizens was much greater than the study indicates, it illustrates the cost benefits to the public. We believe the impact in metro areas may have been dramatic as well but it was difficult to document. Generally, Kansas ODs will charge between \$40 to \$80 to remove a foreign body from the eye depending on the amount of time required. The average cost of an emergency room visit in 1987 was \$100-150 to even walk in the door plus the cost of services. We heard of patients who had seen their family physician to remove a foreign body, then went to the emergency room without success, but at an expense of over \$300. As a last resort, they saw their optometrist who completed removing the foreign body. In



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American Optometric Association

Samuel B.K. Chang, Director
September 8, 1994
Page Two

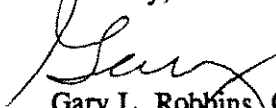
addition to the discomfort, the cost was exhorbitant for a procedure which should have cost \$50-75 initially. While the time required to travel long distances doesn't occur in metro areas, the amount of time lost from work to wait in an emergency room or the subsequent referral to a specialist is still significant. The cost to see a specialist is significantly more. The optometrist is also in a unique situation to refer a patient with a specific injury or need to the appropriate sub-specialist which emergency room MDs may not be able to do.

We have heard positive comments from BC/BS about the benefits of ODs handling primary eye care. National studies have shown that ODs are more cost-effective in providing services to Medicare patients.

QUESTION 5 - Since the passage of our law, the Kansas State Board of Examiners in Optometry hasn't received a consumer complaint about the misuse of TPAs by an optometrist. The only other statistical data is contained in the survey referenced above.

Thank you for the opportunity to share our thoughts on this issue.

Sincerely,



Gary L. Robbins, CAE
Executive Director

GLR/DAC

Enclosures

The Impact Of The Use By Kansas Optometrists Of Therapeutic Pharmaceutical Agents

By Stacy Fitch, O.D.

ABSTRACT: From July 15, 1987 through December 31, 1988, the Kansas Optometric Association collected information from Kansas optometrists regarding the number of diagnostic cases seen, their respective therapies, and the number of miles saved. This paper attempts to show the impact of the Kansas therapeutics law on optometrists and their patients.

INTRODUCTION

April 17, 1987 was just a typical day for most of us. But, for Kansas optometrists, it was a milestone. On that day, Kansas became the 17th state to pass a therapeutic law, which has greatly expanded the practice of optometry in Kansas.

The Kansas Optometric Association (KOA) conducted a study for the first year and a half after implementation of this law which asked KOA members to voluntarily keep track of all diagnoses made, therapies, the number of therapeutic encounters, the miles saved, and the referrals made to other doctors. This information was returned to the Kansas Optometric Association.

The Kansas therapeutics law for optometry includes the administering and dispensing of topical pharmaceutical drugs, as well as, the removal of superficial foreign bodies from the cornea and conjunctiva. Any anti-inflammatory agents administered are limited to a 14-day supply and may only be used topically.

RESULTS

Forty-three offices representing 47 optometrists responded to the study. This represents 23% of the 203 optometrists initially certified at SBEO to use therapeutics. Therefore, the results of this study will significantly understate the actual impact. Overall, the total mileage saved by the patients treated by optometrists during the 1½ year period is over 128,000 miles. This represents a major savings of time and out-of-pocket travel expenses for patients.

In Table 1, 23 major diagnoses are listed, with the number of cases of each per month, dating from July 1987 through December 1988. The cases that were referred to another doctor are not included in the table. Two cases of scleritis treated by rural optometrists are not included in the table. A case of scleral melt secondary to cataract surgery is not listed in the table, but is included in the study. This case was co-managed by an optometrist and a surgeon. This case alone saved the patient 1600 miles, encompassing all trips made to the optometrist.

The percentage of cases seen by optometrists practicing in cities versus those practicing in rural areas is considered in Table 2.

Table 3 shows the percentage of cases per month.

DISCUSSION

In Table 2, the greatest percentage of cases were seen by rural optometrists. It would seem that patients are turning to optometrists for their primary eye care in rural areas because of greater convenience. However, it is difficult to draw concrete conclusions in this regard because the majority of optometrists responding to this study are optometrists practicing in rural areas. It may be reasonable to assume that urban optometrists didn't respond because the miles saved would not be great. However, a higher urban OD's response would have reflected significant cost savings over emergency room visits.

In Table 3, the greatest percentage of cases seen per month occurs approximately one year after the implementation of the therapeutics law. There could be several reasons for this. The patients may be more aware of what optometrists can treat now than when the law first passed. Optometrists may also be more confident in treating more sophisticated ocular maladies. Also, as found in the study, optometrists are receiving more referrals from hospitals and general physicians.

CONCLUSION

Prior to April 17, 1987, none of the cases in this study would have been handled by optometrists because the Kansas optometry laws did not allow it.

The mileage saved by the patients became very important in rural areas, which have an optometrist available, but not an ophthalmologist. Since Kansas is largely a rural state, patients are benefiting from the revised optometry laws in time saved, money saved, elimination of unnecessary referrals, as well as improved health care.

ACKNOWLEDGEMENTS

Thanks to Michael P. Malone, O.D. for his assistance in the study and for the use of his optometric office to compile the information, the KOA for supplying the material to write this paper, and the many optometrists who participated in this study.

REFERENCE

Kansas Optometry Laws, 65-1501, 65-1501a.

