

Members present:

Chairman Jeffrey
Vice Chairman Robinson
Assemblyman Bennett
Assemblyman Bremner
Assemblyman Chaney
Assemblyman Horn

Assemblyman Sena
Assemblyman FitzPatrick
Assemblyman Rusk
Assemblyman Tanner
Assemblyman Weise

Guests present:

See attached list

Chairman Jeffrey called the meeting to order, with a quorum being present, at 3:16 p.m. He stated that in hearing AB 580, the committee would hear first from a proponent and then from an opponent until all those wishing to testify were heard.

AB 580: Dr. Bill Van Patten, optometrist from Carson City and President of the Nevada State Optometric Assoc., was first to address the committee. His remarks are attached and marked as Exhibit "A". He also presented to the committee prepared folders supporting their position in favor of the bill and those are referred to in his text and are attached and marked as Exhibit "B" and Exhibit "C". Prime areas in informational booklets referred to in text are underlined.

Mr. Horn asked Dr. Van Patten if he thought that the reference on line 3, page 1 to "sufficient" was a clear enough indication of what they really wished to base educational requirements upon. Dr. Van Patten stated that the level of competency would be based upon the educational requirements which would be determined by the State Board. He pointed out that the pharmacology courses proposed to be used, if the bill were to pass, would include 55 hours of ocular and general pharmacology.

In answer to a question from Mr. Tanner, Dr. Van Patten stated that his profession was not interested in therapeutic usage of these drugs and they would not be wanting that latitude next session if this bill passed this session.

In answer to a question from Mr. Chaney, Dr. Van Patten stated that they only wished to use miotics in emergency situations for first aid care for glaucoma patients, so that these people would have time to get proper care.

Dr. Van Patten stated to the committee that the only medications discussed in this bill are drops, it would not include things such as ointments, etc. He also stated that he would supply a copy of a letter from Aetna Insurance regarding a reduction in malpractice rates for optometrists for the information of the members.

Dr. Van Patten submitted to the committee statements from Dr. Albert N. Lemoine and Dr. Lowell E. Bellin which support their position on this matter and which are attached and marked Exhibit "D" and Exhibit "E". He stated that he would also supply to the committee the credentials of Dr. Bellin.

The committee then discussed with Dr. Van Patten how the optometrists would feel about dosages being reviewed or set by either the Board of Pharmacy or Medical Association. Dr. Van Patten stated that they would object to the Medical Association trying to run any aspect of their profession. He also pointed out that their board always call in professionals in various areas of expertise when needed to compliment their knowledge. He stated that the examination which would be required should be prepared by members of the state board together with input from the two California optometric colleges. He felt the ultimate authority for the examination should be left with the State Board of Optometry.

Dr. M. D. Pearlman, President of the Las Vegas Ophthalmological Society, was first to speak in opposition to the bill. He submitted to the committee a folder stating their position on the bill, attached and marked Exhibit "F". He stated that though he had a high regard for optometrists, he felt that his testimony would, necessarily, contain some negative remarks about their qualifications. He passed around to the committee for their review some of the warning enclosures which are provided with the drugs mentioned in the bill and asked them to look particularly at the cautionary language as to side effects of these drugs. He suggested that before any of the committee members make up their minds on the bill, that they contact their own private physicians and ask their opinion. See also Exhibit "G" which was referred to.

In answer to a question from Mr. Horn, Dr. Pearlman stated that the reason the letters included in Exhibit "F" were dated prior to the date of introduction of the bill was because they had met with the optometrists before the bill's introduction and knew approximately what was going to be proposed.

Dr. Siret D. Jaanus, pharmacologist from Southern California College of Optometry, spoke next in support of the bill. Her remarks are in text form and attached as Exhibit "H". She pointed out that, according to the April 1978 Journal of Ophthalmology, in many cases where side effects were detected with the use of these drugs there had been other factors present which may have precipitated the reaction; such as high blood pressure, heart problems, and the use of 10% drug strengths compared to .5% normally used; that currently they include 40 hours of general pharmacology, 30 hours of ocular pharmacology and practical laboratory work, together with teaching pharmacological theory and pathology in their curriculum and that this had changed a great deal over the past ten years. Dr. Robinson asked Dr. Jaanus if she would supply to the committee a general outline of their current curriculum and she stated that she would forward it for the committee's review.

Dr. Richard Bjur, Department of Pharmacology, UNR School of Medicine, stated that he was speaking in opposition to the bill not as a representative of the school, but on his own behalf. He stated that he felt the bill was not clear enough as to how the drugs would be used. He stated that though these ophthalmic drugs are usually very weak, there are some when used abusively could be very toxic, i.e. cocaine (sniffed) and nitroglycerine, and that if the dosages are not controlled, there could be systemic effects. He said that one would not expect a great deal of toxicity to occur when the drugs were administered correctly, but that the person giving the drug should be capable and prepared to properly care for the patient in case of an emergency situation.

He stated that if the Optometric Society took care of the testing and setting strengths and dosages for the drugs, he felt it would be like the blind leading the blind. He stated that in addition to the regular courses taught in pharmacology; based upon chemistry, anatomy and other related courses, that clinical experience is very important in knowing how to administer these drugs. He wondered how recent the training would be in the case of many optometrists, what the relationship between the optometrist and the patient would be and how effectively the optometrist could handle a reaction to any of the drugs administered. He admitted that the chance of toxicity was very limited, but that it would be the responsibility of the person administering the drug to know what to do.

Kenneth Polse, Optometrist with California School of Optometry and past professor and director of clinics at Stanford stated that optometrists are already charged with the responsibility of identifying patient problems which could lead to loss of sight and even life. He stated that some of these problems would be extremely difficult to detect without the aid of these drugs because looking into the eye without it being dialated what comparable to trying to look into a room through a key hole. He said that allowing the use of these drugs and thereby allowing the optometrist to get a good look at the eye facilitates early diagnosis and referral in case of disease.

He told the committee that within the 120,000 cases which had gone through the clinic at Stanford, there had been some 25,000 patients on whom the drugs discussed here were used and resulting from that use they had detected (earlier than would otherwise been possible) 5 cases of retina detachment, 105 cases of glaucoma, 75 cases of retinal disease, 10 cases of patients having brain tumors, 200 cases of high blood pressure and some 300 cases of other types of systemic general and ocular disease. He pointed out that in many cases early detection means the difference between being able to treat a disease effectively and not being able to do so. He added that of those 25,000 patients treated the only side effects which occurred were red eyes and dialation lasting over the time expected. He stated that they had never had any extreme reations or experienced a death from use of these drugs. He also pointed out that the improper use of these drugs could be dangerous, but that the optometrist is trained to get a history from their patients and be

aware of those patients upon whom the drugs should not be used.

He submitted to the committee a list of drugs compiled by the Nevada Optometric Association which was similar, almost identical to the list used in California. He said that this list is a prudent and thought out list which is used in many other states. He pointed out that there are some 2,000 optometrists in California which are licensed to use the drugs and that to their knowledge there had been no complaints.

In answer to a question by Mr. Tanner, Dr. Polse stated that he felt some ocular and systemic disease would go undetected if they were not able to use these diagnostic drugs to see the back of they eye better and that it would greatly inhibit the optometrist in his attempt to serve the public by detecting problems early enough that they could be properly treated and possibly save the sight of the patient. He said that they really need this diagnostic tool.

Mr. Tanner asked Dr. Polse why the ophthalmologists felt the drugs so dangerous if the optometrists felt they weren't. Dr. Polse stated that some of the drugs are very dangerous when not used properly and in the proper strengths (such as the 10% phelylephrine referred to previously), but that he nor the other physicians or ophthalmologists on staff at the College of Optometry had ever seen a death from any of these drugs given topically. As a sidelight, Dr. Polse stated that they had both part-time and full time physicians and ophthalmologists on staff there.

In answer to a question from Mr. Rusk, Dr. Polse stated that in the cases in California where there had been an adverse effect of the drug, it had been caused by using the wrong drug on the wrong patient and that when this type of reaction occurred it was taken to a physician, hospital or ophthalmologist for treatment. He pointed out that the reactions mostly involved fainting and that he had never seen a convulsive reation. In answer to another question, he stated that their referral rate is approximately 3-5%, but that the rate could go as high as 10-12% if the practice included more elderly people, and, of course, could vary greatly from doctor to doctor. Dr. Polse stated that their current curriculum includes, during the first and second year, general pharmacology, general and ocular pathology and ocular pharmacology including a clinical program under doctors experiences in recognizing disease and referral of these diseases. He stated that in the third and fourth years the average student probably sees, in this clinical program, some 1000 patients. Mr. Rusk asked Dr. Polse if he felt that the 55 hours of training suggested in the bill would be sufficient to adequately educate the optometrists in the area of the use of these drugs. Dr. Polse stated that he felt that would be sufficient because the optometrists had already when they were originally trained, had taken courses in the other related areas.

In answer to a question from Mr. Sena, Dr. Polse stated that also

~~EXHIBIT~~

the course would include techniques in treating emergency situations. He also pointed out that, according to Dr. Metz of Rochester, New York, this training would afford the optometrist more formal specific training in this area than is gotten by some ophthalmologists.

In answer to a question posed by Dr. Robinson, Dr. Polse stated that it would be difficult to be more specific in section one of the bill because there are always new drugs coming on the market and that he felt the Board of Optometry should be allowed to add and delete drugs as they saw necessary by regulation. In answer to a following question, Dr. Polse said that he would have no problem with the Board being in charge of the examination or choosing the drugs because the Board has the ability to pull information from others who have expertise in any area they may need additional information from, and that it might even be possible for the Board to consult with doctors from other areas on the program.

Dr. John Bryant, board certified ophthalmologist and registered pharmacist in Iowa, stated that he felt the optometrists were trying to portray the drugs as not being dangerous and that they could indeed be dangerous. He stated that he did not agree with the previous speaker that there had been no adverse effects in California with the drugs. He told the committee of a patient in California who had been seen by an optometrist and who used one of the drugs while placing contact lenses on the patient. He stated that the patient had become sweaty and from a description of the reaction had gone into shock, and Dr. Bryant contended that had it not been for the optometrist's wife's actions (she happened to be a R.N.) there might have been a more severe problem with the patient. He stated that he felt there were probably more reactions than were reported because the optometrists were not well enough versed to recognize the reactions when they occurred. He stated that in his own office in the past year, he had seen reactions to the drugs manifested by fainting, loss of blood pressure, etc. He stated that he had treated a boy in his office with .5% cyclopentolate and that the boy had not only fainted but had also vomited and that had he not had the proper training in recognizing what was happening and treated it properly, the situation could have had more serious developments.

He stated that all these drugs have potential therapeutic uses and that it would be difficult to make a dividing line between their therapeutic uses and diagnostic ones. He pointed out that some of the drugs would be having a therapeutic effect when being used in a diagnostic manner. He said that he thought the optometrists wanted more than diagnostic use of the drugs in the long run and that he was against the bill because he wanted high quality eye care to continue.

In answer to a question from Mr. Tanner, Dr. Bryant stated that the drugs in different strengths had differing effects on people with brown eyes than people with blue eyes, etc., and it was, therefore, had to determine what was a therapeutic level usage.

~~EXHIBIT B~~

He also stated that in talking with George Bennett of the State Board of Pharmacy, regarding previous usage of these agents by optometrists, that Mr. Bennett only knew of one optometrist who was using the drugs prior to the 1977 change in the law. He stated that there may have been more using them, but that it was not wide spread.

In answer to a question from Mr. Chaney, Dr. Bryant stated that it difficult to determine how many malpractice suits had been brought against optometrists for misuse of the drugs because some suits are brought for misdiagnosis, etc. which might or might not involve the use of diagnostic drugs. In response to another question, Dr. Bryant stated that it might be possible for a person to go to an optometrist and, after examination, have glasses prescribed to take care of the problem and yet there still be an underlying ocular or systemic problem which might go uncorrected. He stated, further, that the drugs do not make the diagnosis, that the medically trained mind does through interpretation of the examination.

Dr. Bryant then related to the committee a case in California where an optometrist tried to remove what appeared to be a foreign object from the cornea of a person's eye (which in reality was a piece of the colored part of the eye sticking through the cornea) and the result was the loss of sight in that eye. In answer to a question from Dr. Robinson, Dr. Bryant stated that he did not know if a malpractice suit resulted from that case.

In answer to another question from Dr. Robinson, Dr. Bryant stated that he currently received one or two referrals per weeks from optometrists, usually because of red eyes or other problems. Dr. Robinson asked Dr. Bryant if he didn't think that if an optometrist used the drugs for therapeutical uses, if the optometrist wouldn't be guilty of practicing medicine and, therefore, be subject to punishment under existing laws. Dr. Buyant stated that he would think so. Dr. Bryant stated that it normally takes a party approximately 1-2 or 3-6 hours to get back to normal after an eye exam, depending on what was done and whether the person had brown or blue eyes. He also stated that he normally charges about \$40 for an eye exam, regardless of the use of diagnostic drugs.

In answer to a question from Dr. Robinson, Dr. Bryant stated that he did not know how the optometrists obtained the drugs before the 1977 law change, but that he thought it must have been done illegally.

Dr. Richard L. Hopping, President of Southern California College of Optometry, was next to speak and his remarks are in text form and attached as Exhibit "J". He pointed out that there is malpractice in all areas of medicine, not just in optometry, and he felt that these problems should be dealt with on a case-by-case basis. He stated that regarding the risk-benefit ratio, he would supply the committee with information together with a review of their curriculum regarding diagnosis of eye disease. He stated also that he felt the Board would call in any person they felt

(Committee Minutes)

~~EXHIBIT~~

would help them with expertise in a particular area.

Next to speak in opposition to the bill was Don Hill, representing the ophthalmologists. He submitted to the committee a group of letters which were in opposition to the bill and are attached and marked as Exhibit "K". He stated that it was true enough that ophthalmologists pay a higher rate for malpractice insurance, but that is because they have the responsibility for using drugs and also for diagnosing ocular diseases and, therefore, their liability is greater than that of an optometrist. He reviewed for the committee a list of malpractice cases which were brought against optometrists, attached and marked Exhibit "L". Also attached as Exhibit "M" are the newspaper and magazine articles regarding this subject which were reviewed by Mr. Hill. He also stated that the letter referred to referred to in Exhibit "C" from the Army was misrepresentative because of the Steel v. U.S. case, reference to which is attached and marked Exhibit "N". Mr. Hill's outline of testimony is attached and marked Exhibit "O". Mr. Hill also pointed out to the committee that there were many problems with the bill as printed and that they would propose some amendments to the bill, if it were to be considered further. Those amendments are attached and marked as Exhibit "P". He reviewed the provisions included in the amendment with the committee.

Next to address the committee was Mr. Mervin Flander, Chief of the Bureau of Services for the Blind. He stated that he did not wish to speak either on behalf of or against the bill, but that he only intended to give the committee information from an experience and perspective of a blind person's view. He stated that over the past fourteen years the bureau's primary interest has been, that no matter what legislation has been introduced, to make sure that the committee consider and be directed toward the most qualified eye care for the people of the state and he wished that the committee would consider carefully their actions on this bill.

Dr. Marvin Sedway, optometrist and member of the Nevada State Board of Optometry from Las Vegas, stated that he was not going to present to the committee either of the prepared speeches he had with him, but that he was going to comment upon what he had heard during the meeting. He stated that he would suggest that the committee look into how many malpractice suits had been brought against ophthalmologists throughout the country if that is what they wished to base their decision on. He stated that he felt there was no way that any ophthalmologist could possibly know how an optometrist used these drugs inside their offices, and that the main concern of everyone here should lie in what is in the best interest to the patient and how that patient could receive the most efficient care for their eyes. He said that he did not know how the ophthalmologists could argue against the use of these agents because early detection of problems of the eye was in the best interest of everyone.

He stated that not once in ten years has he received a complaint, either personally or as a member of the board, regarding the use of diagnostic drugs by optometrists and he did not know of any

judgment which had been returned against an optometrist relative to this. He stated he felt bringing up malpractice cases against the optometrists was simply a smoke screen.

He stated that he felt many people go to an optometrist seeking help and this would allow them to provide the most help to them. He said that the students who are going to college now are seeking to do the best for their patients when they return to Nevada and are being very well educated. And, he pointed out, he did not believe that the use of these agents would result in one case against an optometrist in a year.

In answer to a question from Mr. Tanner, Dr. Sedway stated that he knew of many optometrists who have used these drugs in the past on an itinerant basis as they determined it necessary to do so. He stated that speaking for himself (his practice deals primarily with children and retarded children) that he had never seen a severe reaction and he used some of the agents on a routine basis with those children. In answer to another question from Mr. Tanner, Dr. Sedway stated that as a broad observation he would say that many of the optometrists had been using the agents right along and that the optometrist previously referred to by Mr. Bennett was probably Dr. Carter of Sparks. He stated that the Board had issued a letter to all its members when they found out that the statute had been changed last session, telling them that they should discontinue use of the drugs until another bill correcting the situation could be passed.

In response to a question from Mr. Weise, Dr. Sedway stated that prior to the change in the law the optometrists obtained the drugs from pharmacies (as there was nothing in the law to preclude them from doing so) for use within their offices. In answer to another question from Mr. Weise, Dr. Sedway stated that the use of the drugs (and other more sophisticated diagnostic equipment) gives the optometrist a chance to open up the area examined by him and therefore a 100% better chance of detecting existing problems or disease, all to the benefit of the public.

Commenting on a question posed by Mr. Chaney, Dr. Sedway stated that the colleges not only train the optometrist for diagnosis disease and referral for treatment to a physician or ophthalmologist but they also train their students in ways to handle emergency situations which might arise. He stated that instruction in CPR, for instance, is included in the curriculum. He stated also that, if this bill is passed and the established optometrists have to take the extra hours of instruction, the board will also require that each office be equipped with life sustaining equipment. Dr. Sedway pointed out to the committee that most reactions are transitory and with prudent care take care of themselves in a relatively short time. He stated also that if this type of an emergency arises, other specialists could be called upon by the optometrist for assistance. Mr. Chaney pointed out that in some of the rural areas, there may not be hospitals or other specialists available in this kind of situation and Dr. Sedway pointed out

that he felt it was more important to think of the help which would be available to people in these areas by the use of these agents by the optometrists, than to think of the one isolated case which might result in a severe reaction.