Table 1: Number of Cases Treated per Month

Date	Bacterial Conjunctivitis	Allergic/Vernal Conjunctivitis	Foreign body removal	Blepharitis/ Meibomitis	Hordeolum/ Chalazion	GPC	Dry Eye	Viral Conjunctivitis	Contact Dermatitis	Chemical/ Thermal Burn	Subconjunctival Hemorrhage	EMBD/Corneal Dystrophy	Nasolacrimal Duct Blockage	Abrasion	Erosion	Blunt Trauma	Uveitis	Herpes Simplex	Herpes Zoster	Keratitis	Episcleritis	Trichiasis	Ulcer
7/87	4	1	3	1	0	0	2	0	0	0	0	2	0	4	1	0	0	0	0	1	0	0	0
8/87	9	8	13	7	0	1	0	0	0	1	3	1	0	12	1	1	0	0	0	6	1	0	0
9/87	12	16	21	9	0	4	2	2	2	2	0	0	1	9	1	2	3	0	0	2	0	0	0
10/87	14	11	28	19	5	12	1	4	1	2	2	2	0	14	1	1	0	2	0	10	0	1	1
11/87	18	12	33	24	9	4	3	2	0	3	2	3	0	16	5	1	3	0	0	18	7	0	0
12/87	19	13	23	27	5	5	2	3	1	4	1	2	0	14	5	1	4	0	1	12	0	3	1
1/88	13	12	18	23	4	5	4	2	0	3	1	2	0	21	1	0	1	1	0	12	1	0	2
2/88	3	18	14	19	4	7	4	1	1	2	2	1	0	4	3	0	0	0	0	3	3	1	0
3/88	19	16	15	19	0	5	8	1	0	4	2	1	2	11	1	1	2	0	0	4	1	0	0
4/88	11	9	30	21	6	10	4	1	0	2	2	3	0	10	2	1	4	0	0	11	2	3	3
5/88	11	30	40	20	6	12	11	1	0	2	0	1	0	16	0	2	4	0	0	12	1	3	1
6/88	23	28	35	10	0	10	8	3	0	4	3	0	0	10	0	0	5	3	0	11	2	2	1
7/88	8	18	31	16	2	5	4	1	0	1	0	1	0	5	2	0	3	1	0	10	1	4	0
8/88	21	43	33	12	10	3	1	0	0	2	3	0	1	12	2	0	4	1	1	9	2	1	5
9/88	9	18	17	6	2	1	0	0	0	4	6	1	0	9	1	0	3	0	1	3	1	0	0
10/88	16	14	11	7	1	3	2	2	1	0	1	0	0	8	2	0	0	2	0	6	1	1	1
11/88	25	5	16	13	1	1	2	0	0	1	2	1	2	10	0	0	4	1	2	4	1	1	1
12/88	18	4	9	6	2	1	4	1	0	0	2	0	0	8	2	0	2	0	0	3	1	1	0
Total cases	253	276	390	259	57	89	62	24	6	37	32	21	6	193	30	10	42	11	5	137	25	21	16

Table 2: Percentage of Cases

	City	vs. Rural
Bacterial Conjunctivitis	7.5	92.5
Allergic/Vernal Conjunctivitis	7.2	92.8
Foreign Body Removal	2.3	97.7
Blepharitis/Meibomitis	21.5	78.5
Hordeolum/Chalazion	19.3	80.7
GPC	13.6	86.4
Dry Eye	38.7	61.3
Viral* Conjunctivitis	25	75
Contact Dermatitis	16.7	83.3
Chemical/Thermal Burn	5.4	94.6
Subconjunctival Hemorrhage	6.2	93.8
EMBD/Corneal Dystrophy	11.1	88.9
Nasolacrimal Duct Blockage	0	100
Abrasion	13	87
Erosion	10	90
Blunt Trauma	20	80
Uveitis	7.1	92.9
Herpes Simplex	0	100
Herpes Zoster	0	100
Keratitis	18.2	81.8
Episcleritis	16	84
Trichiasis	23.8	76.2
Ulcer	6.7	93.3

Table 3: Percentage of Cases per Month

7/87	0.9
8/87	3.2
9/87	4.4
10/87	6.5
11/87	8.1
12/87	7.3
1/88	6.3
2/88	4.5
3/88	5.6
4/88	6.7
5/88	8.6
6/88	7.9
7/88	5.6
8/88	8.3
9/88	4.1
10/88	3.9
11/88	4.6
12/88	3.2

SEP 29 1994

WASHINGTON ASSOCIATION OF OPTOMETRIC PHYSICIANS



Affiliated with
American Optometric Association

September 26, 1994

Samuel B.K. Chang, Director
Legislative Reference Bureau
State of Hawaii
State Capitol
Honolulu, HI 96813

Dear Mr. Chang:

This letter is in response to your letter to Ms. Judy Balzer, Administrative Director, Washington Association of Optometric Physicians (WAOP). The WAOP strongly supports the use of Therapeutic Pharmaceutical Agents (TPA's) by duly trained and licensed optometric physicians. Patients are offered a higher level of service than had been previously available in a cost-effective manner.

It has been the experience of this association that the use of TPA's has been instrumental in allowing access to care for those in our state who live some distance away from other treatment facilities. We also have seen a shift toward co-management with ophthalmology, conditions such as cataract, glaucoma and retinal abnormalities. With optometric services provided at the level currently taught in all optometry schools, patients receive vision and eye health services from their family eye doctor with whom a relationship and level of comfort have already been established.

The cost of eyecare in Washington has increased below the rate of inflation. We believe this is in part due to the increased access to eyecare professionals resulting in increased competition in the marketplace.

Our association's Peer Review Committee and Legal Committee have not been required to address a single case of misuse of TPA's by a member doctor in the five years since the passage of enabling legislation in 1989. Notably, the use of TPA's by optometric physicians has had no effect on malpractice claims in our state. Malpractice premiums in our state have actually remained stable since 1989 (Source: State Farm Insurance).