Mr. FitzPatrick asked Dr. Sedway why a consumer would go to an optometrist when he could go to an ophthalmologist instead. Dr. Sedway stated that ophthalmologists deal with pathological problems as well as visual acuity whereas optometrists are specifically trained in correcting visual imperfections which occur causing people to seek the help of an optometrist; the need for glasses (as well as being familiar with other conditions of the eye).

Dr. Jack Talsman, ophthalmologist, stated that he wished to address the economics of the bill. He stated that though the optometrists had given the idea that they had no financial interest in passing the bill, he felt they did, indeed, have such an interest. He quoted sections from the April, 1977 issue of the Nevada Relative Value Scale for Ocular Services (the State SAMI program) which indicated that optometrists do charge more for an examination which includes the use of these agents. That report is attached and marked as Exhibit "Q". He also referred to the figures included in the January, 1978 Review of Optometry Almanac to extrapolate what the ultimate financial impact passage of the bill could have on an optometrist. That review is attached and marked as Exhibit "R". Dr. Robinson asked Dr. Talsman if he knew how many optometrists charged for their services based on the fee schedule referred to. Dr. Talsman stated that he did not know, but that the report was compiled by members of the optometric profession. After a discussion regarding these fees, Dr. Talsman answered a question from Mr. Weise saying that approximately 70% of people seeking eye care go first to an optometrist.

Dr. G. Cecchi, ophthalmologist, stated that though the optometrists are claiming not to want the ability to treat with these drugs, but that by using them they are, in effect, doing so. He stated that the use of some of these drugs in giving first aid treatment to patients who are suffering from narrow angle glaucoma would not be effective to a sufficient extent to really make any difference. He again pointed out that it is their general position that if an emergency situation arises, it can be better taken care of by an ophthalmologist. Mr. Weise asked Dr. Cecchi how many people would be harmed if this bill were to pass and Dr. Cecchi stated that he didn't feel it was important to get an exact figure on what that number might be because he felt the possible endangering of anyone seeking care would be bad. When Mr. Weise asked Dr. Cecchi to comment on whether or not he felt there might be some public benefit to the use of these drugs by optometrists, especially in rural areas, Dr. Cecchi stated that he did not feel any rational person could dispute that it might have some benefits, but he felt the risk would be higher than the potential benefits and that he felt allowing optometrists to use these drugs might keep a person in a rural area from seeking the services of an ophthalmologist.

That concluded formal testimony on the bill. Also attached is a letter for the record from Dr. Neil Swissman of the Nevada State Medical Association in opposition to the bill which is marked as Exhibit "S". Additional information from Don Hill is attached and marked as Exhibit "T".

There being no further business to come before the committee, the meeting was adjourned at 7:55 p.m.

Respectfully submitted,

Linda D. Chandler
Linda D. Chandler
Secretary

ASSEMBLY COMMERCE COMMITTEE

ROLL CALL:

Hearing date: March 28 , 1979

CHAIRMAN JEFFREY
VICE CHAIRMAN ROBINSON
MR. BENNETT
MR. BREMNER
MR. CHANEY
MR. HORN
MR. SENA
MR. FITZPATRICK
MR. RUSK
MR. TANNER
MR. WEISE

Present	Absent	Excused
x		
x		
x		
x		
x		
x		
x		
x		
x		
x		

ASSEMBLY COMMERCE COMMITTEE

GUEST LIST

NAME (Please print)	REPRESENTING (organization)	WISH TO SPEAK	
		Yes	No.
Don Hill	OPHTHALMOLOGISTS	✓	
A. CURRY, M.D.	- Ophthalm - M.D.	✓	
J. TALSMA M.D.	Ophthalmologist	✓	
J. Bryant M.D.	Ophthalmologist	✓	
W. Masual	ophthalmology	✓	
G. CECCHI, M.D.	Ophthalmology	✓	
R. Bjur, Ph.D.	Pharmacology	✓	
D. WEATHERHEAD	Sec NEVADA ASSOC OPTICIANS	✓	
George Hunt	Nevada State Medical Assn		✓
Marvin Sedway, O.D.	Nev. State Board of Optometry	✓	
M. D. BERKMAN	Las Vegas Ophth. Society	✓	
K.A. Vase	Optometrist	✓	
W.C. Van Patten	Optometry	✓	
Sirett James	Pharmacology (optometry)	✓	
Wesley T. McVey, Jr.	Washoe County Medical Society		✓
Richard HOPPING	SOUTHERN CALIF COLLEGE OF OPT	✓	
W. S.		
...	...		

MR. CHAIRMAN - MEMBERS OF THE COMMITTEE, THANK YOU FOR TAKING TIME IN YOUR BUSY SCHEDULES TO HEAR OUR TESTIMONY THIS AFTERNOON.

I AM BILL VAN PATTEN, PRESIDENT OF THE NEVADA STATE OPTOMETRIC ASSOCIATION AND A PRACTICING OPTOMETRIST IN CARSON CITY, NEVADA.

MY TESTIMONY IN SUPPORT OF A B 580 WILL BE FOLLOWED BY TESTIMONY.

1. DR. KEN POLSE, ASSOCIATE PROFESSOR, UNIVERSITY CALIFORNIA SCHOOL OF OPTOMETRY, BERKELEY, CALIFORNIA.
2. DR. SIERETT JANNUS, P.H.D. IN PHARMACOLOGY AND ASSOCIATE PROFESSOR AT SOUTHERN CALIFORNIA COLLEGE OF OPTOMETRY, FULLERTON, CALIFORNIA.
3. DR. RICHARD HOPPING, PRESIDENT OF SOUTHERN CALIFORNIA COLLEGE OF OPTOMETRY, FULLERTON, CALIFORNIA.
4. DR. MARVIN SEDWAY, PRACTICING OPTOMETRIST FROM LAS VEGAS, NEVADA, AND A MEMBER OF THE NEVADA STATE BOARD OF EXAMINERS IN OPTOMETRY.

ALL OF TESTIMONY IN SUPPORT OF A B 580 WILL BE OF A POSITIVE APPROACH; NOTHING WE WILL PRESENT WILL BE OF A SLANDEROUS, DELETERIOUS OR DEROGATORY TO ANY GROUP, INDIVIDUAL OR PROFESSION, FURTHER ALL OF OUR TESTIMONY CAN BE DOCUMENTED.

EXHIBIT "A"

I WILL MAKE THREE (3) POINTS.

These Few Drugs

1. WE ARE ASKING FOR NOTHING NEW, *we* HAVE USED *Since* FOR NEARLY QUARTER OF A CENTURY, *Been* OUR PRESENT LAW WAS REWRITTEN IN 1955.

2. I WILL SHOW EVIDENCE OPTOMETRIST ARE QUALIFIED TO DIAGNOSE OCULAR DISEASE AS WELL AS OCULAR MANIFESTATION OF SYSTEMIC DISEASE.

3. THESE DIAGNOSTIC PHARMACEUTICAL AGENTS WHEN USED APPROPRIATELY UNDER PROFESSIONAL SUPERVISION ARE SAFE.

1. THE FIRST POINT - I AS WELL AS MANY OPTOMETRIST IN THE STATE OF NEVADA HAVE BEEN USING THESE DIAGNOSTIC AGENTS FOR MANY YEARS, IN FACT NEARLY A QUARTER OF A CENTURY.

NEVADA HAS BEEN A SO CALLED SILENT STATE, NOTHING IN THE STATUTES OF MEDICINE, OPTOMETRY OR PHARMACY PROHIBITED OUR USING THESE AGENTS

IT WAS NOT UNTIL MAY 1978 WHEN AN OPHTHOLOMOLOGIST FILED A COMPLAINT " WITH THE PHARMACY BOARD CONCERNING AN OPTOMETRIST USING THESE DIAGNOSTIC AGENTS," WE WERE AWARE THAT WE WERE IN VIOLATION OF THE PHARMACY STATUTES.

IT WAS BROUGHT ABOUT BY A CHANGE IN THE PHARMACY STATUTES IN THE 1977 SESSION OF THIS LEGISLATURE INVOLVING POSSESSION OF LEGEND DRUGS. WE WERE NOT AWARE THE CHANGE WAS MADE.

NOW WE ARE ASKING THIS LEGISLATURE TO ENACT INTO LAW AN AMENDMENT TO PERMIT NEVADA OPTOMETRIST TO CONTINUE TO UTILIZE PHARMACEUTICAL AGENTS WITH IN THE SCOPE OF OPTOMETRIC PRACTICE, FOR THE BENEFIT OF THE CITIZENS OF NEVADA.

2. I WILL SHOW EVIDENCE OPTOMETRIST ARE QUALIFIED TO DIAGNOSE OCULAR DISEASE AS WELL AS OCULAR MANIFESTATION OF SYSTEMIC DISEASE.

I WOULD ASK DR. KANELLOS TO PASS OUT A REPORT.

THE HEALTH, EDUCATION AND WELFARE STUDY. - TURN TO TAB # 1

RATHER CONCLUSIVE EVIDENCE FROM A PRESTIGIOUS GROUP OF EXPERTS, ETC.

3. THESE DIAGNOSTIC PHARMACEUTICAL AGENTS WHEN USED APPROPRIATELY UNDER PROFESSIONAL SUPERVISION ARE SAFE.

WE ARE LIMITING ANY POSSIBLE POTENTIAL HAZZARD EVEN FURTHER.....

1. IN OFFICE USE.
2. 4 CLASSES OF DRUGS.
3. NO GRANDFATHER CLAUSE, MUST COMPLETE A COURSE.
4. ROUTE OF ADMINISTRATION. - (Hand out material)
5. TABS..... ..G.....H.....J...L...N.....
6. ^A LETTER FROM DR. LEMOINE.
 B. Letter From Dr Bellin
7. REFER BACK TO H.E.W. STUDY..... TAB 4

Pharmaceutical
 optometric
 Board
 Certified
 ophthalmologist

IF THESE DRUGS WERE DANGEROUS AND IT SEEMS INCONCEIVABLE TO ME
 SUCH A PRESTIGIOUS GROUP MAKING THIS H.E.W. STUDY WOULD RECOMMEND
 THE STATE LICENSURE LAWS BE REVISED.

THANK YOU VERY MUCH FOR YOUR TIME, IF YOU HAVE ANY QUESTIONS I WILL
 ATTEMPT TO ANSWER THEM.

IF NOT THANK YOU AGAIN.....

**REPORT TO
THE CONGRESS:
REIMBURSEMENT
UNDER PART B OF
MEDICARE FOR
CERTAIN SERVICES
PROVIDED BY
OPTOMETRISTS**

As Required by Title I,
Section 109,
of P.L. 94-182

July 1976

EXHIBIT "B"

U.S. DEPARTMENT OF HEALTH, EDUCATION, AND WELFARE
Public Health Service
Health Resources Administration
Bureau of Health Manpower
Division of Associated Health Professions

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CONCLUSIONS OF THE HRA STUDY

The following set of conclusions responds directly to the Congressional charge concerning whether it is appropriate overall to alter Part B reimbursement under Medicare for services provided by optometrists related to aphakic and cataract conditions. These conclusions have been derived by the Health Resources Administration from factual information, analytic findings, and professional judgments assembled during the Study.

1. Qualifications of optometrists. Optometry is a profession qualified to provide a broad range of services beyond refraction and the provision of eyeglasses. Furthermore, the services provided appear to be effective in patient management, including the management of aphakic and cataract patients. They are reasonable, non-experimental, safe, and generally acceptable to the vision/eye care community and the public.
2. Services related to aphakic and cataract conditions. Many of these services are the same as the specific diagnostic, therapeutic, and consultative services currently covered under Part B of Medicare when provided to pre- and post-surgery cataract patients by ophthalmologists or other doctors of medicine and osteopathy. (See Table 1, Part I Section I-B).
3. Detection and diagnosis of disease. Evidence presented during this study supports the conclusion that optometrists, in general, are qualified to provide services for the detection and preliminary diagnosis of ocular disease and ocular manifestation of systemic disease. Referral, where indicated, is made to ophthalmologists and other health care practitioners for definitive diagnosis and medical or surgical treatment.

4. Standards of Procedure. Clinical standards committees of professional associations have identified effective instrumentation and procedures that are available to and utilized by optometrists which are effective in the diagnosis/detection of disease, notwithstanding limitation by certain State jurisdictions regarding the use of topical drugs.
5. Quality Assurance. Quality assurance is attainable in the provision by optometrists of reasonable, safe, nonexperimental, and acceptable services to all patients including the Medicare eligible population. The development of criteria of care for diagnostic, therapeutic, and consultative services provided by optometrists, and similar to those existing for certain other health professional groups, does appear feasible in both organized and independent health care settings. Such criteria currently exist in a number of individual situations or are in various stages of development.
6. Access to services. Vision/eye care services for aphakic and cataract patients, as well as for patients more generally, can be made more accessible to the Medicare eligible population by providing reimbursement for services when provided by optometrists. In general, optometrists are more widely distributed geographically and practice in many smaller communities where other vision/eye care practitioners are not available.
7. Equity. Financial equity can be extended to those Medicare beneficiaries who currently obtain necessary and reasonable health services from optometrists but who do not currently receive the reimbursement to which they should be entitled.
8. Delivery patterns. It is reasonable to infer that inclusion of services under Medicare for aphakic patients when provided by optometrists would not significantly alter existing provider delivery patterns within the vision/eye care community. However, the impact upon such delivery patterns of the inclusion of services by optometrists for cataract patients, while likely to be small, is less clear.

9. Costs. It is reasonable to infer that the inclusion of services related to aphakic and cataract conditions when provided by optometrists would result in some added costs to the Medicare program. These added costs would be partly associated with Medicare enrollees currently served by optometrists without reimbursement, as well as those patients not now receiving care, who would do so as a result of the inclusion of such services under Medicare. Estimates suggest, however, that such added costs would not be significant in the context of overall Medicare costs for vision/eye care services and service benefits. (See the Study Summary, Part I, p. 28). This is viewed particularly so in the instance of extended reimbursement for services provided by optometrists to aphakic patients.

RECOMMENDATIONS AND ADDITIONAL CONSIDERATIONS OFFERED BY STUDY
CONSULTANTS

In reviewing study materials, expert consultants to the study concluded that steps should be taken immediately to extend reimbursement under Part B for services provided by optometrists to both aphakic and cataract patients. It was their collective judgement that referral delivery patterns, costs, and administrative features of the program, would not be significantly affected if reimbursement of optometrists were extended to cataract, as well as aphakic, patients. Thus, study consultants recommended the following:

1. Based primarily on considerations of patient needs, qualifications of optometry to provide services effective in patient management, and increased access of Medicare beneficiaries to vision/eye care services, it is recommended that covered services related to aphakia when provided by optometrists be reimbursable under Part B of Title XVIII. This recommendation is presented in direct response to the requirements of Section 109 of the Social Security Amendments of 1975 (P.L. 94-182).
2. Based on the same considerations as indicated above, it is recommended that covered services related to cataract conditions, when provided by optometrists, be reimbursable under Part B of Title XVIII.

As is evident from the discussion above, the Department endorses the first recommendation. For reasons cited, however, Department endorsement of the second recommendation is viewed as inappropriate and premature at this time.

During the course of the study effort, a number of additional issues and concerns were identified by the expert consultants which, although important considerations, represent matters not directly responsive to the specific legislative charge as interpreted by the Department. These recommendations and comments, made unanimously by the consultants, are presented here to provide an opportunity to bring these matters to the attention of Department Agencies and the Congress. Because the following items go beyond the requirement of this report, the Department has not fully examined them and makes no recommendation at this time.

1. Refractive services for aphakic patients

Aphakic patients, specifically, should be considered as having special needs given their disabled condition. Refractive services for such patients represent non-routine and necessary services in the provision of prosthetic devices, i.e., lenses.

Study advisors recommend that consideration be given to extending coverage under Part B of Medicare to include refractive services for aphakic patients when provided by either ophthalmologists or optometrists.

2. Low vision services and aids

For those patients who have inoperable cataracts or have less than optimal results from cataract surgery, that is, those who have reduced visual acuity, low vision services and aids represent essential components of reasonable and necessary health care services for these patients.

Study advisors recommend that coverage under Part B of Medicare be extended to include the provision of appropriate low vision services and optical aids for the above-referenced patients, when provided by either ophthalmologists or optometrists.

3. Prevention, health maintenance, and health education

In the interests of health care cost advantages, effects on productivity, and the overall improvement of benefits that can be afforded our population, the expert consultants recommend that a more effective effort be made to improve preventive, health maintenance, and health education measures. While this is needed in all areas of health services, the vision/eye care field offers a particularly promising area for such approaches.

4. Other service provided by optometrists

Vision/eye care services currently covered by Part B of Medicare, when provided by ophthalmologists or other physicians, include eye conditions other than cataract and aphakia. Optometrists can provide appropriate services for some of these conditions. It is recommended that extension of reimbursement to include the services of optometrists for such appropriate conditions is a desirable subject for further consideration.

5. Administrative considerations

Also during the course of the study effort, expert advisors raised several concerns pertinent to the administration of the Medicare program. These issues, also applicable to other Medicare services, include the following: (a) inconsistent application of coverage and reimbursement policies by individual carriers, (b) the problem of payment duplication for services and reimbursement for similar diagnostic procedures when performed for specific individuals by more than one provider, and (c) need of improvement in coding and billing procedures for vision/eye care services.

6. Cooperative working relationships between vision/eye care professionals

It became clear during the course of this study that more effective working relationships between optometry and ophthalmology and other providers in the vision/eye care field would enhance patient care and result in improved services to individual patients. While improved interdisciplinary coordination applies to all the health disciplines and specialties, it is a problem of particular concern in the vision/eye care field. Such working relationships could be significantly strengthened by

- a. Development of joint educational programs at the undergraduate and graduate levels, including rounds, clinics, conference, and meetings and publications.
- b. Establishment of interdisciplinary clinics with optometrists and ophthalmologists working together.
- c. Facilitation of referral of patients between the optometrist and the ophthalmologist when in the best interest of the patient.
- d. Joint development of quality standards for service and materials by peer review mechanisms. By materials, particular reference should be assigned to varying quality of lenses and frames and the need for furnishing laboratory invoices of material costs for reimbursement.

- (e) Joint development of appropriate revision to State licensure laws to permit use of diagnostic drugs (mydriatics and local anesthetics) by optometrists.

While such joint endeavors are evident in various areas of the country, they need to be broadened and routinized.

PART I

Study Summary

The three overview sections presented in the first part of the report provide the reader with a general summary of the entire study. The first major section presents an account of the study background, strategy, and methodology. The second major section provides the reader with a synopsis of existing Medicare provisions pertinent to the study query. The concluding major section, presents key findings and conclusions that have resulted from study.

SECTION I-A

STUDY BACKGROUND, STRATEGY, AND METHODOLOGY

The Department of Health, Education, and Welfare currently provides, through a variety of mechanisms, financial assistance for the provision and receipt of health care services. As stated in its Forward Plan for Health (June 1975): "The focus of providing access to medical services through Federal financing has gradually shifted from limited activities for the control of communicable diseases among various Federal beneficiary groups; to services for special age and population groups; to care related to specific health needs; to comprehensive service delivery systems; to insurance for the aged and disabled; to reimbursement of services to the poor and medically indigent. In terms of expenditures, Medicare and Medicaid represent by far the greatest share of the Department's health financing activities."

Slightly over a decade ago, the Medicare program was promulgated as part of the Social Security Amendments of 1965, when Congress enacted a dual program of health care to meet the growing problems of providing services for the aged. In effect, this program was intended to provide financing of health care services for beneficiaries who tended to be in poorer health than many other population groups and who often had inadequate financial resources to purchase such services. As enacted, Title XVIII of the Social Security Act consisted of provisions relating to hospital benefits (Part A), financed by universal mandatory contributions, and a voluntary supplementary medical benefits plan (Part B), available to any person aged 65 or over, irrespective of Social Security status.

At various times during the past decade of Medicare experience, interest has arisen in the appropriateness of altering provisions as originally mandated by the 1965 legislation. Where Congress has favored modifications, changes have been enacted through a series of amendments to Title XVIII of the Social Security Act.

One area of interest in recent years has been the appropriateness of selectively altering reimbursement under Part B of Medicare to include certain health care services when provided by nonphysician professional practitioners. Currently, the Department of Health, Education, and Welfare is engaged in several efforts directly or peripherally related to this issue. This particular document represents one such effort.

Legislative Charge

During the Senate floor debate on December 17, 1975, on H.R. 10284, Amendments to the Medicare Law, the following amendment, which was later enacted as Section 109 of P.L. 94-132, was proposed. It requires a study by the Secretary of DHEW regarding eligibility under Part B of Medicare for certain vision/eye care services when provided by optometrists:

"Sec. 109. The Secretary of Health, Education, and Welfare shall conduct a study of, and submit to the Congress not later than four months after the date of enactment of this section a report containing his findings and recommendations with respect to the appropriateness of reimbursement under the insurance program established by Part B of Title XVIII of the Social Security Act for services performed by doctors of optometry but not presently recognized for purposes of reimbursement with respect to the provision of prosthetic lenses for patients with aphakia."

The amendment is essentially the same as the one adopted by the Senate two years earlier as part of H.R. 3153, the Social Security Amendments of 1973, which did not become law. At that time, it was suggested in the Senate report on the bill that an appropriate study should be undertaken utilizing the expertise of both optometrists and physicians who are not employed directly or indirectly in governmental agencies, and that at least half of the professionals consulted should be actively practicing optometrists.

Supporting his amendment to H.R. 10284 this past December, Senator Robert Dole referred to the guidelines set forth in the 1973 Senate report and added:

". . . I would further suggest now that the Secretary might assign the designated task to his Assistant Secretary of Health, and that his office in turn utilize existing Health Manpower agencies so that information could be supplied regarding the optometric curriculum and the distribution of optometrists generally. I would also hope that the panel formed would include consumer representatives and that, in the course of their investigation, consideration can be given to services provided the entire cataract patient--including precataract cases where appropriate."

Interpretation of Charge

Interpretation of the charge from Congress was based on the joint context of the amendment itself and the Senate floor speech. In order to meet the requirements intended for the study, consequently, the following question was viewed as the principal query for examination: *What services related to aphakic and cataract conditions currently covered under Part B of Title XVIII when provided by a physician, are appropriate for reimbursement when provided by an optometrists?* Implicit in this interpretation was the expectation that any recommendations for altering Part B of the Medicare program which might result from the study would require legislative change.

It was deemed appropriate to confine the inquiry to optometrists and optometric practice. Accordingly, limited attention was directed by the study to other providers of vision/eye care services. Departmental interpretation of the legislative intent regarding substantive content of the study, as well as the use of non-government expert advisors, is treated in the remainder of this section.

Study Strategy

In addressing the appropriateness of introducing modifications to existing provisions under Part B of Title XVIII, a balanced assessment must examine considerations of population health care needs, the quality of service delivery provided to the Medicare eligible population, resource distribution and access concerns, and respective cost implications. The intensity of any study inquiry into such areas, however, must be tempered by the availability of time, resources, and information of relevance. Given the time and other constraints on the conduct of this mandated study, the Department adopted a closely-defined strategy to undertake this effort.

Health Care Needs

As stated in Vision Research Program Planning, a report developed under the auspices of the National Advisory Eye Council and published this past year by the National Eye Institute, the National Institutes of Health, "the great toll taken each year in the United States by eye diseases is . . . not measured in terms of mortality--few disorders originating in the eye cause death--but rather in degrees of physical limitation and financial burden. But such measurements are inadequate, for they do not convey the hardship or mental anguish of having to function in a complex environment deprived of normal vision. Perhaps

for these reasons, Americans have indicated that they fear blindness more than any other physical affliction with the single exception of cancer."

This passage has particular relevance for any consideration of vision/eye care disorders and their impact upon the elderly members of our society. Persons sixty-five years of age and over continue to account for a disproportionate share of vision/eye problems, a fact that often further complicates the already complex life conditions faced by many geriatric persons.

As assessment of the extent of overall vision/eye care needs of the elderly is itself a difficult undertaking, similar to efforts addressing broader health care needs and other population segments. Judgments from professional providers or other experts close to the subject yield approximations with wide variation for both overall vision/eye care needs as well as needs more pertinent to aphakia and cataract. For this study, it was believed reasonable that the identification of relevant incidence and prevalence data, along with selected data on utilization, would provide an adequate information base to address this area.

Quality of Service Delivery

The Medicare program adopts, de facto, the provisions of State Practice Acts with respect to the scope of practice of reimbursed health professionals. However, it does not necessarily do this with respect to the qualifications of practitioners, since among other reasons the qualifications required for licensure often exhibit extensive variation from one jurisdiction to another. (Currently, one health profession is subject, for purposes of Medicare Part B reimbursement, to requirements for independent practitioners which may be more stringent than the requirements imposed for State licensure).

Thus, in considering a change in Medicare policy which would result in the reimbursement of a health profession which has not heretofore been reimbursed for its services, it is appropriate to consider the quality of health care delivery that would ensue. Since neither the quality of service nor the quality of manpower is directly measureable, except perhaps in highly specific and limited circumstances, a strategy for the study was required that would allow reasonable inferences about quality to be drawn. Attention was directed to those vision care structure, process, and outcome variables on which some information might be available and which could be taken as indices of quality.

Consideration was given to the appropriateness of equipment and procedures utilized by optometrists for providing required services; the extent to which optometric education and usual practice correspond to the skills and experience identified for the requisite services; and the existence of any optometric practice standards that might exist or be in the process of development. Bibliographic searches were undertaken to uncover the availability of any controlled studies that have been directed to assess the effectiveness of optometric practice. An analysis of State Optometry Practice Acts was undertaken, primarily to document the extent of uniformity or variability among extant provisions, as well as to supplement analyses of relevant structure or process variables (e.g., the extent to which continuing education requirements are stipulated in State Practice Acts).

Distribution, Access, and Cost

Although "access" to health care can be viewed in several ways, such as in terms of financial, physical, and attitudinal barriers to obtaining services, a thorough examination of this issue requires a relatively broad view of resource availability and distribution. For example, a consideration of physical access solely in terms of numbers of available health care resources represents a limited and sometimes misleading input for policy development. Measurement of physical access is better undertaken in terms of the monetary and non-monetary costs of obtaining requisite services, including considerations of respective transportation, time, and search costs incurred. Insuring physical access in monetary terms, consequently, should raise the possibility of tradeoffs between improved financial access and improved physical access.

Despite such broader considerations, including implications for health manpower education policy, the time and data constraints for this study suggested a more narrow course for examination. Attention was focused, therefore, on the geographic distribution of the Medicare eligible population and the corresponding distributional patterns of optometrists and ophthalmologists. The rationale was to conduct a first-order level of analysis concerning potential impacts upon availability of manpower (services) from any potential alterations in existing reimbursement policy.

Changes in existing utilization patterns, potential alterations in the patterns of service delivery by providers, as well as possibilities for duplication of services all represent minimum considerations for analytic endeavors attempting to assess the cost implications of any shifts in prevailing coverage. Attention to consequences for Medicare

program costs and health care costs generally represents an integral part of any inquiry concerning the appropriateness of potential modifications to existing Medicare provisions and policy. Given such considerations and again with the time and data constraints for this effort, the study intent was to provide a rough first-order estimate of the magnitude of the cost implications at issue.

Study Methodology

Current studies, as well as data collection efforts already completed, were heavily relied upon for information utilized in this study. This process was expedited by the use of selected bibliographic searches, as no primary data collection activities were undertaken for this effort.

In accordance with the legislative charge, further, a group of nine consultants were used. These individuals contributed to the study by reviewing material assembled by the staff; providing information sources and, where appropriate, access to relevant material for the conduct of the study; and serving in a technical advisory capacity. Although the consultants contributed substantially to the preparation of this report, including its conclusions and recommendations, its overall contents, are the responsibility of the Department.^{1/} Consultants included three active practicing optometrists, three ophthalmologists, one optometric educator, and two public representatives. (See the Attachment to this section for a listing of the names of consultants.) During the course of the study, the consultants met on three occasions, although informal dialogue between individual consultants and staff continued throughout the study's duration.

Consultants were presented with a series of questions that staff intended to address as part of the analytic endeavors. Dialogue between consultant and staff as well as inputs provided by selected organizational components of the Department, served to determine the study framework. During the latter part of the effort, the consultants reviewed findings suggested by staff, and, at the request of staff, provided their professional views concerning the range of potential conclusions and recommendations which might reasonably be related to these findings.

The Bureau of Health Manpower of the Health Resources Administration, PHS, which is directed by Daniel F. Whiteside, D.D.S., had primary responsibility for the staff work. Assistance in specific areas of the study was provided by the Office of Policy Development and Planning, Office of the Assistant Secretary for Health, PHS; Bureau of Quality Assurance, Health Services Administration, PHS; National Eye Institute, National Institutes of Health, PHS; National Center for Health Statistics

^{1/} Separate recommendations and concerns advanced by the study consultants have been so identified on page vi of this document.

and National Center for Health Services Research, Health Resources Administration, PHS; and the Bureau of Health Insurance and the Office of Research Statistics, Social Security Administration. A listing of the study staff, as well as formal linkage persons in Departmental organizations identified above is also provided in the Attachment. In addition, a number of additional governmental and non-governmental sources were contacted informally during the course of the study. Where information was obtained from such sources and utilized in this effort, appropriate references are provided in the text of this report.

ATTACHMENT

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SECTION I-B

CURRENT STATUS OF MEDICARE COVERAGE AND REIMBURSEMENT^{1/}

In order to provide the basis for a review of the question of the appropriateness of including reimbursement of services provided by optometrists to cataract patients under Title XVIII, Part B, of the Social Security Act, it is essential to understand the current status of coverage and reimbursement. The purpose of this section is to provide that understanding.

Part B of Title XVIII of the Social Security Act (Sec. 1831-1844) entitled "Supplementary Medical Insurance Benefits for the Aged and Disabled," in contrast to the hospital insurance benefits program (Part A), is a voluntary program for eligible individuals who elect (or in certain cases do not decline) to enroll. It is financed from premium payments by enrollees and from funds appropriated by the Federal Government. Eligible enrollees include most persons who have attained the age of 65 years and (after 1973) certain persons under age 65 who are disabled or suffer from chronic renal disease. As the title implies, the program supplements the benefits provided under the hospital insurance benefits program by covering physician and certain other practitioners' services, additional home health visits, plus a number of other medical and health services not covered by the Hospital Insurance Benefits program. As in the hospital insurance program, there are limitations on benefits in the form of deductibles and coinsurance, as well as exclusions relating to specific services.

The implementation of the Social Security Act is vested, by statute, with the Secretary of Health, Education, and Welfare. Operational responsibility for the Medicare program is carried out by the Social Security Administration.

Coverage is defined by the statute and by regulations promulgated pursuant to the statute by the Department of Health, Education, and Welfare. It is also important to recognize the importance of "legislative history" to both the formal regulatory process and implementation of the program. Thus, where more than one interpretation may be made from the statutory language itself, various congressional documents, particularly reports issued by Congressional committees, are utilized to determine congressional intent. Also, one cannot underestimate the importance of the staff of the Department of Health, Education, and Welfare, particularly the Social Security Administration which has responsibility for implementing the program within the law and regulations in a consistent manner.

Part B of the Medicare program is administered on a day to day basis through contracts negotiated between the Federal Government and health insurance carriers. The Federal Government may also enter into agreements with States for coverage of eligible individuals who are concurrently receiving payments for medical assistance under public assistance programs provided through the Social Security Act (Section 1843(h)).

It is the responsibility of the carriers (or State agencies) to apply policies regarding benefits and limitations in accepting or rejecting bills submitted for reimbursement and to determine that charges made for covered services are reasonable. To assist carriers and others in this process, the Social Security Administration issues Health Insurance Manuals (HIM's). There are active contracts with more than 70 carriers and one State agency agreement for implementation of Part B.

As of July 1, 1973, 23.5 million aged and disabled persons were insured under Medicare. Of these, 22.5 million were enrolled under Part B, with 22.2 million covered under both Part A and Part B, and 244,000 under Part B only. Part B enrollees included 20.9 million persons over age 65 and 1.6 million under age 65.

Basic Services Covered by the Supplementary Medical Insurance Program

The Social Security Act (Sec. 1832) divides the scope of benefits covered by Part B into three basic elements: (1) "home health services," (2) "medical and other health services," and (3) "out-patient physical therapy services." In general, these are defined in section 1861, subject to the exclusions in section 1862.

Medical and Other Health Services are defined (Sec. 1861(s)) to include:

- (1) physicians' services
- (2) services and supplies furnished as an incident to a physician's professional services
- (3) diagnostic X-ray, laboratory, and other diagnostic tests
- (4) X-ray, radium and radioactive isotope therapy
- (5) surgical dressings, and splints, casts and other devices used for reduction of fractures and dislocations
- (6) rental or purchase of durable medical equipment
- (7) ambulance service
- (8) prosthetic devices
- (9) leg, arm, back, and neck braces

The Act (Sec. 1861(q) and (r)) further, defines "physicians' services" and "physician."

The term "physicians' services" means "professional services performed by physicians, including surgery, consultation, and home office, and institutional calls..." However, those services provided by interns, residents, and teaching physicians are reimbursed under special provisions.

"The term 'physician,' when used in connection with the performance of any function or action, means (1) a doctor of medicine or osteopathy legally authorized to practice medicine and surgery by the State in which he performs such function or action..." Dentists, podiatrists, optometrists and chiropractors are also defined as "physicians" for certain specific and limited purposes within the Act.

Section 1862 sets forth exclusions from coverage under the Act, prohibiting payment, notwithstanding any other provisions of Parts A or B, for any expenses incurred for certain items and services. A list of thirteen exclusions is specified. Of pertinence to this study are items or services

- "which are not reasonable and necessary for the diagnosis or treatment of illness or injury or to improve the functioning of a malformed body member;"
- "where such expenses are for routine physical check-ups, eyeglasses or eye examinations for the purpose of prescribing, fitting, or changing eyeglasses, procedures performed (during the course of any eye examination) to determine the refractive state of the eyes, hearing aids or examinations therefor, or immunizations."

Current Coverage for Services Provided to Persons with Cataracts

In general, diagnosis and treatment of cataract conditions are services which are covered under Part B. However, there are certain limitations to this coverage, both as to specific services for which reimbursement may be made as well as to the nature of the practitioner who provides the service. Exclusions relating to the services for which expenses are not covered are as follows:^{4/}

1. Routine physical checkups. Thus, for example, the diagnosis of cataracts, if made during the course of a routine physical examination not involving a specific complaint, would not be covered.

2. Provision of eyeglasses or contact lenses (except both temporary and permanent post surgical lenses which, after the natural lens of the eye has been removed, are considered to be prosthetic devices).
3. Eye examinations for the purpose of prescribing, fitting, or changing eyeglasses or contact lenses for refractive error only.
4. Procedures performed in the course of any eye examination to determine the refractive state of the eye.

Limitations to the nature of the practitioner who provides covered services to a cataract patient are principally related to the definition of "physician" for purposes of the Act.

As noted above, in addition to doctors of medicine and osteopathy, the Act defines other practitioners, including optometrists, as "physicians" for specific purposes within the program. In the case of optometrists, this definition is limited to "establishing the necessity for prosthetic lenses."^{5/} Regulations clarify this by defining an optometrist as a "physician" "...only for the purpose of attesting to the necessity of prosthetic lenses."^{6/}

Regulations further state that "The prescription or order of a doctor of optometry will be accepted as evidence of the medical need for prosthetic lenses. However, optometric examinations for any purpose are not covered."^{7/}

Inclusion of the above definition relating to doctors of optometry was made by amendment to the Social Security Act in 1972. Prior to that time, while prosthetic lenses were reimbursable when provided by an optometrist, it was necessary for the patient to have a prescription from a physician. The intent of the amendment was to eliminate the necessity for an aphakic patient to obtain a physician's order for prosthetic lenses by recognizing the ability of an optometrist to determine a beneficiary's need for such lenses. The reports of both the Senate and House Committees made it clear, however, that the purpose of the amendment was solely for the purpose of establishing or attesting to the medical need for prosthetic lenses, and did not provide for coverage of services performed by optometrists other than those previously covered.^{8/}

In summary, current Part B coverage for cataract patients includes, when provided by any doctor of medicine or osteopathy, (1) eye examinations, except that part of the examination related to refraction, if the examination is carried out in relation to a specific patient complaint; (2) surgical and related professional services carried out in connection with removal of the lens; and

(3) services in connection with the provision of both temporary and permanent prosthetic lenses, including fitting and providing the lenses themselves. The only services for which optometrists may be reimbursed are dispensing services in connection with the actual fitting and provision of prosthetic lenses. Table 1 delineates the status of Part B reimbursement for services within the scope of practice of both physicians and optometrists.