555 116th Avenue NE, Suite 166
Bellevue, Washington 98004-5274

(206) 455-0874
FAX 646-9646

Samuel Chang
September 26, 1994
Page 2

In summary, our membership of approximately 450 doctors of optometry has a proven track record of safe and cost effective use of TPA's for over five years. We encourage the legislature in Hawaii to allow optometric physicians to practice as they have been trained and allow the citizens of Hawaii access to these benefits. If we can provide additional information or further assistance, please contact our Administrative Director, Judy Balzer, at (206) 455-0874.

Sincerely,

Milt Herman, O.D.
J.B.

Milt Herman, O.D.
President

Appendix I

RAGOLIA & COMPANY
Insurance Brokers

November 24 1982

Honorable George J. Ottowski
Assembly Corrections, Health & Human
Services Committee
c/o Mr. John D. Kohler,
Committee Aid
State House
Trenton, NJ 08625

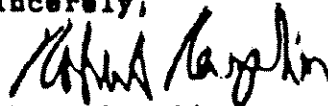
Dear Assemblyman Ottowski:

In response to your questions about Professional Optometry entering into the field of therapeutic drugs thus impacting the doctors' malpractice insurance, the following is Chubb's position on this matter.

Chubb's loss experience with optometry on a national basis has been very favorable. In the two states where optometry is using therapeutic drugs, the malpractice loss experience has also been extremely favorable. Chubb does not feel that optometrists using therapeutic drugs will adversely affect its loss experience. They do not anticipate malpractice rate increases resulting from therapeutic drugs nor do they expect an adverse claim situation.

Obviously, no one can predict the future, but the above is Chubb's position based on the study of past experience and future probabilities. Chubb applauds professional optometrists' efforts in the area of continuing education and enhanced professional achievement.

Sincerely,



Robert Ragolia
CHUBB'S STATE ADMINISTRATOR
New Jersey and New York

Enc

cc: Mr. David Knowlton, Executive Director
New Jersey Optometric Association

65 South Main Street, P.O. Box 269, Pennington, NJ 08534 (609) 737-3333

MCNEES, WALLACE & NURICK
ATTORNEYS AT LAW

100 PINE STREET
P. O. BOX 1166

HARRISBURG, PA. 17108-1166

TELEPHONE (717) 232-8000

FAX (717) 236-2665

DANA STEVENS SCADUTO
DIRECT DIAL (717) 237-5281

March 25, 1991

Mr. Robert Ragolia
Ragolia Development Corporation
65 South Main Street
P. O. Box 269
Pennington, NJ 08534

TELECOPY

Dear Bob:

Please be advised that this law firm has been retained to represent the interests of the Pennsylvania Academy of Ophthalmology ("PAO"). On April 4, 1991, a hearing will be held before the Pennsylvania House of Representatives, Professional Licensure Committee, to determine whether optometrists should be permitted to prescribe and dispense therapeutic medications in the Commonwealth of Pennsylvania. At the time of the hearing, the American Optometric Association will be introducing a letter authored by you in November, 1982 to support its position that its membership should be given the privileges which it is seeking. A copy of that correspondence is enclosed for your review. The PAO has reason to believe that certain facts and conditions discussed in your letter are no longer accurate. My client is concerned about the impact relying on stale information may have on the decision the Professional Licensure Committee is being asked to make. We have further reason to believe that you are in a position to correct these misconceptions and that you have the knowledge necessary to rebut the assertions of your earlier letter.

In order to avoid the necessity for costly and timely investigation into the background of this situation, which would result in inconvenience and imposition to both you and PAO, PAO is requesting that you voluntarily answer the following questions:

1. Please state your background in the insurance industry, including your experience as an insurance agent and/or broker, as it concerns the provision of optometric malpractice coverage. Please include the years of your involvement.

MCNEES, WALLACE & NURICK

Mr. Robert Ragolia
March 25, 1991
Page 2

2. Is Chubb Insurance Group still underwriting optometric malpractice?

3. Why did Chubb withdraw from the optometric malpractice market?

4. When did Chubb withdraw from the optometric malpractice market?

5. Did personnel from Chubb ever express concern to you about the possible adverse impact of allowing optometrists to prescribe therapeutic drugs as a reason for withdrawing from the optometric malpractice market?

6. Are you aware of any other insurance companies that have withdrawn from the optometric malpractice market within the last 10 years? If so, which companies? When did each withdraw from the market?

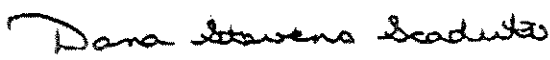
Enclosed with this letter, please find a Verification for execution by you, which indicates that you are providing answers to these questions based upon personal knowledge and that said information is true and accurate to the best of your information and belief.

It is our sincere hope that if you choose to cooperate and provide the information requested, the need for further inconvenience to all concerned will be alleviated.

We thank you in advance for your anticipated cooperation.

Very truly yours,

MCNEES, WALLACE & NURICK

By 
Dana Stevens Scaduto

DSS/mrc
Enclosures
cc: Mr. John Milliron (Telecopy)

March 27, 1991

Dana Stevens Scaduto, Esquire
McNees, Wallace & Nurick
100 Pine Street
P.O. Box 1166
Harrisburg, PA 17108-1166

Dear Ms. Scaduto:

In order to avoid a potentially timely and costly investigation into the facts surrounding my letter of November 24, 1982 to Mr. Otlowski, I offer the following answers to the questions asked in your letter of March 25, 1991.

1. I have been a licensed insurance agent from 1969 to the present. I became involved with optometric professional liability insurance in 1974 and continued to be involved with that type of coverage until 1988.