TABLE 1

Part B Reimbursement Status of Services to Cataract and Aphakic Patients which are Provided by both Physicians and Optometrists

<u>Service*</u>	<u>Eligible for Part B Reimbursement Under Certain Conditions</u>	
	<u>MD/DO**</u>	<u>OD</u>
Personal and Family Health History,		
Symptoms and Vision Requirements	X	
Visual acuity - distance and near, with and without correction	X	
External examination (eye and adjacent structures)	X	
Direct and indirect ophthalmoscopy	X	
Biomicroscopy	X	
Tonometry	X	
Central and peripheral visual fields	X	
Ophthalmometry/Keratometry	X	
Refraction - objective and subjective, distance and near		
Ocular motility and binocular function	X	
Visual perception, color vision, Stereopsis, motor	X	
Evaluation for contact lenses	X	
Evaluation for low vision aids	X	
Evaluation for vision training therapy	X	
Ophthalmic prosthesis and services	X	X

* Services listed include only those within the scope of practice of both physicians and optometrists. All of the listed services would not necessarily be provided by either provider to every cataract or aphakic patient during the course of each examination.

** Most of these services, when provided by physicians, are typically provided only by those specializing in Ophthalmology. However, any doctor of medicine or osteopathy is authorized to carry out any of the services listed and could be reimbursed for any covered services provided.

Footnotes and Bibliography

- 1/ Basic information included in this section is derived from the "Social Security Act and Related Laws (including Amendments through January 2, 1976)," Committee on Finance, United States Senate, February 1, 1976; Federal Regulations No. 5, 20 CFR, Part 405; and "Health Insurance Manuals" (HIM's) issued by the Social Security Administration as instructions to carriers and others. A useful supplementary compilation of the various pertinent documents is "1974 Social Security and Medicare Explained -- Including Medicaid --," Commerce Clearing House, Inc., Chicago, Ill., 1974.
- 2/ U. S. Department of Health, Education, and Welfare, Social Security Administration "Medicare 1973," DHEW Publication No. (SSA) 76-11705, U. S. GPO, Washington, D.C., 1975, p. 1.
- 3/ The definition of outpatient physical therapy services has been extended to include outpatient speech pathology services. Since home health services and outpatient physical therapy services are not pertinent to this study, they will not be discussed further.
- 4/ See Social Security Act, Part B, Section 1862(a)(7); Regulations No. 5, Subpart C, paragraph 405.310; Medicare Carriers Manual, HIM 14-3 paragraphs 2320, 4125, 5217. See also Social Security Act, Part B, Sec. 1861(s)(8).
- 5/ Social Security Act, Title XVIII, Part B, Sec. 1861(r).
- 6/ Regulations No. 5, paragraph 405.232a(a)(4).
- 7/ Regulations No. 5, paragraph 405.232c.
- 8/ See United States Senate Report of the Committee on Finance to accompany H.R. 1, Senate Report No. 92-1230, September 26, 1972, pg. 214; and U. S. House of Representatives Report of the Committee on Ways and Means on H.R. 1, House Report No. 92-231, May 26, 1971, pp. 117-118.

SECTION I-C

FINDINGS AND LIMITATIONS -- SUMMARY

This section provides a summary of the key study findings which underlie the recommendations presented in the beginning of this report. The points highlighted have been documented on the basis of statistical or factual information, or professional judgments concerning what would represent reasonable and likely inferences given professional experience. Detailed inputs to the study, which were used in the preparation of this section, are provided in Part II of the report.

Also included in this section are limitations to the report, necessitated by the complex nature of the health delivery system and lack of concrete data which describes its elements, i.e., unmet needs, provider access, and quality of provider services. This project was further limited by time imposed, which did not permit the acquisition of new data which might increase our understanding of the system. The reader should, therefore, read Section I-A, "Study Background, Strategy and Methodology," to understand the basis for the findings and be cautious in the interpretation of the data presented.

Vision/Eye Care Needs of the Elderly

Geriatric patients are likely to suffer from multiple symptoms and various interrelated disabilities, with underlying pathology that is complex and that requires a range of diagnostic, therapeutic, and domiciliary care services. Their health conditions are often further complicated by social, psychological, and economic instability, requiring various health consultative services as well.

The elderly population accounts for a disproportionate share of vision/eye problems, including cataract and aphakia, and requires vision/eye care services provided in a professional, compassionate manner. Lack of mobility, as well as dependency and depression, represent but a few examples of life conditions experienced by geriatric patients. Vision problems, furthermore, may precipitate other problems, such as consequences of accidents and injuries attributable to visual difficulties.

Cataract, as a structural definition, refers to any opacity of the crystalline lens. Since such opacities result, in most instances, from the normal physiological process of aging, it is therefore

not unusual for large numbers of the elderly to have some degree of cataract, technically. Although stages in the progression of cataract can be generally classified, there is no means for objectively and consistently determining these stages and their effects upon visual performance. Consequently, general agreement does not exist in the provider community concerning appropriate functional definitions for cataract.

During the course of this study, the consultants did agree upon a functional definition of cataract for diagnostic purposes:

A clinically significant cataract is any opacity of the lens that reduces visual acuity and may be functionally disabling or disruptive of the normal life style, more particularly for near or distant vision (e.g., reading or driving). This definition served as a framework for addressing requisite patient services and provider qualifications.

Statistical profiles on cataracts, despite problems of definition, are informative in appreciating the general magnitude of this eye disorder. Approximately three-fourths of an estimated incidence of 912,000 new cases of cataract per year, for example, is accounted for by the elderly. Among eye disorders, furthermore, the relationship between cataract and blindness is particularly significant.

Although senile (senescent) cataract accounts for approximately ninety percent of the documented cases, it should also be noted that most cataract of this type have no demonstrable etiology. Only about one out of every ten persons with senescent cataract has overt diabetes mellitis.

At the present time, surgery is the only method for treating cataract. It consists of removing the diseased natural lens(es) and replacing it/them with a prosthetic lens of some type. There is no medical treatment available that will dissolve the opacity or prevent its development and progression. It is estimated that in 1972 somewhat over 300,000 surgical operations were performed for cataract extraction, with the largest proportion occurring among the elderly.

Refractive services are particularly important for the aphakic patient. Optical correction of aphakia usually begins within a day or two after surgery utilizing temporary eye glass correction. A final permanent prescription is not given until two to three months and sometimes longer after the extraction. For certain patients, rehabilitation in the use of prosthetic devices is necessary to assist the patient with spatial orientation and mobility.

Since aphakic patients tend to be older, difficulties may result in adapting to contact lenses. For example, physical disabilities such as tremor and arthritis may require a lengthy period of supervised use of contact lenses or preclude their use entirely.

For certain aphakic patients, the use of prosthetic devices such as spectacles and contact lenses, or the implantation of a plastic lens within the eye following cataract surgery, does not provide optimal vision for their lifestyle and occupational requirements. Such patients may require low vision aids, such as special microscopic reading glasses and telescopic spectacles. These devices have been very effective, when properly applied, in providing the best possible vision function for certain lifestyle activities, a requirement that is most important to the physical and mental well-being of these patients.

Access to Vision/Eye Care Services

As indicated above, the management of cataract and aphakic patients requires a broad range of diagnostic, consultative, and therapeutic services, apart from surgery specifically. Many of these services related to the eye are eligible for coverage under current Medicare provisions when performed by Doctors of Medicine and Osteopathy.

It is, furthermore, clear that currently covered vision/eye care services related to aphakic and cataract conditions can be made more accessible to the Medicare eligible population by including services provided by optometrists. As a minimum, greater financial equity can be extended to those Medicare beneficiaries who currently obtain necessary health services from optometrists without Medicare reimbursement.

This conclusion is principally supported by analyzing the distributional patterns of optometric and ophthalmologic manpower. It should be noted that ophthalmologists are not the only physician group rendering vision/eye care services and included under Medicare provisions. Among physician providers, however, it is reasonable to infer that ophthalmologists provide the bulk of overall vision/eye care services.

In 1973, there were approximately two active optometrists for every active ophthalmologist in the United States. Respective active supply estimates numbered 19,300 and 10,500. On a comparative basis, the supply of optometrists was more evenly distributed across the country. The study utilized data assembled from American Medical Association records, the 1972-73 optometry inventory conducted by the American Optometric Association*, as well as statistics collected by the National Center for Health Statistics, DHEW, to examine overall supply and distributional patterns between the two provider groups.

Active ophthalmologists exceeded the number of active optometrists in only two areas of the nation, Maryland and the District of Columbia. In seven States, in contrast, there were greater than three times as many optometrists than ophthalmologists.

* Supported by the Bureau of Health Manpower, HRA

The Bureau of Health Manpower projects the overall number of active ophthalmologists in the United States to rise to 13,300 in 1980 and to 18,400 by 1990; this compares with projected levels of 22,000 and 28,200 for optometrists in the same time intervals. The proportion of ophthalmologists as a percent of total professional vision care manpower is projected to grow from 35 percent in 1973 to 38 percent in 1980 and 39 percent in 1990. These estimates should be interpreted cautiously, and should be undertaken in the context of written documentation available from the Bureau of Health Manpower. Available data preclude such projections on a detailed geographic basis.

More specific data indicates that in recent years many areas of the country, particularly non-metropolitan areas, are served only by optometrists. Approximately 40 percent of counties have an optometrist but no ophthalmologist. Another 27 percent have neither.

Optometric Practice

The Institute of Medicine of the National Academy of Sciences, in describing primary health professions who are direct providers of patient care, defined optometry as follows: "The Doctor of Optometry (O.D.) is a health professional who performs eye examinations to determine the presence of visual, muscular, or neurological abnormalities, and prescribes lenses, other optical aids, or therapy, such as eye exercises to enable maximum vision. Optometrists are trained to recognize disease conditions of the eye and ocular manifestations of other diseases, and to refer patients with these conditions to the appropriate health professional."

This definition, as well as available documentation on the utilization of optometric services, points to the optometrist's role as a provider of primary health care services. In this role, the optometrist functions as a principal point of contact within the health care system for persons having visual complaints, including certain numbers who have symptoms or conditions that require referral to other health practitioners.

The scope of practice for optometry, similar to that for other health care providers, is difficult to define precisely. However, information is available from a number of sources to develop valid concepts of a profession's role and function. Such sources include State laws, judgments of courts concerning the responsibilities of practitioners, the usual and customary practices of the profession, and the objectives, content, and standards of education and training for the profession.

An examination of a variety of such sources suggests that optometry is a profession qualified to provide a broad range of services which are effective in patient management, including the management of aphakic and cataract patients. (See discussion in Part II of this report for detail on sources cited and information examined.) It is reasonable to infer that such services correspond to many specific

diagnostic, therapeutic, and consultative services currently reimbursable under the Part B provisions of Medicare when provided to pre- and post-cataract surgery patients by ophthalmologists or other doctors of medicine.

Consultants to the study and results of field studies provided a list of the broad range of services performed by optometry. These include personal and family health history (symptoms and vision requirements); visual acuity, distance and near (with and without correction); external examination; direct and indirect ophthalmoscopy; biomicroscopy; gonioscopy; tonometry; central and peripheral visual fields; macular integrity, fixation; ophthalmometry/keratometry; refraction, objective and subjective, distance and near; ocular motility and binocular function; visual perception, color vision, stereopsis, motor muscle balance; evaluation for contact lenses; evaluation for low vision aids; evaluation for vision training therapy; and the provision of ophthalmic prosthesis and services.

It was the further opinion of the study consultants that such services comprise appropriate therapeutic modalities in eye care including: prescription of lenses (spectacle or contact lenses), vision training, rehabilitative services, including the teaching of patients to use prescription devices properly, and post-surgical monitoring of referred patients. Furthermore, the professional judgement of the provider as to which therapy or combination of therapies above should be used, is dictated by the presence or absence of related ocular disease and complications of systemic disease.

In terms of practice setting, most optometrists are solo practitioners and serve in independent settings. Partnerships or group practice arrangements account for approximately one-eighth of the optometric manpower supply. It is difficult to determine the extent to which the average independent practitioner provides the full range of services articulated for the profession overall. However, the advisors and consultants indicated that, in their collective professional judgement, most of the services listed above would be provided by an optometrist. Variations in services provided by practitioners would likely reflect differences in professional judgement and the circumstances specifically characterizing the patient presented. Given the variations in cases presented to vision/eye care providers, it would be difficult to rigidly identify "cataract-specific" or "aphakic specific" vision/eye care services; such services, for example, might vary depending upon the type or degree of cataract.

Some documentation on this issue is available from a survey of optometric practice, which was funded by the Bureau of Health Manpower, DHEW, in 1968. The survey indicated that, as of that year, most optometrists who were educated in the preceding twenty-five years did report providing a broad range of services. The extent to which the above-referenced services are provided by optometrists is more easily documented, however, in organized health care settings.

In settings such as the armed forces and health maintenance organizations, optometrists are used extensively for initial vision examination purposes, and, therefore, serve largely in the role of primary care providers. In larger military medical facilities, optometry is usually a section of the department of ophthalmology, while in smaller installations optometrists generally work under the direction of the Director of Hospital Clinics. Usually, ophthalmologists in military installations do not provide services without the assistance of optometrists. In this setting, furthermore, the practice of triaging has been implemented successfully, where ophthalmologists, optometrists, and medical corpsmen are utilized together.

The Veterans Administration, in contrast, has relied much more heavily upon ophthalmology than optometry. (The lower rate of optometric utilization may result in part from the establishment of non-competitive civil service salary rates for optometrists, and, in part by only limited affiliation of VA hospitals with optometry schools.) A multidisciplinary committee within the VA has recommended that training affiliations be established or strengthened with the nation's optometry schools. The Ophthalmological Advisory Committee of the VA, furthermore, has endorsed the concept of expanding the present emphasis on eye health care to the more comprehensive concept of vision care via interdisciplinary team delivery.

Quality Indicators and Controls

As with the scope of practice for health professions, the precise delineation of the practitioners' area of professional competence is difficult to set forth. Here also a variety of sources must be consulted to provide reasonable and highly probable inferences. This is particularly the case given the paucity of carefully undertaken, controlled investigations to assess the effectiveness of services provided by individual practitioner groups.

The development of standards of care for diagnostic, therapeutic, and consultative services provided by vision/eye care practitioners generally, and including optometrists specifically, appears feasible in both organized and independent health care settings. Such standards currently exist in a number of individual situations

or are in various stages of development. Quality assurance, therefore, seems attainable in the provision of reasonable, safe, non-experimental and acceptable services by vision care manpower to the Medicare eligible population.

Criteria and methodologies for performing review of the quality of vision care, including optometric practice, under the aegis of Professional Standards Review Organizations (PSRO) are just beginning to be developed. The concepts of peer review utilizing explicit criteria basic to the PSRO program are applicable to review of optometry practice in the ambulatory care settings, even though PSRO emphasis is currently on the review of inpatient care services.

As indicated earlier, a principal conclusion from the study review is that optometry is a profession qualified to provide a broad range of services which are effective in patient management, including the management of aphakic and cataract patients. It is reasonable to infer from information examined in the study, furthermore, that such services are reasonable, non-experimental, safe, and generally acceptable to the vision/eye care community and the public. Evidence presented, in addition, supports the conclusion that optometrists are qualified to detect and make preliminary diagnosis of ocular disease and ocular manifestation of systemic disease.

Material provided in Part II of this report presents the detailed supportive findings which underlie these conclusions. The following discussion, in turn, highlights several points of particular relevance to this issue.

Optometric Education

Optometrists act as primary providers of health care and as such are responsible for determining whether the problem of the patient is within their scope of treatment or whether the patient should be referred to another health provider. Optometric education includes specific curriculum and clinical training related to the detection and diagnosis of ocular disease and ocular manifestation of systemic disease. Schools include on their faculty and in their clinical programs physicians, and particularly ophthalmologists, in the training of optometric students. On the basis of this educational and clinical experience, the optometric student needs to demonstrate, for both graduation and licensure, a mastery of the skills and knowledge necessary for the diagnosis and management of the cataract and aphakic patient.

While certain curricular components may be particularly relevant to care of the cataract and aphakic patient, the basic curricular elements of schools of optometry are targeted to overall evaluation and analyses of patients, followed by a selection of treatment based on all of the disorders present, the needs and characteristics of the patient, the prognosis, and the possible interrelated effects of the proposed treatment procedures.

Some areas of the optometric curriculum, as noted above, have more information on or are directed more toward the care of the patient with cataract or aphakia. In particular, these include considerations of geriatric, low vision, pathology, optic, and visual performance matters.

The basic curricular elements of optometry schools include the following: biological sciences; physiological optics; pathology; optics; professional orientation; clinical patient care; and patient care experience. Each of these generic areas are subdivided into more specific areas for study and, where appropriate, to clinical experience.

Clinics maintained by the schools provide students with supervised clinical experience with a variety of patients, including cataract and aphakic cases. The clinical experience for the optometry student now commences in the second year and expands until, in the fourth year, the optometric student devotes at least half-time to work under supervision in a clinic setting. In the clinical area, experience is gained in such areas as contact lenses, low vision, children's vision and vision therapy, in addition to basic visual analysis and the prescription of lenses.

In addition to the basic four-year curriculum in optometry schools, a number of institutions offer advanced degrees as well. In the 1974-75 academic year, a total of sixty-six students were enrolled in graduate programs. Recent trends suggest that this figure is likely to increase further.

Similar to developments in education for all health professional groups, the educational process and structure for optometry has been strengthened over time. The accreditation process of optometry schools, for example, was informally initiated with the establishment of the International Association of Boards of Examiners in Optometry (IAB) in 1922. Currently, all optometric schools are also accredited by the regional college accrediting associations.

Prior to 1968, uniform requirements as to length of training were not mandated for all schools of optometry. The requirement of four years of training in an optometry school was made mandatory by the Council on Optometric Education of the American Optometric Association for all schools for the entering class of 1968. The length of study currently in accredited schools of optometry is four years following pre-optometry college studies.

In 1941, the Association of Schools and Colleges of Optometry (ASCO) was formally established, representing all U.S. schools and two programs in Canada.

This Association currently maintains standing Councils in three major educational areas: Academic Affairs, Student Affairs, and Institutional Affairs. Beginning in 1973, the Council on Academic Affairs began development of a major statement concerning curricular standards for optometry schools. Guidelines for optometric residency programs and post-graduate pharmacology training have been developed as well.