2. No.

3. The reasons for withdrawing from the optometric professional liability market cited to me by personnel representing Chubb related primarily to the unacceptably high loss ratios and Chubb's concern that those loss ratios would continue to deteriorate. A loss ratio compares the dollars paid out in claims against the dollars received in premiums or other revenues. In the case of Chubb's experience with optometric coverage, a high loss ratio indicates more money was being paid out in claims than was being received in revenues.

4. Approximately 1985.

March 27, 1991
Page 2

5. Yes, personnel employed by Chubb, as well as agents and independent contractors of Chubb, expressed concern to me related to the possible adverse impact allowing optometrists to prescribe therapeutic drugs might have on professional liability protection.

6. Yes, Aetna withdrew from the optometric professional liability market on a national basis in approximately 1983.

I trust that this information is sufficient to clear up any ambiguities related to the continued reliance on my 1982 correspondence. Of course, because I have not been actively involved with optometric professional liability coverage since 1988, the information I am providing is accurate only to the extent of the knowledge and information available to me during that time.

Sincerely,



Robert Ragolia

OCT 26 1994

THE HAWAII OPHTHALMOLOGICAL SOCIETY

October 24, 1994

Samuel B.K. Chang
Director
Legislative Reference Bureau
State of Hawaii
State Capitol
Honolulu, HI 96813



Dear Mr. Chang:

Thank you for transmitting a draft copy of your study concerning the feasibility of prescriptive privileges for optometrists. The Hawaii Ophthalmological Society commends the staff of the Legislative Reference Bureau for its comprehensive report on this very difficult issue. Hopefully, your exhaustive research will help the legislature to reach a decision in this area.

We appreciate the opportunity to review chapters two through seven and offer some factual corrections as noted below:

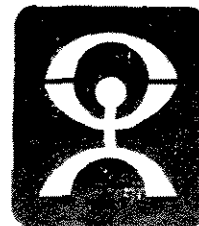
CHAPTER 4, PAGE 1, PARAGRAPH 1

Optometrists take the position that their education is comparable only in the medical treatment of eye diseases. They do not claim education or expertise in surgical management. Another concern is the equivalency of clinical training as discussed by optometrists. A large portion of optometrists exposure to medical eye problems in Optometry school is observational or involves demonstrations. They do not assume major responsibility for patient care for extended periods of time comparable to ophthalmologists during their residency. It should be noted that when optometrists receive their training they are students, while ophthalmologists have already finished medical school and an internship, and are fully licensed physicians during their residency. This permits significantly greater clinical responsibilities.

CHAPTER 5, PAGE 16, PARAGRAPH 2

It is in fact true that Chubb withdrew from optometrist malpractice insurance because of "high loss ratios and Chubb's concern that those loss ratios would continue to deteriorate" if optometrists were allowed to prescribe therapeutic drugs. Optometrists often quote a 1982 letter from Robert Ragolia, Chubb administrator supporting therapeutics. However Mr. Ragolia rebuts these assertions in a 1991 letter (copies enclosed).

THE HAWAII OPHTHALMOLOGICAL SOCIETY



CHAPTER 6, PAGE 4, PARAGRAPH 3

The OPTOMETRY Board of Examiners broadened the scope of optometric practice, not to be confused with the Board of Medical Examiners.

CHAPTER 7, PAGE 10, PARAGRAPH 2

The HOS is in fact correct in stating that Chubb insurance company dropped optometric coverage due to increased risk (See Chapter 5, Page 16 notes above and enclosure).

CHAPTER 7, PAGE 12, PARAGRAPH 3

This information is out of date as there are now two ophthalmologists serving the Waianae area.

CHAPTER 7, PAGE 13, PARAGRAPH 2

This information is also out of date as now there are three ophthalmologists practicing in Kailua-Kona.

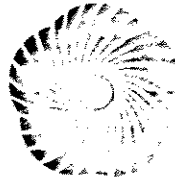
Thank you again for the opportunity to review the study draft and comment on chapters two through seven. We appreciate the thorough effort your bureau has made, and will be happy to answer any questions.

Sincerely,

A handwritten signature in dark ink, appearing to read "John M. Portis".

John M. Portis, M.D.
President
Hawaii Ophthalmology Society

HAWAII
OPTOMETRIC
ASSOCIATION



October 27, 1994

Samuel B. K. Chang
Director, Legislative Reference Bureau
State Capitol, State of Hawaii

Dear Mr. Chang,

Quality eyecare is available to everyone in Hawaii, but in many instances is not quickly or readily available. The quality of health care delivery can be improved by certifying doctors of optometry to treat conditions of the eye for which they are fully trained. This will result in efficient and expedient eyecare by reducing the time needed by many patients to obtain proper care and relief of their problems. This will also help to curb rising health care costs.


Doctors of optometry are highly trained primary health care professionals who routinely evaluate vision and eye related complaints, make diagnoses, treat many of these problems, and make referrals to other appropriate health care providers when indicated. In Hawaii, optometrists are not yet permitted to treat any eye condition with medication, and must refer these patients to a medical doctor (ophthalmologist, family practice, or emergency room).

As of this date, forty states and all federal/military health services recognize the level of education and training of today's optometrist by certifying them to use medications to treat many eye conditions. The record by other state and federal TPA certified optometrists is one of safety and quality care. Other state legislatures are expanding the scope of privileges for optometry as optometry's claims are being substantiated, and initial concerns for safety and education are satisfied. Incidence of optometric malpractice has remained low in these states, and are generally not related to the use of therapeutic medications.

A review of the initial draft of the study by the Legislative Reference Bureau on this topic indicates a general validation of optometry's statements on education, safety, and cost benefits. However, numerous data inaccuracies were noted, and a detailed list of corrections is attached. It is my hope that the final document will contain the correct data.

Good vision is a precious necessity in today's world. The ability of Hawaii's citizens and visitors to efficiently obtain proper eyecare enhances our island economy and quality of life. Updating our laws to permit properly trained optometrists to safely provide quality eyecare to the extent of their training will help to achieve this end.

Sincerely,


Ernest K. Oshiro, O.D.
President

OFFICERS AND DIRECTORS 1994-1995 ADMINISTRATION: ERNEST K. OSHIRO, O.D., PRESIDENT / KEVIN K. LUI, O.D., PRESIDENT-ELECT / JON M. ISHIHARA, O.D., ADMINISTRATIVE VICE-PRESIDENT / BRYAN N. SAKKA, O.D., COMMUNICATIONS VICE-PRESIDENT / JANN M. FURUSHO, O.D., CORRESPONDING SECRETARY / GUY K. YAMADA, O.D., RECORDING SECRETARY / ERYLET OKAMURA, O.D., TREASURER / KENNETH Y. FUJIMOTO, O.D., AUDITOR / MARK S. TERUYA, O.D., IMMEDIATE PAST-PRESIDENT / IRA M. FUJISAKI, O.D., AT LARGE / FRANKLIN Y. P. LAU, O.D., OAHU / RANDALL F. TAKAKI, O.D., OAHU / JERE H. E. LOO, O.D., KAUAI / RAE R. NAGAIRO, O.D., MAUI / GLEN M. SWARTWOUT, O.D., HAWAII

HAWAII OPTOMETRIC ASSOCIATION

Review of Initial Draft Hawaii State Legislative Reference Bureau's Study on the Feasibility of Optometric Use of TPAs

CHAPTER 2 - WHAT ARE THERAPEUTIC PHARMACEUTICAL AGENTS?

- Page 1 First sentence should conclude, "are drugs that are used to treat disease and/or injury."
- Page 3 All optometry schools presently train their students to properly diagnose eye disease, and manifestations of systemic disease in the eye. (See Chapter 4) The use of DPAs enhances diagnostic skills.
- Page 4 It should be noted that missed diagnoses, improper treatment and management have also occurred within ophthalmology (See summary of 1991-92 medical malpractice cases). The dangers in missed diagnoses that have caused blindness and death have occurred within ophthalmology.
- Page 7 Third paragraph discusses "Six types of drugs" yet only lists five. The sixth class should probably be analgesics.

CHAPTER 3 - USE OF TPAS: OTHER STATES' EXPERIENCES

- Page 2 First paragraph: "topical anesthetics" is no longer defined in the Arizona law.
- Page 4 The number of antibiotics on the Florida formulary should be 13, not 17.
- Page 4 Georgia permits the use of sixty-six drugs, not 33 (See summary of TPA states, pharmaceutical agents, dated 9/23/94).
- Page 5 Idaho: the Idaho code does not require that a "list" be approved by the board. The Board has approved "All topical ophthalmic products having documented optometric use in the human eye or eye lid...[and] All oral medications having documented use in the treatment of the human eye and/or eyelid excluding Schedule I and II narcotics."
- Page 14 Vermont: TPA certified optometrists may prescribe anti-infective, anti-inflammatory, and dilation reversal drugs, including steroids, but prohibits anti-glaucoma medications.
- Page 15 Wisconsin: oral analgesics available are 4, not 6; topical antibiotics are 13, not 11; 3 classes of oral NSAIDs, not 2; last category should be topical nonsteroidal agents such as diclofenac sodium, and 5 topical beta-adrenergic blocking agents, not 3.
- Page 17 Last paragraph regarding anti-glaucoma drugs: it should be noted that 27 states, or greater than 2/3 of the TPA states, permit treatment of glaucoma. Does this justify the use of the word "controversial"?

Hawaii Optometric Association
Review of LRB Draft on TPA Use, Page 2

Page 18 First paragraph: 25, not 28, prohibit treatment of glaucoma; it should be noted that this includes the 10 DPA-only states, D.C., and Puerto Rico, i.e. only 13 TPA states prohibit the use of anti-glaucoma medications. 14, not 11 states have glaucoma provisions. Of those, 4 not 6 require consultation with a physician, 5 not 2 have other prohibitions. Regarding the remaining 13 states "that are silent on the topic, delete the word "presumably" since TPA certified optometrists can independently use topical and/or oral anti-glaucoma drugs in those states (See summary on therapeutic treatment of glaucoma, date 9/14/94).

Page 19 First paragraph: regarding New Jersey, it should read "which allows the use of topical agents..."

Page 19 Who creates the formulary? There is only ONE primary option: in 38 of the 40 TPA states, the drug formulary is established by Optometry Board regulation under the authority granted it by state statute. In only one state, Ohio, is the drug formulary specifically established in the statute. In only one state, Virginia, is the drug formulary established by the Board of Medicine, as part of a "superboard" regulatory mechanism. Therefore, Ohio and Virginia should be considered secondary mechanisms by which a formulary is established.

Regarding the Ohio method, the primary disadvantage in legislating the formulary is that newer, safer, more effective drugs with less side effects are not available for better patient care in a timely manner. There is potential danger in limiting treatment to drugs which become less effective against resistant bacterial strains. Updating the formulary requires legislation, which is much more lengthy than by administrative board rulemaking.