State Practice Acts and Licensure. The regulation and control of professional services to the public is a function of individual State jurisdictions. For many health professions, including optometry, State Practice Acts define (with varying degrees of precision) permissible and impermissible acts of individuals who are licensed by the State to practice the profession.

To qualify for licensure, an applicant must be a graduate of an approved school with a program leading to a Doctor of Optometry Degree. All States require applicants to pass a written examination as a condition precedent to licensure. A National Board Examination is currently accepted in lieu of the State written examination in eighteen States.

In 1951, the National Board of Examiners in Optometry was established to resolve the problem of varying content and quality of the State board examinations for graduating optometrists. The National Board Examination, which emerged from this initial concern and subsequent efforts, is currently administered over a two-day period and involves examination in the broadly ranging areas of visual science; ocular pathology; theory and practice of optometry; theoretical optics; ophthalmic optics; ocular anatomy; social, legal, ethical, economic, and professional aspects of optometry; and ocular pharmacology.

Continuing Education. Similar to many other health professional groups, the training of optometrists does not cease upon graduation. Most States require that optometrists continually upgrade their skills. For the few States without formal requirements, a number of State optometric associations have instituted a system of continuing education requirements for membership purposes. Currently, forty-three states require continuing education for license renewal by optometrists, the most States making such a requirement for any profession.

Continuing optometric education courses are offered by over 100 agencies, including the 51 State associations affiliated with the American Optometric Association. It is estimated by the Association that between 17,000 and 18,000 licensed optometrists participate in continuing education courses.

Other State Developments. Apart from the above, other indicators of professional competence can be suggested. For example, optometrists are increasingly being included in various health care programs. A 1975 Kansas statute allows nonprofit corporations to be created specifically to provide group optometric care programs. In 1974, California included optometrists in prepaid health plans. In 1975, Rhode Island included services by optometrists in its State catastrophic health insurance program. In 1974, Maryland included services of optometrists in group health insurance policies. And, in 1973, Colorado added optometry to services which certain corporations may make available to health benefit subscribers. In addition, optometric services have been included for reimbursement purposes in many State Medicaid programs.

Among recent developments in State Practice Acts, several statutes have revised the definition or scope of practice of optometrists. In 1974, Wisconsin construed the meaning of "physicians" to include optometrists in all accident and sickness policies. New York, in 1974, included optometrists with other professionals who receive legal immunity for service on utilization review committees. California law now indicates that in determining whether an individual is blind, the patient may be examined either by a physician skilled in diseases of the eye or by an optometrist.

Referral Patterns and Provider Relationships. Studies of referral practices of private practitioners would, if adequately conducted, likely provide valuable insight into the extent to which optometrists, as well as certain other health care providers, are able to detect disease. Although studies have been undertaken in this area, marked variations tend to exist in comprehensiveness, quality, and overall objectivity. (The reader is referred to Part II for detailed discussion on studies examined during this project.)

Ethical standards within the optometric profession speak directly to the responsibilities of optometrists to refer patients to other providers of vision/eye care services where appropriate. Ten States expressly require by statute or regulation that an optometrist refer patients in need of other professional care to the appropriate practitioner.

Referral rates from optometrists to physicians typically may be higher in organized settings than in the independent setting. A number of studies examined during the course of this study indicated that between two and three percent of patients examined by optometrists in independent settings are referred to a physician; within the military setting, in contrast, referral rates ranged between three and seven percent of the patients seen. A 1968 study of vision care within the Kaiser-Permanente prepaid care plan in the Los Angeles area, however, indicated that 2.75 percent of the patients seeing an optometrist were referred to ophthalmologists.

The collective judgment of the study advisors and consultants was that working relationships between providers in the vision/eye care area are generally quite good and constructive. Documentation on relationships between respective practitioner groups are generally lacking, but study staff were able to uncover a recent effort that specifically surveyed physicians about their relationships with optometry, and which was supportive of the viewpoint expressed by the study advisors.

Cost Considerations

Widespread interest exists in seeking ways to make the health care delivery system more effective and efficient. Apart from considerations of patient needs, provider qualifications, and access concerns, attention in the study was also directed to the potential cost implications of an alteration in Medicare coverage. Notwithstanding a lack of reliable information and making a range of assumptions about the number of reimbursable pre-surgical and post-surgical visits, it is reasonable to infer that inclusion of services related to aphakic and cataract conditions when provided by optometrists would result in some added costs to the Medicare program. Rough calculations suggest, however, that such added costs, which would probably be in the neighborhood of 7.5 million dollars, would not be significant in the context of overall Medicare costs for vision/eye care services (\$300-400 million, annually.) It could be more or less, however, depending on the restrictiveness of the regulations which govern reimbursement.

An uncertain cost effect results from any increase in cataract surgery rates that might occur given the reimbursement policy changes assumed in the analysis. Expert advisors to the study viewed the likelihood of such increased rates as negligible. Nonetheless, it should be noted that, for every additional operation that might occur for Medicare eligible patients, Medicare program costs could rise by roughly \$1,500. This consideration is particularly relevant in assessing any cost consequences of extending reimbursement for services provided by optometrists to pre-operative (i.e., cataract) patients.

Summary

The material assembled and examined in the study, as outlined above, is particularly supportive of recommendations to include for reimbursement at this time under Part B of Medicare, diagnostic, consultative, and therapeutic services related to aphakic conditions when provided by optometrists. Considerations of particular relevance included patient needs, qualifications of optometrists to render effective and necessary services, and concerns in assuring equitable access to requisite services by the Medicare eligible population. Additional study would be desirable concerning reimbursement extensions in the pre-operative area before firm recommendations should be advanced as to cataract service reimbursement.

Much of the information reviewed pertains to vision/eye care services generally, rather than to services related to aphakic and cataract patients specifically. In part, this situation reflects the available level of specificity in existing documentation. To some extent, however, such as is the case with cataract patients, a number of vision/eye care services are not disease specific and extend equally to circumstances where different eye disorders may be presented.

Study Limitations

The legislative charge to the Department, ---"to determine"--- the appropriateness of reimbursement --- "for services performed by doctors of optometry," raised three major issues: The effects of a change in policy on the health status of the population and their access to vision care, on the quality of service provided under the Medicare program, and on additional costs, if any, to the government.

The nature of the health system and the amounts and types of data that describe it are such that, in the best of circumstances, an assessment of issues such as these involves a high degree of judgement, the adoption of numerous assumptions about how the system does and will perform, and the interpretations of data that are not as reliable as we would wish. The conclusions to be drawn from such an assessment are always arguable to some degree; when controversial issues are involved, unanimity of opinion is never found even though there may be a preponderance of evidence indicating the position to be taken.

This study has further been constrained by the time limitations imposed which did not permit the accumulation of new statistical data which might shed additional light on the issues. The procedures followed in reaching the conclusions were those which would most effectively utilize the data which do exist, together with evidence of a non-statistical nature.

The various chapters of this report which support the recommendations point out the uncertainties of the data base and the assumptions which must be made if any conclusions are to be drawn. In order to highlight these caveats, they are summarized here.

The effects of reimbursement for optometrists' services on access to health care and the health status of the Medicare-eligible population:

Statistical evidence, presented in Section II-D, shows that the geographic distribution of ophthalmologists is such that we may reasonably infer that, in many areas of the country, access to their services involves travel for substantial distances. (Forty percent of all counties have an optometrist but no ophthalmologist). Further, anecdotal evidence shows that at least a few Medicare patients seek and pay for optometric services which would be reimbursable if obtained from an ophthalmologist. (However, there are no statistical data to show how widespread this practice is, nor the extent to which it is occasioned by reluctance or inability to travel to an ophthalmologist, by personal preference for an individual practitioner, or by other factors).

Additionally, there are some data from urban clinics which clearly indicate that under present circumstances the vision care needs of the elderly are not being met in timely fashion, and that to do so requires full utilization of all types of vision care manpower, including optometrists and ancillary personnel.

The effects of reimbursement for optometrists' services on the quality of service provided by the Medicare program:

Quality in health services, and the quality or proficiency of health professionals, is the subject of much concern and controversy. Inarguable conclusions cannot be reached, since both standards for and measures of the quality of service are lacking. The multitude of biological and social variables which affect health care outcomes prevent controlled investigations on all but the largest scale and into any but gross differences among areas of the country, types of organization for health care, or types or characteristics of practitioners.

In this study, conclusions about the quality of vision care services and about the competency of optometrists were drawn based upon (1) fragmentary data on practice, (2) published and unpublished reports of experiences in organized health care settings, with and without supporting statistics, (3) statements of policy and reports of practices of institutions and organizations which provide or evaluate optometric education or training, (4) standards and mechanisms for the licensure of optometrists, (5) suits brought for malpractice in vision care, (6) data on characteristics of vision care practitioners.

(7) review of literature on optometric practice, (8) anecdotal information about the proficiency of practitioners (serving only to indicate that both effective and ineffective practitioners exist), and (9) judgements of consultants and advisors.

With such diverse and, in the main, non-quantitative sources of information, the process of arriving at conclusions about the quality of services and of optometrists was necessarily not rigorous. (No attempt was made to compare various professions or specialties with respect to the quality of service they provide.) Within the study's time limitations, however, protracted and earnest attention was paid to this issue.

It should be noted that the recommendations of the Department do not suggest that the scope of practice of Optometry be expanded. With respect to the quality issue, therefore, the recommendations may be supported if it can be accepted that optometrists are proficient and effective in the practice of optometry. The study has concluded that they are.

The effects of reimbursement for optometrists' services on costs of the Medicare program:

The issue of costs has been most difficult to address:

- Data are lacking on the quantity and type of vision care services which are consumed by the Medicare-eligible population or for which reimbursement is made.
- Costs of implementing recommendations will vary depending upon the regulations that may be adopted.
- Costs will vary depending upon referral and billing practices of providers and standards or guidelines for those that are imposed by fiscal intermediaries.
- The extent to which a change in reimbursement policy might stimulate new demand for services is conjectural.

As the section of the report that discusses costs points out, the estimates that are presented must be taken as only illustrative of possible cost consequences. However, there is little or no basis for assuming that the costs would add significantly to overall Medicare program costs, or that an intensive study would reveal addition cost consequences, not anticipated here, of sufficient magnitude to affect these recommendations. This would seem to be particularly the case in the instance of reimbursement for services to aphakic patients.

PART II

*Considerations Related to the Coverage and Reimbursement
of Services By Optometrists Under Part B of Medicare*

Detailed staff contributions to this study are provided in this second part of the report. Specific sections include discussions concerning cataract conditions and aphakia; State law and optometric practice; optometric education; access considerations; and potential cost implications of altering current reimbursement under Medicare Part B.

SECTION II-A

NATURE, INCIDENCE AND PREVALENCE OF CATARACTS

Compiled by
Nathan Watzman, Ph.D. *

A cataract is an opacity of the crystalline lens of the eye. For the purposes of this paper, a clinically significant cataract is defined as an opacity of the lens that reduces visual acuity (sharpness of vision) and may be functionally disabling or disruptive of the normal life style, more particularly for near or distant vision, e.g. reading or driving. The most effective treatment of cataract is the surgical extraction of the opaque lens. This results in the condition of aphakia (the absence of the crystalline lens).

The lens is one of the most unique tissues in the body. It is a powerful refracting organ of the visual system, transparent and without a blood supply.¹ It is also unique for another reason: cells in other parts of the body are constantly being broken down (catabolism) and rebuilt (anabolism). Yet in the lens there is no apparent protein synthesis or cell machinery present to maintain the protein. It is, therefore, interesting that protein synthesized during the embryonic period remains the same for sixty or more years throughout the life of an individual and still the lens remains transparent.¹ As one progresses through life, however, internal and external factors can impinge upon the lens to cause in its transparency. For example, normal physiological changes in protein content of this structure will bring on changes in transparency.

The refractive power of the lens depends upon its curvature (variable in the young eye), its refractive index (a function of its composition), and its location. Cataracts usually affect vision by altering the refractive index more than by change in size or location of the lens² and by the resultant opacity blocking the passage of light to the retina.

Symptoms of Cataract

The visual symptoms of cataracts usually consist of a slowly progressive, painless decrease in visual acuity while some patients

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experience a rapid loss of acuity over a period of months, weeks or even days. Visual function will vary according to the location of the opacity in the lens. For example, if the opacity is diffuse, the haze will be constant, both indoors and out, and may be somewhat worse in bright light. If the opacity is confined to the front area of the lens, the individual will experience a "glare", especially outdoors or in intense light (which brings the pupil down over the opacity and cuts down the vision). This person may function normally in a house or dim light, but be "blind" outdoors. If the center or nucleus of the lens is opaque, there will be a constant haze and the individual will feel like he is looking through a "dirty window". The patient may be visually limited (blur, glare, distortion) in the tasks of driving and reading to the point that he/she is disabled in his/her every day life style or handicapped in the performance of his/her occupation.

It should be noted that a characteristic common to elderly patients with cataracts is the renewed ability to read news print without glasses, in spite of a decrease in distance acuity. This so called "second sight" is due to a slow progression of nuclear sclerosis and acquired myopia (nearsightedness)^{2/} related to swelling of the lens, an early diagnostic sign of cataract usually preceding opacification.

Reduced color vision in cataract patients is not common because discrimination of color changes very gradually. However, a "yellowing" of vision is frequently experienced because the shorter wave lengths of the visual spectrum (violet and blue) are selectively absorbed and the longer yellow and red wave lengths are transmitted.^{1/}

It should be noted that cataract can be associated with nearsightedness which is attributable to nuclear sclerosis or farsightedness when the cortex is affected disproportionately. In either circumstance, areas of the lens with different refractive indexes can cause a beam splitting effect which results in projection of two images on the retina. Thus, there is monocular diplopia (double vision)^{2/}; where present, it is usually related to early stages of cataract.

It is important to emphasize that cataracts can cause almost the full spectrum of loss of vision ranging from a very mild impairment to a severe degree of impairment characterized by minimal light perception and poor appreciation of the direction from which light enters the eye. Cataracts alone, however, are not responsible for total blindness^{2/}, but, surely account for a substantial proportion of legal blindness.

Formation of Cataracts

The formation of a cataract is a highly complicated physico-chemical

process, whether it be a result of normal physiological aging, external physical insult, or internal metabolic changes. Two major elements appear to be implicated in the generation of lenticular opacities, namely, the water content and nature of the protein within the lens. Relative to the first element, one important mechanism in maintaining the viability of the lens is the capacity of the electrolyte pump to maintain a normal state of hydration (water content). As long as a normal equilibrium between the intraocular fluids outside the lens and the fluids within the lens can be maintained in terms of sodium and potassium ion content, the lens will remain normal. If on the other hand, an imbalance occurs in the pump equilibrium system, causing the lens membrane to leak, high levels of water-retentive sodium will move into the lens from the intraocular fluids causing osmotic swelling which is a common feature of many cataracts.^{3,4/} The other important mechanism of cataract formation is related to the relative concentrations of soluble and insoluble protein within the lens. The normal lens has a water content of approximately 65% and a protein content of about 35%.^{2/} As the lens ages, there is a decrease in water content, and more and more of the soluble protein becomes insoluble. Increases in concentration of insoluble protein are related to the development of cataracts.^{3/} Also associated with and probably directly related to the changing character of lens protein (increase in insoluble and decrease in soluble protein) is a progressive hardening of the lens which usually becomes clinically manifest after age 40.^{2/} Thus, some loss of transparency of the lens with age is as inevitable as the wrinkling of the skin and greying of the hair. For an excellent review of the more recent biochemical studies on lens protein and enzymes, lens lipids, water balance in the lens, etc., the reader is referred to an article by Kirsch^{3/} and a symposium entitled "The Human Lens In Relation to Cataract".^{5/}

Classification of Cataracts

While the physico-chemical processes involved in the formation of a cataract are fairly well delineated, the etiology or causes initiating the aforementioned sequence of events leading to a cataract are not clear. However, studies^{6/} of the close association of cataracts with systemic, hereditary and metabolic diseases as well as externally-induced chemical and physical agents, provide a great deal of insight into the possible causes of cataracts. One of the preferred classifications^{6,7/} of cataracts is based upon the above considerations:

Note: For vision terminology, see "Current Optometric Information and Terminology".^{35/}

A. Primary

1. Senile (Senescent)
2. Congenital

B. Secondary

1. Metabolic
2. Endocrine
3. Inflammatory
4. Toxic-chemical agents
5. Traumatic-physical injury

The word senile (more appropriately senescent) is commonly used in association with primary cataracts developing in older persons. Ninety percent of all cataracts are of the senescent type which no demonstrable etiology.^{2/} The only relevant history may be that of a familial occurrence. Nevertheless, there may be some underlying factor which may aggravate the development of this type of cataract. For example, approximately 10% of patients with senescent cataracts have overt diabetes mellitus. Other patients have a history of glaucoma.^{2/}

The mature senescent cataract is seen as a diffusely opaque lens that is usually white from complete cortical opacification. A yellow nucleus is often detectable and in some cases the entire lens is brown or even black in color.^{2/}

A large variety of congenital lens opacities exists but may not cause visual impairment.^{2/} Virus damage from maternal rubella is common; many cases of rubella cataracts were diagnosed during the American rubella epidemic of 1963-1964.^{3/} Congenital cataracts are also a prominent feature of a number of multiple congenital disease syndromes^{3/} such as the oculo-cerebro-renal syndrome of Lowe, Werner's syndrome (premature aging) and a host of others.^{2/} Cataracts have also been associated with inborn errors of metabolism involving genetic enzyme deficiencies. Examples are: diabetes mellitus and galactosemia as well as syndromes with identified chromosomal abnormalities such as mongolism and dwarfism.^{2/} For a more complete discussion and insight into the etiology of cataracts, including the congenital type, the reader is referred to Harley^{8/} and Table A.^{2/} Evidence seems to indicate that congenital (infantile) cataract is not a single disease but a part of a disease affecting other systems and caused by different factors.^{9/}

Lens damage may be caused by metabolic disturbances such as maternal or infantile hypocalcemia, galactosemia, and diabetes mellitus.^{1/} Diabetes mellitus was the first metabolic disorder known to be associated with cataract formation. This disease is now one of the leading causes of blindness in the United States

TABLE A

A Practical Classification of Cataracts

- I. Congenital (Present at Birth)
 - A. Genetic origin
 - 1. Congenital cataracts without other abnormalities (autosomal dominant, autosomal recessive, sporadic, rarely sex-linked); many morphologic varieties such as nuclear, zonular, mature
 - 2. Lens opacities without visual impairment such as Mittendorf dot, anterior polar "cataracts", sutural "cataracts"
 - B. Maternal origin
 - 1. Secondary to maternal infections, e.g., rubella, syphilis
 - 2. Secondary to amniocentesis
- II. Infantile or Juvenile Onset (Genetic Origin)
 - A. Inborn errors of metabolism, e.g., diabetes mellitus, galactosemia; hyperlysinemia, homocystinuria, hepatolenticular degeneration (Wilson's disease), oculocerebrorenal (Lowe's) syndrome
 - B. Syndromes with identified chromosomal abnormalities, e.g., trisomy of chromosome 21 (mongolism, Down's syndrome), monosomy of X chromosome (Turner's syndrome), trisomy of chromosome 13 (Patau's syndrome)
 - C. Syndromes of unknown etiology, e.g., familial craniofacial dysostosis, heredofamilial atrophic dermatoses (Rothmund's syndrome), muscular dystrophy, idiopathic hypoparathyroidism
 - D. Various ocular syndromes, e.g., persistent hyperplastic primary vitreous, Rieger's anomaly, aniridia, microphthalmia, retinitis pigmentosa
- III. Late Onset (Senescent Type)
 - A. Without associated familial or acquired disease
 - B. With contributory factors such as diabetes mellitus, familial incidence, ocular trauma, glaucoma, intraocular surgery, Paget's disease of bone
- IV. Secondary
 - A. Directly related to acquired systemic disorders, e.g., tetany (hypocalcemia), starvation, aortic arch syndrome
 - B. Related to acquired ocular disease
 - 1. Inflammatory, neoplastic, e.g., heterochromic iridocyclitis, intraocular neoplasms
 - 2. Physical trauma and physical agents, e.g., blunt injuries, perforating injuries, radiation (atomic, infrared), electric shock (lightning)
 - C. Secondary to local or systemic chemical agents, e.g., steroid therapy, chlorpromazine, ergot, dinitrophenol, thallium, intraocular deposition of iron (siderosis) or copper (chalcosis)

and over 50% of the visual loss is due to abnormalities of the lens or retina.^{10/} Typical diabetic cataracts usually develop in patients with severe, prolonged, poorly controlled diabetes. They may be seen as early as seven years of age but most commonly in the advanced years.