Page 20 Regarding the Virginia method, it appears to be the author's opinion that the medical board is "most highly trained to handle eye care and eye health issues, and who are most familiar with drugs as a whole and their impacts on other parts of the body, in addition to the eye. An opposing viewpoint is that optometrists are probably more highly trained on eye care and eye health issues than M.D.s who would make up the medical board, except for ophthalmology. The author states that "medical doctors would be more aware of side-effects involving not only the eyes but the rest of the body." Optometric education includes extensive study of systemic interaction and side effects, including beta blockers and other potent medications used in eye treatment. It should be noted that in Florida, Idaho, and Oregon, TPA laws at first included MD/ophthalmology participation in establishing the formulary, but was later removed due to bad faith efforts to restrict optometry from providing adequate patient care. The establishment of an optometric drug formulary by a medical board would be analagous to the establishment of a dental drug formulary by medicine.

Hawaii Optometric Association
Review of LRB Draft on TPA Use, Page 3

- Page 21 Last paragraph: Optometry schools have long had TPA training, but clinical TPA training was not emphasized until the mid 1980's.
- Page 22 Consultation and Supervision: the numbers 16 states and 21 states don't add up to 40 TPA states. Check data. Most TPA states have a requirement to refer when appropriate, as a stipulation in the "Unprofessional conduct" section of the optometry statute. Similarly, M.D.s would also refer when indicated, as required under their "Unprofessional conduct" section of the medical statute.
- Page 24 "Use of anti-glaucoma agents is particularly controversial." Does the fact that more than 2/3 of the TPA states permit glaucoma treatment by optometrists justify the term "controversial"? Last paragraph: In only 8 of the 27 states that authorize glaucoma treatment is there consultation or referral language, not "over half the states". Only 5 states have similar language regarding use of steroids. Only a few states have language regarding referral/consultation if conditions don't improve.

CHAPTER 4 - OPTOMETRIC EDUCATION AND PATIENT SAFETY

- Page 4 HOA is the acronym for the Hawaii Optometric Association.
- Page 5 First paragraph: the "board certified optometrist" faculty member of the Pennsylvania College of Optometry should be "board certified ophthalmologist".
- Page 7 There is no debate over the length of time spent in residency. It is not not optometry's contention that optometric education is equivalent to ophthalmology, because much of the ophthalmology residency is spent on surgical management. Third paragraph: all schools, not some, have classroom hours in systemic disease and their manifestations in the eye. Clinical judgment in managing patients with systemic disease is developed throughout the optometry student's training.
- Page 8 The statement that hands-on clinical training is an "experience that ophthalmology students have but optometry students do not" is absolutely false. Optometry students receive over 1000 hours of clinical training involving the diagnosis, treatment, and management of eye disease at the primary care level. Ophthalmology clinical training is understandably lengthier, as it involves primary, secondary, and tertiary eyecare, including eye surgery.
- Page 9 Regarding the general practitioners who prescribe eye medications: who is better trained on eye care and eye disease, and is better equipped to make the proper differential diagnosis of a red eye, the TPA optometrist or the family practice MD? Of course the family practice MD would not treat glaucoma, when not even properly equipped to diagnose and manage it. Regarding the incidence of referral from optometry to ophthalmology, it readily occurs, because patient care is the goal of both

professions, and not limited only to the medical profession. Regarding the involvement of systemic conditions that manifest in the eye, the optometrist is already required to diagnose these conditions and refer these patients to the internist. Neither the optometrist nor ophthalmologist would treat the underlying systemic disease.

Page 10 Eye malpractice cases: Malpractice cases are attributed to ophthalmology as well, resulting in permanent visual loss, loss of the eye, and even death (See summary of ophthalmology malpractice cases 1991-1992, abstracts from Medical Malpractice). It is a false assumption that all patients under ophthalmological care receive the proper diagnosis, treatment, and management. There are documented cases where misdiagnoses by MDs were subsequently properly diagnosed by optometrists.

Page 14 The alleged cases of optometric mismanagement in North Carolina continue to be used by ophthalmology. Yet, the North Carolina Society of Ophthalmologists have failed to request litigation or formal investigation, and have never produced evidence to answer a State subpoena upheld by the North Carolina Court of Appeals. Without the submission of evidence for an investigation, these allegations continue to be libelous unsubstantiated statements.

Page 17 As indicated earlier, optometric education well equips the optometric graduate with the proper clinical skills to use TPAs in providing primary eyecare, whereas ophthalmological education is directed at primary/secondary/tertiary eyecare including surgery. The two professions naturally overlap, but will never be the same. Regarding malpractice cases, certainly the concept of blindness is frightening, and there are many documented cases of unfortunate loss attributed to ophthalmological care.

Page 18 The more established optometrists in Hawaii have been seeing hundreds to thousands of patients with eye disease and eye signs of systemic disease, and participate in their management and care by making the proper referrals, and observe the course of the disease as it is being treated by ophthalmology or other medical specialty. It would be erroneous to disregard this ongoing clinical training in everyday practice. Again it would be erroneous to imply that only optometric mismanagement occurs, as many court cases have been settled against ophthalmologists for injury and death for failure to properly diagnose or manage.

CHAPTER 5 - COST

Page 6 The argument is based on the false premise that all ophthalmologists will make the proper diagnosis on each patient encounter, that ophthalmologists are always correct, and that optometric management of an "entrenched" disease causes a longer duration of treatment. It is conceivable that a problem not be properly diagnosed and treated by an ophthalmologist,

forcing the patient to seek care by another ophthalmologist or optometrist, who then makes the appropriate diagnosis and treatment. This does occur, resulting in overall costly care. Ophthalmologists are not infallible.

Page 17 Summary: same comment. Ophthalmologist are not infallible. Cases of misdiagnoses or misprescribing can be found in ophthalmology, resulting in higher health care costs.