Examples of endocrine diseases that are associated with cataracts are hypothyroidism and hypoparathyroidism.^{3/}

Inflammatory diseases of the interior of the eye may lead to the development of a lens opacity. Acute and chronic iridocyclitis with synechia formation (adhesions of the iris to the anterior capsule of the lens) may severely compromise the clarity of the lens. Chronic uveitis and vitritis frequently leads to posterior capsular opacity and may be referred to as cataracta complicata. At times, the entire lens may become opaque in association with chronic uveitis.

The literature documents many agents that will provide chemical insult upon the lens to produce a toxic cataract.^{10/} Corticosteroids administered systemically or topically, naphthalene, paradichlorobenzol, ergot alkaloids, oral contraceptives, miotics, and the tranquilizer, chlorpromazine are but a few of the many examples.

The exposed eye ball is extremely vulnerable to flying objects and particles which may cause severe injury. High velocity particles striking the head may injure the eye via transmission of kinetic energy from the point of impact in the head or face to the eye.^{10/} Penetrating injuries more commonly enter the eye through the cornea than through the sclera. Violation of the lens capsule by a flying chip of steel penetrating the eye will admit fluid into the lens, disrupt metabolism and result in cataract. Rupture of the eye ball may also follow injury by an explosive blast which causes an enormous increase in the atmospheric pressure. Traumatic cataract is encountered more frequently in military men, particularly during war, as well as men engaged in hazardous industrial occupations. Blows to the eye while participating in active sports--boxing, golf, tennis, and skiing may also produce cataracts. Thus, traumatic cataracts may be caused by three types of physical insult: blunt injuries with or without rupture of the lens capsule, explosive blasts, and penetrating injuries of the globe.

Detection Procedures

The objective means of clinically determining the existence of a cataract involves the use of the ophthalmoscope, retinoscope, and slit-lamp biomicroscope.^{11/} The objective sign of cataract is, of course, the presence of opacities in the lens. While an advanced cataract is readily detected with simple instrumentation, a more accurate assessment of early opacities is made by transmitted

light when opacities, obstructing the light reflected from the fundus (back of the eye) appear black in the pupillary reflex. Accurate information can also be obtained by direct observation, using local illumination of the ophthalmoscope or biomicroscope slit-lamp. The objective clinical examination is, therefore, most satisfactorily started by observing the fundus reflex with the ophthalmoscope or retinoscope, at first, at a distance of about one third of a meter and then with a +20 D lens.^{11/} Dobree^{12/} recommends use of the ophthalmoscope with a +10 D to +8 D lens to obtain accurate information as to position, form and nature of lens changes. For the best view of the interior of the eye, such an examination should be done with a widely dilated pupil. One can also assess the integrity of the retina at the same time. The use of an indirect ophthalmoscope is particularly useful in studying the periphery of the retina. Examination with the slit-lamp, however, provides information of even more value, since it permits a detailed microscopic view of the lens by direct or transmitted light and by indirect lateral illumination by which fine changes and vacuoles can be detected. By its means, not only can an accurate knowledge of the type and form of any opacity be gained but it reveals the density of any opacity. Pathological changes can be accurately localized topographically in the cortex as well as in the nucleus of the lens.^{11/} Most importantly, the optical significance of the opacity can also be objectively evaluated.

Complications of Cataract Surgery

About 5% of cataract extractions have significant complications during or soon after the operation but most can be managed satisfactorily and good vision obtained.^{2/} Poor vision following cataract extraction is usually the result of unrelated degenerative changes such as macular disease, corneal dystrophy or glaucoma. The macula is a small yellowish area of the retina, containing the fovea centralis, the region of most acute vision.^{13/} In the presence of cataract, it is not always possible to accurately evaluate the functioning of the macula prior to surgery.

Some complications of cataract surgery are: vitreous loss, intraocular hemorrhage, cystoid maculopathy, shallow anterior chamber, intraocular infection (e.g. endophthalmitis), Elschnig pearls, retinal detachment, glaucoma, corneal decompensation, wound rupture, posterior capsule opacification, uveitis, vascular occlusion, hyphema, vitritis, optic atrophy, changes in astigmatism, and dislocation of intraocular lenses. Only some of the more frequent complications will be discussed.

Vitreous loss is the most undesirable of the common complications occurring at the time of surgery. The vitreous humor is a gel-like substance which bathes the lens and occupies a large portion

of the intraglobal space. If drawn into the anterior chamber of the eye, it will transmit traction into the retina increasing the possibility of retinal detachment. Just as important, vitreous which migrates to the anterior chamber after cataract extraction can come in contact with the posterior surface of the cornea and damage the endothelial cells producing an intractable corneal edema. Vitreous loss does occur in 2 to 4 percent of cases in spite of all operative measures to avoid vitreous disturbances at the time of surgery.^{2/}

Intraocular hemorrhage, another complication, may arise from the iris, the wound, but only rarely from the posterior segment of the eye. The latter is of major significance because bleeding from that area can cause an outflow of intraocular contents at the time of cataract extraction. Hemorrhaging from the iris or wound is usually self limiting and manageable.^{2/}

Cystoid maculopathy is a fairly common complication characterized by onset of macular edema in the early weeks following cataract extraction. This condition occurs with greater frequency following vitreous loss, in blue-eyed individuals, and in patients with post-operative inflammation of the anterior segment. Vision may be reduced as low as 20/200. The condition is most readily diagnosed by fluorescein angiography which reveals a typical stellate appearance of leaking dye at the macula or by measurement of elevation with the slit-lamp and Hruby or Goldmann lens. The condition is usually considered self-limiting.^{2/}

A shallow anterior chamber usually results from wound leakage in the early post-operative period. Permanent damage to the eye does not result if management is appropriate and prompt. Less frequently, shallowing of the anterior chamber is a result of spontaneous hemorrhage of the choroid. This fluid accumulation leads to a marked displacement of both choroid and retina and to detachment of the ciliary body. Usually, however, the fluid is reabsorbed and there are no lasting effects. Pupillary block glaucoma is still another cause of a shallow anterior chamber following cataract extraction. The pupil becomes occluded by formed vitreous but the pressure can be relieved by a surgical procedure.^{2/}

Post-operative intraocular infection occurs in approximately 1 or 2 patients per five thousand operations, usually within a day or two post-operatively.^{2/} A diagnosis is suspected by the occurrence of ocular pain, lid swelling, and increase redness of the globe. Slit-lamp examination reveals inflammatory cells in both the anterior chamber and the vitreous. Because prompt control of the infection is mandatory, the aqueous should be aspirated and bacteriologically cultured. Appropriate broad spectrum antibiotics should be prescribed until culture reports and sensitivity studies are available.^{2/}

Elschnig Pearls appear as small translucent vacuoles arranged in clusters following surgery. They are remnants of lens epithelium which remain in the eye following incomplete extracapsular cataract surgery.^{2/}

The incidence of retinal detachment following surgery for acquired cataracts is reported to be approximately 2%.^{14/} The average interval between cataract surgery and the development of the retinal detachment has been reported as 33.3 years.^{15/} Routine examination of the retina through a dilated pupil is highly desirable on an annual basis for the remainder of the patient's life.

Glaucoma in the aphakic eye may have pre-existed, may develop de novo as primary open angle glaucoma following uncomplicated cataract extraction, or may result as a surgical complication. The various causes of aphakic glaucoma and their treatment are summarized by Francois.^{16/} The latter type of glaucoma mentioned above is termed aphakic obstructive glaucoma and is usually due to the blockage of the normal circulation of aqueous humor, resulting in inflammation and angle obstruction. For the aphakic patient, the refractive error, particularly astigmatism, may change significantly, post-operatively. Such changes will affect the visual acuity of the patient and may require modification of his/her prosthesis.

Incidence and Prevalence

The actual extent of the problem of cataract and aphakia in this country is not clear from the data available. There is no known report of the numbers of individuals who have cataracts and have not sought professional services or who have had cataracts diagnosed and have not had surgery.

It is, however, clear from the data available, both published and unpublished, that cataracts are a condition, most predominantly, of the elderly and a result of the normal physiological aging process. Congenital, metabolic, endocrine and toxic cataracts do not occur with the frequency to be epidemiologically significant. Senile (senescent) cataracts, on the other hand, account for approximately 90% of all of the documented cases.^{2/}

Data that is available on the incidence and prevalence of cataract provides some general idea about the magnitude of the problem. The National Ambulatory Medical Care Survey (1973)^{17/} indicates that 2,723,000 visits were made to physicians' office for cataract (primary diagnosis) for the period May 1973 to April 1974. During the same period of time, 4,400,000 visits were made in which cataract was only one of the diagnoses.^{18/} While there is no documented data on the incidence and prevalence of aphakia, it is

estimated that approximately 1,000,000 visits were made for aphakia during the same period of time.^{18/}

Data on cataracts from the Health Interview Survey (1971)^{19/} indicates a prevalence of about three million persons which is equivalent to 14.9 cases per 1,000 persons. It also reported that approximately 2,764,000 individuals or 13.7 per 1,000 persons had visual impairments resulting from cataract. This is equivalent to about 1.5 cases of all ages per one hundred people in the United States. The following table (Table B below)^{18/} provides the prevalence data by age grouping:

TABLE B
Prevalence of Cataract and Number of Cases Per 100 People

<u>Age</u>	<u>No. of Cataracts</u>	<u>No. per 100 People</u>
Under 17	---	---
17-44	197,000	0.3
45-64	565,000	1.4
65+	2,212,000	11.4

Unpublished data from the National Eye Institute^{20/} indicate that there is estimated to be about 912,000 new cases of cataracts per year, based upon first visits to physicians, exclusive of referrals. About three fourths of these were first diagnosed at ages 65 and over. The incidence for women is considerably higher than for men. In addition, there were estimated to be approximately 332,000 cataract surgeries performed in 1972. The only data (Table C below) available, indicating the number of cataract surgeries by age grouping, is that obtained from short-stay hospitals in 1972.^{21/}

TABLE C
Estimated number of cataract operations in short stay hospitals by age. U.S. 1972

<u>Age</u>	<u>Est. No. Cataract Operations*</u>
10-29	3,000
30-39	3,000
40-49	9,000
50-59	30,000
60-69	64,000
70-79	90,000
80+	42,000
Total	241,000

* first listed diagnosis of cataract in combination with lens extraction.

Table D provides incidence and prevalence data for blindness by age groupings. It is clear from all of the data shown above that the extent of the problem of cataracts is greatly magnified with advancing age and becomes a socio-economic health problem of national significance.

TABLE D
PROJECTION OF CATARACT BLINDNESS IN 1975 BY AGE

Age Group	Newly blind from cataract		Blind from cataract	
	rate/100,000 ^{1/}	Minimum Number ^{2/}	rate/100,000 ^{3/}	Minimum Number ^{2/}
	(Incidence)		(Prevalence)	
5	.9	143	1.9	302
5-19	.7	411	6.4	3758
20-44	.4	290	8.2	5951
45-64	3.5	1524	23.0	10015
65-74	4.9	680	52.6	7208
75-84	14.0	931	128.4	8539
85+	40.8	<u>766</u>	492.2	<u>9239</u>
Estimated Total	4745 or 4700		45,102 or 45,000	

^{1/} Age specific rates/100,000 of all additions to registers, 14 MRA states, average 1969 and 1970 in Kahn, H.A. and Moorhead, H.B: Statistics on Blindness in the Model Reporting Area, 1969-1970. DHEW Publication No. (NIH) 73-927, U.S. Government Printing Office, 1973.

^{2/} Number resulted from applying the incidence or prevalence rate to the July 1975 resident population in the United States. Population estimates are from: Current Population Reports. Population estimates and Projections, Bureau of the Census. Series P-25 No. 614, November 1975.

^{3/} Age specific rates/100,000 of persons on register, 14 MRA States, Dec. 31, 1970 in Kahn, H.A. and Moorhead, H.B: Statistics on Blindness in the Model Reporting Area, 1969 - 1970. DHEW Publication No. (NIH) 73-927, U.S. Government Printing Office, 1973.

Aphakia

Aphakia is defined as the absence of the lens of the eye.

Removal of the lens renders it highly hyperopic (requiring a strong convex lens) and without accommodation. One fourth of the normal static power of 60 diopters is lost and the refractive system is reduced only to the refractive power of the cornea. Some degree of astigmatism is always present after cataract extraction.^{22/}

Optical Correction of Aphakia

One of the great causes of disappointment to a patient following surgery is the unexpectedly poor vision without glasses and distortion of vision with glasses which may occur after cataract surgery. The spectacle lenses required for the compensation of the removal of the eye lens are of high power. Such lenses create substantial magnification and distortion which results in spacial disorientation for the patient. Since the retinal image is magnified, the patient feels that all his surroundings are crowded on top of him. Spherical aberration in the spectacle lens causes flat surfaces to appear curved;^{23/} peripherally, lines are distorted, "blind" zones are present and there is a reduction in panoramic vision. In addition, there may be colored fringes around everything seen and if only one eye is being used, a serious disturbance of depth perception will be present. During the early post-operative period, the patient continuously finds himself reaching short of objectives and stepping too high for stairs well below his feet. As a result, care has to be taken in negotiating curbs and in going up and down stairs. Fortunately, with adaptation, these distortions become less noticeable, but in a few cases, the difficulty persists for a year or longer. It is not an easy period for the young and it may be a hazardous time for the aged. For many patients, the post-operative period is particularly challenging. It is thus imperative that, prior to surgery, the patient fully understands the effects that cataract extraction will have on his vision.^{2/}

Monocular aphakia occurs when a cataract operation is performed on one eye only and in this case, either the operated or unoperated eye may be used, but the two eyes can no longer function together using eye glass correction for the aphakic eye. This situation occurs because the retinal image as seen through an eye glass lens in front of an aphakic eye is usually about 25% larger than the image on the retina of the normal eye. The brain simply can not fuse two such vastly different images together (double vision). If a contact lens is used, however, the discrepancy in image size between the operated eye and the normal eye is limited to approximately 8% and therefore, single binocular vision is possible.^{2/}

Correction of refractive errors in aphakic patients is usually done by either eye glasses, contact lens or the new implanted intraocular lens.

Generally speaking, optical correction of aphakia usually begins within a day or two after surgery, utilizing temporary eye glass correction. A final permanent prescription is not given until two to three months and sometimes longer after the extraction.^{2/} Rarely are contact lenses prescribed before six weeks following surgery. However, there are several varieties of soft, hydrophilic contact lens now available which are prescribed early in the post-operative period.^{2/}

For the purpose of this paper, only spectacles and contact lenses will be discussed since optometrists in their practice do not utilize intraocular implants which involve a surgical skill.

Various lenses have been advocated to solve problems of aphakic correction. Regardless of type, the severity of visual difficulties has been reduced, to some extent, by improved lens grinding techniques.

Spectacle lenses have inherent optical defects which are not appreciated by individuals that wear glasses in the power range of + or -3 diopters (vast majority of patients).^{24/} The four components of false orientation in aphakic spectacles are: false depth, false projection, swim and distortion.^{24/} It should be noted that modern light-weight, aspheric, plastic eyeglass lenses are superior to the heavy glass lenses of the past.

While lenticular, aspheric spectacle lenses have been utilized in the past, corneal contact lenses are being used more as improvement occurs in contact lens material and fitting. Development of lenticular cut types of corneal contact lens has greatly enhanced fitting of aphakic patients because they rest on the eye ball, form part of the optical system, and move with the eye; with spectacles, however, the lens are situated in air at a distance from the eye and are immovable with relation to the eye globe.^{22/} The literature abounds with articles on the use of contact lenses for aphakia.^{25-32/} In bilateral aphakia, one study^{33/} reported success in 200 cases with continuous use of tiny, hard corneal lenses.

In the case of monocular aphakia, where the other eye has good vision, the treatment of choice is to place a contact lens on the aphakic eye; this results in single, binocular vision and is satisfactory for a majority of these patients.

Use of hydrophilic (soft) lenses^{34/} in aphakic patients gave excellent visual acuity and was more comfortable than hard lenses.