Page 18 Recommendations:

(1) High level of training: today's graduate already is highly trained to make proper diagnoses. TPA certification of practicing optometrists will certainly require additional continuing education to complement their clinical experience. Such accredited certification courses already exist, which have been used in many other states to certify practicing optometrists.

(2) Enacting a limited formulary like Virginia doesn't necessarily help keep optometry fees from rising. It does result in inadequate patient care when only limited treatment options are available to the TPA optometrist, who then must refer to the MD. It doesn't capitalize on the full capabilities of today's optometrist.

(3) Open market competition, managed care, and capitated payment plans are more effective methods of curbing the rising cost of health care, rather than an arbitrary lid on optometry or ophthalmology reimbursements.

CHAPTER 6 - ADDITIONAL AREAS OF CONERN

Page 5 The newspaper report on the fetal monitoring insurance code as an optometric reimbursable procedure is misguided. The code is the same as that used for ultrasound procedure on the eye. One would no more expect that an ophthalmologist would perform fetal monitoring via ultrasound, but the insurance code would be the same.

Page 11 The number of TPA-certified ODs in Wisconsin is listed incorrectly. Pam Mickelson, Board Secretary, Wisconsin Optometry Examining Board, confirmed on 10/24/94 that 708 active licensees were living and practicing in-state, and that 432 of these are TPA certified, for a 67.5%, NOT 30% as stated. This correction then needs to be made on Pages 12, 15, 17, 18, 21. Conclusions based on the incorrect data of 30% would also need to be addressed.

Page 19 Hawaii's metropolitan urban density is limited to primarily the island of Oahu. The other islands are generally more rural. The author's logic that "Hawaii would follow the trend of other more metropolitan states and have a lower than average of TPA-certified optometrists" is a supposition. About 2/3 of the active practicing "older" optometrists have already indicated their commitment to improved patient care by completing a lengthy and costly accredited TPA certification course conducted in Honolulu from 9/93 to 3/94, and taking the

National Board certification exam on TPAs. Other older practicing ODs have taken the necessary certification courses and exam on the Mainland already. Additional TPA certified optometrists would come from recent optometry graduates who receive TPA coursework and take the National Board certifying exam as a normal part of the current optometric curriculum. An estimate of the percentage of TPA certified optometrists in Hawaii under a TPA law would be a conservative 80%.

CHAPTER 7 - POINT/COUNTERPOINT

- Page 25 Dr. Donald Schwartz, who presented testimony in 1989 in Washington that he observed regarding misdiagnosis by optometry students in 1983 and 1984, does not state at what point in the optometry student curriculum he made those observations. It is likely that errors in diagnosis occur during the learning process of students in optometry as well as medicine.
- Page 29 HOS is implying that military eyecare is substandard for expediency's sake. In reality the military health care delivery system has long been noted as a model for quality health care, utilizing TPA certified optometrists.
- Page 30 Dr. Martyak's testimony of his experience is dated to the early years of TPA credentialling in the Army. If the utilization of TPA optometrists resulted in such poor health care delivery, why has the Army and other military services expanded their scope of privileges? In the military all health care professionals come under some supervision, even the Chief of Ophthalmology and the Hospital Commander. TPA certified optometrists currently are credentialled to independently examine, diagnose, treat, and manage eye diseases within the scope of their training, and co-manage or refer to ophthalmologists when the required treatment is beyond the scope of their training and credentialling. Military TPA optometrists have and will continue to be monitored by quality control and peer reviews.

Appendix K

Education and Clinical Training of Ophthalmologists and Optometrists

In the absence of scientific evaluations of data comparing the outcomes of care for cataract surgery patients treated in the perioperative period by ophthalmologists and optometrists, a question that arises is whether differences in the education and training of the two types of professionals might affect their ability to provide good quality perioperative care.³⁴

There are no standardized tests or board exams taken by both ophthalmologists and optometrists, so the most plausible method of comparing the knowledge base of the two professions is to assess their educational and training programs. To compare the education and clinical training of ophthalmologists and optometrists, OTA reviewed literature pertaining to professional standards, literature from the professional organizations of both ophthalmologists and optometrists, and literature from several institutions that provide education and clinical training in either ophthalmology or optometry. In addition, OTA staff made direct observations at two institutions--at the ophthalmology residency program at Wills Eye Hospital in Philadelphia and at the Pennsylvania College of Optometry in Philadelphia.

Ophthalmology Education and Training

Ophthalmology is a surgical specialty of medicine and is regulated by State laws that govern medical practice. Ophthalmologists are licensed as medical doctors by State boards of medical

³⁴A recent OTA report on indicators of the quality of medical care found that physicians practicing in the area of their training were more likely to provide good quality care than

examiners. There is no specific licensure of ophthalmologists (Stokes, 1988). Individuals who have 1) successfully completed specified medical, postgraduate clinical, and ophthalmologic residency training (see below), 2) received a valid and unrestricted license to practice medicine in the United States; and 3) passed written and oral examinations can be certified as diplomates by the American Board of Ophthalmology (American Board of Ophthalmology, 1987). That board is recognized by the American Board of Medical Specialties, which assists its members in the evaluation and certification of physician specialists (Council on Graduate Medical Education, 1988). The vast majority (90 percent) of ophthalmologists are board certified (Root, Sept. 29, 1988).

In order to be certified by the American Board of Ophthalmology, an ophthalmologist must undergo an 8-year education and training program after college that includes training in systemic disease and experience with patients in a variety of settings, as well as specific classroom, clinical, and surgical training for the treatment of eye disease (American Board of Ophthalmology, 1987). The 8-year program involves three stages:

- o 4 years of medical school,
- o 1 year of postgraduate clinical training in a hospital-based program,
- o 3 years of training in a hospital-based ophthalmology residency program.

Medical schools in the United States, Canada,³⁵ and Puerto Rico are accredited by the Liaison Committee on Medical Education, a joint committee of the American Association of Medical Colleges and the American Medical Association (Carlson, 1988). Voluntary accreditation standards for graduate medical education and for residency training in the United States are set

physicians practicing in other areas (U.S. Congress, OTA, 1988).

³⁵Medical schools in Canada are coaccredited by the Liaison Committee and the Committee on the Accreditation of Canadian Medical Schools (Carlson, 1988).

by the Accreditation Council for Graduate Medical Education. That organization is sponsored jointly by the American Board of Medical Specialties, the American Hospital Association, the American Medical Association, and the Council of Medical Specialty Societies (Council on Graduate Medical Education, 1988).

Prior to admission to medical school, a student is usually expected to complete a 4-year undergraduate degree, including specific courses in chemistry and other sciences, and must meet high scholastic and medical school entrance examination standards (Stokes, 1988). About 15 percent of medical schools allow students to enter after the third year of college (Association of American Medical Colleges, 1987).

Conventionally, the first 2 years at an accredited medical school emphasize coursework (lectures and laboratories) in sciences basic to medicine. In the first 2 years of medical school, a medical student typically gets between 1,500 and 2,000 hours of coursework. About 1,250 hours of this is coursework in basic medical sciences such as anatomy, pathology, physiology, microbiology, biochemistry, pharmacology, neuroscience, behavioral science, preventive medicine, and genetics (Assoc. of Amer. Medical Colleges, 1987). The rest is coursework in various topics related to medical practice.

The last 2 years of medical school emphasize clinical rotations in hospitals and other settings. During clinical rotations, a medical student gets an opportunity, under the direct supervision of faculty and resident physicians, to develop skills in examining and evaluating patients; during clinical rotations, a medical student has "limited opportunities to assume personal responsibility for patient care and generally do[es] not participate in the care of individual patients for an

extended period of time" (American Medical Association, 1987). On average, a medical student spends about 80 weeks or, assuming a 40-hour week³⁶, 3,200 hours doing clinical rotations (Assoc. of Amer. Medical Colleges, 1987). On average, at least 50 of the weeks, or 2,000 hours, are spent doing rotations in basic medical specialties such as internal medicine, surgery, pediatrics, family/community medicine, and psychiatry; the remaining 30 or so weeks (1,200 hours) are spent doing rotations in various electives (Assoc. of Amer. Medical Colleges, 1987).

In preparation for becoming a licensed physician, a medical school graduate does a 1-year internship at a hospital in a field such as internal medicine, pediatrics, surgery, family practice, or emergency medicine. Traditionally, an intern is the first person "on call" to examine and admit patients to the hospital and is "on call" every third or fourth night to cover various activities in the hospital. In many cases, therefore, an intern works as many as 80 to 100 regular and on-call hours a week (Glickman, 1988; McCall, 1988). An intern who works an 80-hour week (e.g., 45 regular hours and 35 on-call hours) for 50 weeks would get a total of 4,000 hours caring for patients with a variety of medical problems. The certification requirements of the American Board of Ophthalmology specify that at least 6 months of an ophthalmologist's 1-year internship must be "broad experience in direct patient care" (American Board of Ophthalmology, 1987). An intern who works 40 regular hours a week for 26 weeks (6 months) gets 1,040 hours of clinical experience in the evaluation and treatment of patients with a variety of medical conditions. This figure--1,040 hours of experience in direct patient care--does not include any on-call hours and is therefore an absolute minimum.

To receive specialized hospital-based training in ophthalmology, a physician must enter a 3-year ophthalmology residency program. In order to be accredited, an ophthalmology residency

³⁶A 40-hour week does not include "on call" hours.

program must include 360 hours of didactic instruction in basic and clinical sciences relevant to ophthalmology; 288 hours of clinical conferences attended by faculty and other resident physicians; and lectures, conferences, and a minimum of 50 hours in ocular pathology (American Medical Association, 1987). At some ophthalmology residency programs, these minimums are significantly exceeded. At the residency program at Wills Eye Hospital in Philadelphia, for example, students get 822 hours of didactic instruction in basic and clinical sciences, 504 hours of clinical conferences, and 210 hours of ocular pathology (Jeffers, 1988).

The core of an ophthalmology residency program, more important in some respects than didactic instruction, is clinical experience in managing patients with eye problems and in performing eye surgery. An accredited residency program offers a resident:

- 1) at least 3,000 outpatient visits distributed through a broad range of ophthalmic disease, with "major management responsibility under [faculty] supervision" in at least 2,000 visits,
- 2) surgical experience in performing and assisting at ophthalmic surgery of various types, including a minimum of 25 cataract procedures and 10 strabismus procedures,
- 3) consultation experience involving a minimum of 150 patients and covering a wide spectrum of ophthalmic diseases and ophthalmic manifestations of systemic diseases (American Medical Association, 1987).

Some ophthalmology residency programs offer clinical experience that far exceeds these accreditation minimums. At the residency program at Wills Eye Hospital in Philadelphia, for example, a resident manages, under supervision, about 15,000 patients with eye disease (Jeffers, 1988). A resident at Wills is involved in over 600 cases of eye surgery; in 350 to 400 of these (including 90 to 95 cataract surgeries), the resident is the primary surgeon and provides the patients' followup care; in the other cases, the resident assists during surgery (Jeffers, 1988).