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Use of hydrophilic (soft) lenses^{34/} in aphakic patients gave excellent visual acuity and was more comfortable than hard lenses. The main advantages of the soft lens over eyeglasses are the lack of spectacle blur, increase in visual fields and simplicity of fitting. Contact lenses also provide an almost normal field of vision with negligible magnification of the retinal image as compared to eye glasses. Some 80% of aphakic patients can learn to wear contact lenses if properly instructed.^{2/} In the elderly patient, however, decreased manual dexterity may hinder the use of contact lenses unless professional assistance is available.

It should be noted here that no matter how well cataract extraction is tolerated, the visual result is largely determined by the state of the retina as well as such factors as senile macular degeneration and diabetic retinopathy which will cause poor vision even after an excellent cataract operation.^{21/} Therefore, a careful assessment of the function of the macula and the peripheral retina is important pre-operatively so that the patient may be warned if the visual outcome of the operation seems doubtful even with the best optical correction available. Such assessment may be difficult or impossible in advanced cataracts.

Where indicated, rehabilitation training of patients in the use of his/her prosthetic devices and aiding the patient in spacial orientation and mobility is extremely important. In addition, some post-surgical aphakic patients do not experience optimal vision for their living or occupational requirements through the use of regular (spectacles, contact lenses, intraocular lens implants) ophthalmic prosthesis. These patients should be considered for low vision aids such as special microscopic reading glasses, telescopic spectacles and other such devices. These have been very effective, when properly applied, in providing optimal vision function for certain life style activities, a requirement which is most important to the physical and mental well-being of these patients.

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SECTION II-B

OPTOMETRIC LAW AND PRACTICE

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The scope of practice and area of competence of the health professions are of increasing importance as we attempt to improve the organization and operation of the health care system. While precise definition is not possible, information is available from several sources from which to develop valid concepts of a profession's role and function. The sources are:

- State laws which authorize activities and responsibilities of health workers.
- State board regulations which implement and enforce activities and responsibilities of health workers.
- Decisions by the courts concerning the responsibilities of practitioners.
- The usual and customary practices of the professions.
- The objectives, content, and standards of education and training for the profession.

This section presents information about the legal bases for the practice of optometry, and draws upon evidence of how optometrists function in present day practice. All health professions including optometry are in a state of professional growth--i.e., an expansion or re-definition of their responsibilities and functions--in response to new professional specialties and the changing demands of society. Typically, professional growth is first observed in certain practice settings, usually those where clinical, academic, or economic pressures encourage the most efficient and effective use of personnel. Professional education will quickly reflect this growth and encourage its spread throughout the rest of the professional community. Eventually, changes in legislation and regulation will be made to accommodate the new responsibilities and functions.

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Therefore, in attempting to state what optometrists or other health personnel can and should do, it is important to examine what they are actually doing and what trends in professional growth can be observed.

* * * *

"The Doctor of Optometry (O.D.) is a health professional who performs eye examinations to determine the presence of visual, muscular, or neurological abnormalities, and prescribes lenses, other optical aids, or therapy such as eye exercises to enable maximum vision. Optometrists are trained to recognize diseased conditions of the eye and ocular manifestations of other diseases, and to refer patients with these conditions to the appropriate health professional."^{1/}

"Optometry as a profession is concerned with the problems of human vision. Optometrists examine the eyes and related structures to determine the presence of any visual, muscular, neurological, or other abnormality. They prescribe and adapt lenses or other optical aids and may use visual training aids (orthoptics) when indicated to preserve or restore maximum efficiency of vision. Most optometrists fit and supply the eyeglasses they prescribe. They do not prescribe drugs, make definitive diagnosis of or treat eye diseases, or perform surgery."^{2/}

These definitions of optometry reflect the optometrists' role as a provider of primary health care. He functions as a principal point of contact with the health system for individuals who have visual problems, some of whom will have symptoms or conditions which require referral to other health practitioners. A more complete description of optometric^{3/} functions has been previously published by the Department.^{3/}

All of the health professions have experienced, in the last half-century, tremendous growth in the scope and depth of their discipline, and optometry is no exception. Optometry has responded to technological change, adopting new techniques as part of their^{4/} practice and improving the scientific content of their education.^{4/},^{5/}

Optometric Practice Authorized By State Law and Board Regulations

The practice of optometry is governed by statute in every jurisdiction. While no single definition of optometry is used in all state laws, certain descriptive and limiting phrases recur in almost all States defining this profession. Generally, an optometrist may be defined by statute as one who, having met the requisite legal and education requirements, is licensed to examine eyes and to correct refractive errors through ocular exercises or by prescribing and fitting corrective lenses, but not through the use of drugs or surgery. The optometrist is also expected to recognize, but not treat, disease of the eye. This definition has been broadened by a few States in recent years to authorize the use of diagnostic drugs.

Another significant source of information is regulations of State Boards of Optometry. State Boards are delegated the authority to make rules and regulations governing the practice of optometry which they deem necessary for the effective enforcement of State laws.

Court decisions stemming from malpractice suits constitute a reliable body of information with legal significance for the determination of the scope, responsibilities, and proficiencies of a profession. However, in optometry, malpractice suits have been rare, and there are few such decisions to which we may turn.

A systemic analysis of State optometric practice acts is difficult because of variations in phrasing and coverage of the acts. The variations arise from the nature of the existing legal code of which the act is a part, or conditions giving rise to the need for the law, or for a revision thereof, in a given State. Differences in expression and the use of terminology among authors of laws also result in variations which make authority and intent difficult to compare.

In determining the scope of practice of optometrists, i.e., what procedures or functions they may perform, several indicators may be considered. In rare cases, a statute or regulation will define the term "optometry" or "practice of optometry" so as to detail specifically what procedures fall within the scope of practice. More frequently, the law or regulation defines its terms broadly, discussing specifics elsewhere. Many States include in their laws a schedule of the minimum procedures which must be performed on every patient being examined by an optometrist. These schedules are perhaps the most valuable tool available for determining how expansive the scope of practice is in a given State. A less valuable tool, but nonetheless an indicator, are the statutory or regulatory provisions outlining the equipment which each optometrist must have in his or her office. If the minimum equipment schedule includes a refractor and an ophthalmoscope, it may be concluded that an optometrist may or should perform internal ophthalmoscopic examinations and refractions in that State.

A first procedure undertaken by this study was to use these indicators to compile a chart of functions or procedures specifically authorized in the laws and regulations of each State. The authorization may be either expressed or implied as explained above.

The results of this effort--the chart and a discussion of findings--are provided in Attachment A of this chapter. Although, the chart gives an indication of how optometry is viewed by State legislatures and regulatory bodies, it can be relied upon only as a partial indicator of what optometrists should or should not do. For example, only 24 States specifically mention refraction or measurement of refractive powers among the permitted or required functions of an optometrist, but, by definition, refraction is an essential component of optometric practice in every State. Thus, from analysis of practice acts and related regulations, with few exceptions, the law is unclear as to what services optometrists may perform.

Optometrists As Providers of Primary Care

The optometrist's role as a provider of primary care has steadily increased in importance. This trend has received impetus in recent years from the larger role assumed by the optometrist in health care in military settings, and in institutional care as typified by health maintenance organizations, where he may evaluate all patients who present themselves with visual problems. Also, most States have specific statutory provisions prohibiting discrimination between ocular practitioners in public and private insurance programs, thereby giving persons the freedom to select the practitioner to perform vision care services.

Of particular relevance to this study, is the extent to which optometrists are permitted by law to provide a portion of primary care. Primary health care by first-contact health professionals involves the detection of disease or abnormality and appropriate disposition of the patient.

State laws were examined to determine the extent to which they hold optometrists responsible for, or require them to be knowledgeable about this primary care function. In recent years, several States, notably, Alabama, Connecticut, Idaho, Pennsylvania and Tennessee, have amended the laws to redefine optometry. The new definition reflects further recognition of optometrists as primary care providers by expressly enabling practitioners to ascertain the presence of disease or pathological conditions and to refer the patient to the appropriate medical practitioner for further diagnosis.

Further mention of such a requirement or ability is made in Attachment B.

Optometrists are seldom subjected to malpractice suits, as reflected in the low rate of insurance (\$280.00 per year) reflecting this fact. Suits have been brought, however, and it is informative to note the extent to which courts hold that optometrists are responsible for the care of their patients. An optometrist has the duty to refer

a patient to a physician for pathological conditions which he recognizes. Optometrists have been found both liable and not liable for malpractice in the prescribing and fitting of corrective lenses and for failing to refer, and different standards of care are used by the courts.

In a Maryland optometric malpractice case in 1971, the court equated the duty of an optometrist to advise patients with that of a physician.^{6/} The Supreme Court of the State of Washington has apparently held, in a 1974 ophthalmological malpractice case, that standards of eye care will be fixed by the court if professional standards are found wanting--a case which has significant implications for optometry.^{7/}

The question of the duty and ability of an optometrist to discover pathology was explored in a New Jersey case in which the Superior Court, Law Division, stated that "--discovery of pathology is included within the scope of the responsibility and the minimum examination to be administered by an optometrist." This and other precedents were cited in an opinion of the Attorney General of the State of New Jersey that authorizes optometrists to utilize local anesthetics. The opinion is quoted at length in footnotes to this chapter.^{8/}

Another aspect of the redefinition of optometry has to do with the use of topical drugs for diagnosis. Prior to 1971, optometry law, almost without exception, used the phrase, "any means except drugs to diagnose ocular abnormalities," in defining the manner in which optometry may be practiced. Since that time, several States have amended the law to permit the use of drugs and appear to have broadened the scope of practice. These various recent changes in State law support the conclusion that the States view optometrists as first-contact primary vision care personnel.

Eight States now permit the use of topical drugs for diagnostic purposes and require an examination in pharmacology as it relates to optometry. One State, West Virginia, also permits optometrists to use drugs in the treatment of the eye. The language of the statutes vary from a general statement as to the use of topical drugs to a specific statement as to the precise drugs to be used. Attachment B summarizes recent laws and regulations respecting the use of drugs.

The Assurance of Quality in Optometric Practice

To this point, this chapter has explored the legal basis for the private practice of optometry as it is set forth by the respective States. Several general conclusions can be drawn:

- There is wide variation among States in the manner in which optometry is defined.
- State laws and Board regulations are often inconsistent in specifying functions of optometrists.

- Statutes relating to the practice of optometry have been construed both strictly and broadly by the courts and attorneys general.
- The legal basis for optometric practice does not anticipate the professional growth of practitioners, but rather (as is typical for other licensed health professions) follows developments in education and practice.
- It is not the intention of State legislative and regulatory bodies to restrict the practice of optometry to refraction and the provision of lenses.

A further issue relevant to this study is the assurance of quality in vision care. Quality in health manpower is difficult to define or measure, but it may be said to consist of proficiency--the knowledge and skill of the practitioner--and performance--the extent to which that knowledge and skill is fully applied in the care of patients.

In health professions, both proficiency and performance are of increasing public concern. Proposals to require periodic re-examination of practitioners reflect a concern that proficiency is maintained. Professional Standards Review (PSRO) is an attempt to examine performance--to determine, for example, that economic incentives are not overruling professional judgment in the handling of cases.

In investigating the current quality of any health profession, we must expect considerable frustration. Statistical evidence of the quality of care which also shows the reasons for any deficiencies is hard to find. So many variables in addition to the proficiency or performance of the practitioner influence the outcome of a case or dictate the need for a certain procedure or treatment that little can be inferred about the practitioners involved. Individual case experiences allow no generalization to a profession as a whole, and of course, they come to our attention through malpractice suits, disciplinary actions, and news accounts of patient's complaints. They are, therefore, almost uniformly negative in tone and there is no corresponding body of anecdotal evidence in general circulation that reflects positively on a health profession.

Nevertheless, there is information from which we can make, cautiously, some general deductions about the quality of a health profession. Principally we have:

- The content and duration of basic education for the profession.
- The nature and extent of organized evaluation and control of basic education (i.e., accreditation).

- Requirements for licensure and/or other forms of professional credentialing (such as certification by a voluntary professional board or agency).
- Requirements for periodic re-licensure and/or re-certification.
- Continuing education: its availability, content, and the extent to which practitioners avail themselves of it.
- Ethical codes and standards of practice promulgated by professional associations.
- The disciplinary procedures and actions within the profession.

Education and accreditation are discussed elsewhere in this study, as part of a review of optometric education. It is convenient to look at licensure, re-licensure, and continuing education in optometry simultaneously, since these are inter-related. (This is unusual among health professions, most of which unlike optometry are not required to meet any quality-related criteria in order to retain licensure or certification).

Initial Licensure Requirements

To qualify for licensure as an optometrist, an applicant must be a graduate of an approved school with a program leading to a Doctor of Optometry degree. Four States require applicants to complete an internship as a prerequisite to being examined for licensure. The length of the internship varies: three months in Alabama, six months in Delaware and Rhode Island and one year in Oregon. North Carolina does not require an internship but does require the applicant to have completed a two week practice orientation.

Most States also specify some courses or subjects that must have been included in basic optometric education or (more usually) that must be covered in a licensing examination. The course which appears most frequently in State statutes and regulations is ocular anatomy. Thirty States examine candidates on this subject and/or require the course for licensure. Twenty-three States require a course in or an exam on ocular pathology. Twenty-three States require practical optometry. Ocular physiology appears as a requirement in the laws or regulations of 20 States, while theoretical optics appears in 19, physiology in 18, and general anatomy in 15.

Thirteen States require course work or exams on pathology and on visual training and orthoptics. A course in contact lenses is required by 11 States, while optics is prescribed in ten.

A number of subjects appear in less than ten of the State's requirements. Refraction and geometric optics appear nine times each. Eight States require course work in psychology. Physics and hygiene appear six times each, as does prescription and fitting. Pharmacology is tested in five jurisdictions as is clinical optometry. Optical laboratory and clinical work, mathematics, and psychological optics each appear in four State's examination requirements. Physical optics, ocular myology, and ocular neurology are examined on in three States each. Tonometry, mechanical optics, and case analysis are required course work in two States.

Attachment C shows in tabular form the subject matter to be mastered for licensure in each State.

All States require applicants to pass a written examination as a condition precedent to licensure. There is a National Board Examination in Optometry which is used at the discretion of the State Boards and in 18 States is expressly accepted in lieu of the State written examination. Sixteen States also require applicants to pass an oral examination. In five other States, an oral examination is optional. Twenty-eight States require practical examinations and in two others, practical exams may be required at the Board's discretion. Requirements of States for initial licensure are presented in tabular form as Attachment D to this chapter.

Continuing Education and The Renewal of Licensure

Optometry has taken formal steps to assure that practitioners are required to continually upgrade their diagnostic and treatment skills. Beginning with Iowa in 1938, forty-three States have adopted, either by Board rule or statutory law, some form of continuing education requirement for license renewal. More States require compulsory continuing education for optometry than for most other health professions. Of the remaining States without formal requirement, several State optometric associations have instituted a system ^{9/} of continuing education requirements for membership purposes.

Content of continuing education courses also varies widely as do the institutions and entities providing such services.^{10/,11/,12/} The Southern Council of Optometrists recently provided 102 clock hours of education to some 1200-1300 registered participants. A listing which itemizes course offerings related to management of the patient with cataract or aphakia is available.^{13/}

Continuing optometric education courses are offered by over 100 agencies. This includes the 51 State associations affiliated with the American Optometric Association, the twelve U.S. schools and colleges, national organizations such as the American Academy of Optometry, American Optometric Foundation, and the Armed Forces Optometric Society, and the seven regional councils of optometrists (Central States, North Central States, Northeast States, Mountain States, Southwestern States, and Southern). Several other organizations offer courses either individually or in conjunction with State and regional annual meetings, e.g., the College of Optometrists in Vision Development, The Vision Institute of America, The National Optometric Association, and the Optometric Extension Program. Some State Boards are also providing coursework related to changes in optometry statutes and rules.

The presentation of continuing education can be described in two general categories: that which is primarily clinical and laboratory work (offered by schools and colleges) and the lecture form. The latter use a variety of learning aids, including motion pictures, film strips, photographs, models and recordings. Practitioners involved in continuing optometric education include at a minimum, all licensed optometrists in the States that require it for license renewal. The American Optometric Association estimates that some 17-18,000 of the reported 21,000 licensed Doctors of Optometry are currently obtaining continuing education.

Additional sources for maintaining knowledge of advances in optometry are the various professional journals available to practicing optometrists. These include the Journal of the American Optometric Association (which contains a feature on continuing education self assessment), the American Journal of Optometry, as well as many publications from related professions and sciences. Most State associations have periodicals for distribution to members which contain case histories and new technique information.

The nature of the requirements for continuing education that forty-three States impose varies considerably. Most States specify that credit may be given for optometric or other scientific education, lectures, symposiums or courses approved by the board, post-graduate study at a school of optometry, or a course given by the optometric association.

There is no uniform amount of time required for continuing education. Requirements range from eight to 25 hours. The requirement is generally a prerequisite to license renewal and consequently must be fulfilled within the renewal period. Attachment E summarizes the license renewal provisions for continuing education in the various States.

In common with other major health professions, optometry has codified ethical standards and mechanisms for disciplining members of State associations independent from any actions of regulatory boards. Of particular interest here is the position of optometry on referral to other sources of health care. The fifth precept of the Code of Ethics adopted by the House of Delegates of the American Optometric Association, at Detroit, Michigan, June 28, 1944, states that "It Shall Be The Ideal, the Resolve, and the Duty of the Members of the American Optometric Association...TO ADVISE the patient whenever consultation with an optometric colleague or reference for other professional care seems advisable."

Information on disciplinary actions of professional organizations might indicate the extent to which the promulgated professional standards are actually enforced. However, this information is not made available (to do so would raise serious questions of the respect of privacy and due process), and special efforts would be required to undertake any assessment of the effectiveness of this method of ensuring professional quality.

Optometry In Organized Health Care Settings

The capabilities of optometry are most easily examined in organized settings such as military establishments and health maintenance organizations. Here, in contrast to private practice, their responsibilities and functions are more clearly defined and their accomplishments and professional relationships with medicine are more apt to be a matter of record.

Most optometrists are in private practice and data on the nature of their practice and the efficiency of the provision of vision care is lacking. Any amount of anecdotal evidence--single case histories or the procedures and experience of single optometrists or ophthalmologists--is available to support the contention that optometrists function effectively as primary care personnel, but from this one can draw no firm conclusions about how the "average" optometrist, or the majority, do in fact function.

However, utilization of the optometrist in an organized health care setting does offer insight into how the private practitioner can function. Organized settings include the armed forces, the Veterans Administration, and health maintenance organizations.

The armed forces employ 302 ophthalmologists and 521 optometrists. Proportionately more optometrists are employed in the Air Force (176 vs. 58 ophthalmologists), and fewer in the Navy (127 optometrists to 130 ophthalmologists). In larger medical installations, optometry is a section of the Department of Ophthalmology, while in smaller installations the optometrists will work in the department of surgery or under the director of hospital clinics.

In military installations, ophthalmologists usually do not provide services without the assistance of optometrists. Referral rates from optometrists to physicians range between three and seven percent of the patients seen, a higher percentage than that found in civilian clinics.

Position descriptions for optometrists in Federal service emphasize the breadth of the discipline.^{14/} The services recognize examinations performed by civilian optometrists. For example, the U.S. Navy recruiting manual, Section 4, "Physical Qualification," C-1401 "General" contains the following statement: "Statements from optometrists will be accepted on all matters pertaining to eye examinations except definitive diagnosis of disease. This does not preclude the acceptance of a statement from an optometrist regarding certain conditions of the eyes or a statement that there is no disease of the eye."^{15/}

The military have successfully instituted optometric triaging using medical corpsmen supplemented by optometrists.^{16/} In this setting, optometrists function as primary care personnel. The Civilian Health and Medical Program of the Uniformed Services (CHAMPUS) provides or reimburses for health services for armed forces retirees, dependents and others. CHAMPUS authorizes payments to optometrists:

- for eye examinations performed for the purpose of ruling out pathology even though the examination may result in the determination that no pathology exists.
- for spectacles or special lenses required in the surgical or medical treatment of pathological conditions.

but does not reimburse for lenses needed solely for the purpose of correcting refractive error.

In the provision of vision care, the Veterans Administration has relied heavily upon ophthalmology and to a much lesser extent upon optometry. It uses the full-time equivalent of 100 ophthalmologists (including 188 residents, 85 staff, and 90 consulting or attending ophthalmologists) but only 8 full-time, 13 part-time and less than 40 attending or consulting optometrists.^{17/} This low rate of utilization of optometrists may be partially explained by non-competitive civil service salary rates established for them, and partially by the lack of affiliation of VA hospitals and clinics with optometry schools. An exception is the VA Hospital in Birmingham, Alabama, which is affiliated with the School of Optometry, University of Alabama. The VA, however, has recently established a Vision Impairment Committee (with representation from Ophthalmology,

Optometry and Blind Rehabilitation) which has recommended that training affiliations be established or strengthened with schools of or colleges of optometry. The VA's Ophthalmological Advisory Committee has endorsed the concept of expanding the present emphasis on eye health care to the more comprehensive concept of vision care via interdisciplinary team delivery.^{18/}

Health maintenance organizations provide a setting in which optometry has well-defined relationships with the other health professions. Group Health Association of Washington provides primary care for about 50,000 people, utilizing 55 full-time and 75 part-time physicians supported by 400 ancillary personnel.^{19/} Vision care in Group Health Association is provided by two full-time ophthalmologists and 5 full-time and 2 half-time optometrists under the supervision of the Chief of Ophthalmology, a physician. Optometrists evaluate all patients with visual problems, refer them to ophthalmologists as necessary, do refractions, determine visual fields, and fit contact lenses. Ophthalmologists rarely refract and then only in connection with pathology. Experience here and in other health maintenance organizations indicates that extensive utilization of the optometrist's capabilities is compatible with good quality health care.

Optometrists are utilized in providing vision care services under various Medicaid programs. The Medical Assistance Program of New York City (Medicaid) for example, utilized optometrists at the onset. It defined comprehensive public funded health care as meaning a vigorous participation of all relevant professional disciplines: medicine, dentistry, pharmacy, optometry, podiatry, clinical psychology, etc.^{20/} Under this program, the patient is free to choose the practitioners, and the majority of vision services are provided by optometrists. New York City Medicaid reimburses optometrists for all aspects of optometric practice.

Insurance coverage per se cannot be considered as a decisive factor in the utilization of eye care services. In a New York City survey done seven years after the introduction of the Medicaid program, individuals with insurance coverage had significantly lower vision care utilization rates than those without.^{21/} Ninety-four percent of a sample of adults had had an "eye examination" sometime during their life; of these, twenty percent were not able to state what type of practitioner provided their last examination, "reflecting the widespread confusion among consumers about eye care disciplines and practitioners." Of the individuals who could distinguish between practitioners, 59% had last utilized optometrists, and 41% ophthalmologists. An apparent majority of this urban population, therefore, obtained vision care from optometrists, a finding consistent with other surveys. This survey also showed that utilization of optometrists as opposed to ophthalmologists is apparently unrelated to race and slightly related to socio-economic rank (with the highest rank more often utilizing the physician).

This survey found substantially less utilization of optometrists in the population over age 60 than among younger age groups. A greater proportion of the older population is, no doubt, seeking care from ophthalmologists. Two reasons for this are apparent: the older population suffers to a greater extent from eye disease requiring medical diagnosis and treatment, and present medicare reimbursement policies lead patients requiring optometrist's services, which are not reimbursable, to ophthalmologists, whose service is reimbursable in part. However, this and other surveys point out that a majority of the population chooses to rely or must rely upon optometrists for primary vision care.^{22/,23/,24/,25/}

From experience in structured multidisciplinary health care settings it is clear that optometrists can function as primary health care providers, with efficient relationships with medicine. Data from private practice suggest that many or most in that setting are equally effective, but that a proportion of private practitioners need better working relationships with medicine than they have been able to establish.

Other Information Bearing on Optometric Practice

It is accepted that optometrists are well-grounded in physical and physiological optics and competent to refract and provide prosthetic lenses. Such documentation of optometric care as exists deals only with these aspects of practice and shows a high quality of service.^{26/} Some insight into their effectiveness in providing other components of patient care can be gained by examining practices of referral of patients to physicians.

A considerable body of optometric literature has to do with referrals to physicians--criteria for referral, procedures to detect systemic disease, information that should be provided the physician, etc. Optometric educators, administrators of vision care departments in institutions or group practices, and leading practitioners are concerned with improving vision care by establishing more efficient and effective working relationships with medicine in the detection of abnormalities.^{27/} For example, the Black Hills District Optometric Society has, since the early 1960's, had periodic meetings which include local ophthalmologists in order to devise and refine criteria and procedures for referral of patients and to encourage good referral practices.^{28/}

Various studies indicate that between two and three percent of patients examined by optometrists require referral to a physician. Reliable data are not available to show how this rate varies by age of patient, or the extent to which optometrists may over or under-refer. No satisfactory study of referrals to and from optometrists in private practice has been done; the best information comes from data collected in group practices and clinics.

A 1968 study of vision care within the Kaiser-Permanente prepaid care plan in the Los Angeles area, for example, showed that 2.75 percent of the patients seeing an optometrist were referred to ophthalmologists. Patients suffering from neurological disorders (e.g., cerebral-vascular accidents, multiple sclerosis, suspected tumors) are referred from physicians to optometrists for visual field testing and examination of the fundus. The optometrist's findings are used in arriving at a diagnosis.

A study of pathology detected, and of referrals in an inner-city vision care clinic staffed by optometrists, optometry students, and ophthalmologists, showed a relatively high rate of detection by optometrists and students of abnormalities requiring referral to physicians.²⁹ Glaucoma was the most prominent condition detected, accounting for 21% of all referrals, with nuclear cataracts accounting for a further 9%. Diabetic retinopathy was the subject of 6% of the referrals. These represent only conditions for which there was no previous record of diagnosis and treatment. The relatively poor state of health and vision care of elderly inner-city populations is apparent from data this clinic, in which 17% of the patients in the age group 51 to 60, and 27% of those in the group 61 to 70, required referral to physicians. In 2.85% of the population of this clinic, the detection of ocular abnormalities by optometrists or optometry students led to the diagnosis of previously unrecognized and untreated ocular or systemic disease.

From experiences in organized health care settings, it is apparent that optometrists can be effective in the detection of abnormalities of the vision system and in selection of patients who require medical care. There is a definite trend toward utilizing technicians and assistants of various types to carry out much of the initial examination, subject to farther screening by the optometrists.

Studies of referral practices of private practitioners would, if adequately done, provide valuable insight into the extent to which optometrists detect abnormalities of the visual system and their disposition of such cases. Unfortunately, no reliable data are available. A mail survey in 1960 of a sample of optometrists revealed only that the overall referral rate to physicians was 2.19% of cases, with 54% of these referrals being to ophthalmologists.³⁰ No information was obtained with which to judge whether this rate is adequate, excessive, or inadequate.

Relationships between optometrists and physicians have considerable bearing on the mode of practice of the optometrist. Most optometrists have a working relationship with one or more ophthalmologists. Of the information available about the ability and proper role of the optometrist as seen by the physician, little has been collected in any rigorous manner from a defined sample of respondents, and in no case is it available in sufficient detail to allow more than the

grossest speculation about the origin and nature of the opinions of optometry that physicians hold. Negative opinions may well be based upon experience with a few individual optometrists, most probably older practitioners who were trained to and do restrict their practice to little more than refraction and dispensing. Haffner's data^{31/} and findings from the National Center for Health Statistics 1968 Survey of Optometry Practice support this contention. The latter survey in particular showed that many optometrists educated before 1940 (now constituting about 13% of active optometrists) may not attempt to function as primary care personnel and may not make a thorough attempt to detect systemic disease which may have ocular manifestations.

A survey of California physicians concerning their relationships with optometry was published in 1974.^{22/} General practitioners, internists, and neurologists were surveyed and 3/4 usable replies were obtained. 61% of the general practitioners had had patients referred to them by optometrists while 55% of the neurologists and 39% of the internists had had such referrals. All but a few of these physicians were of the opinion that the referrals were properly handled and served the patient's best interests. Approximately the same proportion of physicians in this study who had patients referred to them by optometrists referred their patients to optometrists, and almost all reported that these referrals were handled in a satisfactory manner. Of the responding physicians, 70% reported that it is in the patient's best interest for optometrists to check for ocular pathology and ocular signs of systemic disease. These findings confirm an impression that on the individual level, the majority of physicians and optometrists in practice enjoy a fruitful and on the whole an harmonious relationship which permits a good quality of patient care.

Earlier, reference was made to the National Center for Health Statistics Survey of Optometric Practice conducted in 1968. The survey was repeated in 1973, but only the 1968 study asked respondents to check off the types of procedures performed in their office. (Data from the 1973 survey has not been published except as a series of reports by State.)

The 1968 survey listed 14 services or procedures for the responding optometrist to report as being done in his practice. The data suggested that some optometrists do not perform an examination that is sufficiently complete to serve as an adequate screen for pathology. However, additional analyses were obtained and methods of collection of the data were reviewed. After discussion, the advisors and staff to this study were of the opinion that this data cannot be taken as a reliable indication of the state of optometric practice then or now.^{33/}

There are numbers of other minor studies of optometric practice which either do not address the proficiency or performance of optometrists or are deficient to the point that they provide no basis for generalization.

In view of this lack of definitive data, any comments about the capabilities, or lack thereof, of all optometrists to provide adequate vision care including primary care must be recognized as having an unsteady base. It can be assumed that in optometry, as in other health professions, there are individuals whose skill and procedures do not conform with the standards set by the professions. It cannot be said, however, that in this respect optometry is in a worse position than any other health discipline.

The situation is not helped by disagreements about what constitutes optical screening or an optometric examination, or disagreements about what types of manpower should be entrusted with various responsibilities and procedures. As we have seen, laws and regulations vary widely when addressing these subjects. This is a reflection of a general disorganization in the provision of vision care.

To a notable degree in this field there are unresolved issues about what procedures should be carried out and what types of manpower should be employed. For example, tonometry, a relatively simple process for the determination of intraocular pressure and the detection of glaucoma is an important component of vision care. Considerable ingenuity has been expended in devising sophisticated devices to determine intraocular pressure. However, in some medical clinics and group practices tonometry is reserved to ophthalmologists, in others it is done by any physician. In some other instances, optometrists do tonometry while in an increasing number of cases, technicians are being trained for this. It seems that considerations other than cost effectiveness are determining the utilization of manpower in glaucoma screening. There is also some disagreement about when tonometry should be done. The Department of Medicine and Surgery of Harvard Medical School in 1974 study found justification for glaucoma screening (by technicians) in medical and ophthalmology clinics for all patients 40 years or more of age.^{34/} Elsewhere, however, we have opinions recorded that, at least for patients with vision complaints, tonometry should be a routine part of the optometric examination for younger patients.

Optometric Therapy

Therapy provided for patients who have cataract/aphakia relates to the prescribing of pre- and post-surgical care that rehabilitates the patient to the best possible visual acuity while providing clear single binocular vision (fusion).

Discussions with consultants to the study indicated that such therapy may include referral and consultation relating to secondary disease processes that are encountered by the optometrist subsequent to the surgery (see Part II, Section A, Complications of Cataract Surgery).

It was further concluded that the prescribing of lens therapy, vision training and rehabilitative services, including the teaching of patients to use new prescription devices properly, are part of the therapy prescribed. The consultants also regarded the post-surgical monitoring of referred patients by the optometrist, especially in remote areas where ophthalmologists are not available, as an appropriate form of therapeutic care. The optometrist may examine the post-surgical patient on several visits to determine the rate of his/her progress toward complete recovery.

Contact lens therapy is especially appropriate in the following conditions: monocular aphakia, corneal disease, corneal injuries, scarred corneas, irregular astigmatism, aniseikonia and kerataconus. Both hard and soft lenses serve specific therapeutic purposes when prescribed for rehabilitative care.

The complications of general systemic disease play an important role in the method of treatment the optometrist may prescribe. For example, arthritis may inhibit the patient from safely and efficiently handling contact lenses, thus requiring that alternative methods of correction be considered and selected. The total life style as well as occupation of the patient must be considered in the rehabilitation process.

Another example of adapting the therapeutic lens prescription to the patient's individual needs occurs during the progressive visual changes that frequently occur in diabetes. Rapid development and refractive changes in less than three months, sometimes experienced by diabetics with cataract(s), may require frequent prescription changes to maintain adequate corrected visual acuity and permit the patient to perform daily functions. The complications of diabetic retinopathy may further compound the need for frequent examinations and prescription changes. The patient may also require frequent consultation between optometrists and ophthalmologists where medical and surgical treatment is indicated. Prescription changes of a major nature may be necessary during the dynamic phase of the cataract/retinal complications associated with diabetes.

Other diseases, requiring similar prostheses, as well as frequent examinations and lens changes, are associated with hypertensive retinopathy, senile macular degeneration and arteriosclerosis, all of which may require the prescribing of specific lens modifications

because of the effects that the disease process has on the performance of the eye and vision. These and similar disease processes are well managed, according to the study consultants, by optometrists working together in a complimentary relationship with general physicians and ophthalmologists to enhance the patient's life style.

Trends in Optometric Practice

The regulation of the practice of optometry has undergone a number of changes since 1973. The most frequent change has been the increase in continuing education requirements. Thirteen States introduced continuing education as a prerequisite to license renewal. In addition, Nevada, in 1975 (Ch. 659), strengthened its requirement by giving its Board the power to suspend the licenses of optometrists who fail to fulfill the continuing education requirement. The suspension automatically becomes a revocation if the requirement is not fulfilled within one year of the suspension.

The second major change has been in the relationship of optometrists to programs for delivering health services. Optometrists are increasingly being included in various health care programs. A 1975 Kansas statute (H. 2554) allows nonprofit corporations to be created specifically to provide group optometric care programs. California (Ch. 1141 (Laws 1974)) has included optometrists in prepaid health plans. Rhode Island, in 1975 (Ch. 288), included services by optometrists in the State's catastrophic health insurance programs. Maryland (Ch. 482 (Laws 1974)) has included services of optometrists in group health insurance policies. And finally, Colorado, in 1973 (H.B. 1106), added optometry to services which certain corporations may make available to health benefit subscribers.

Some statutes have revised the definition or scope of practice of optometrists. Wisconsin (Ch. 275 (Laws 1974)) construed the meaning of "physicians" to include optometrists in all accident and sickness policies. New York (Ch. 74 (Law 1974)) included optometrists with other medical professionals who received legal immunity for service on utilization review committees. California states that in determining whether an individual is blind, the patient may be examined either by a physician skilled in diseases of the eye or by an optometrist.

Especially in organized health care settings, more attention is being paid to quality assessment in health care, including vision care. The difficulties of making judgments about quality of care, and especially of practitioner proficiency and performance, have been mentioned. Nevertheless optometry for the most part deals with readily visualized or measurable conditions, and is more amenable

to the comparison of practice to standards than are many health professions.

Peer review is an approach which may be used to measure and assure the quality of medical and optometric practice. Optometrists have a role in the review responsibilities of the Professional Standards Review Organizations (PSROs). Although the current emphasis on review of inpatient care or services leaves little opportunity for review of optometric services under the aegis of PSRO at this time, the concepts are applicable to the ambulatory care setting. Furthermore, guidelines and possible protocols now exist.

Standards of vision care as they relate to peer review and guidelines for peer review have been developed by many organizations. The American Optometric Association Peer Review Committee Standards were adopted in 1972 and supplementary guidelines for peer review were produced by AOA's Community Health Division's Committee on Clinical Standards in 1973. The National Center for Health Services Research and Development has developed a protocol for the cataract patient which is applicable both to hospital admissions and to outpatients.^{35/}

The New York State Optometric Association has developed standards for the New York State Regional Health Department Audit and Review which involve site visits to practitioner's offices, clinic visits, records review, and examination of utilization rates. The acceptability of the examination findings is assessed.^{36/}

In May of 1975, the American Medical Association drafter "Model Screening Criteria to Assist Professional Standards Review Organizations." Standards for hospital admission of patients with cataract, corneal disease, glaucoma, retinal detachment and strabismus were developed by the American Academy of Ophthalmology and Otolaryngology and the American Association of Ophthalmology. Although optometrists do not admit patients to hospitals, the concepts involved in these standards are applicable to review of optometric practice and in general have been endorsed by the American Optometric Association.^{37/} Also, in 1975 the National Academy of Sciences published the "First Interprofessional Standard for Visual Field Testing," to which both ophthalmologists and optometrists contributed.^{38/}

The California Optometric Care Foundation, a statewide non-profit corporation, has developed an optometric care review program outlined (in an unpublished document of the Foundation) in September 1975. Their review of optometric services is concentrated in two areas, diagnosis and treatment, and materials prescribed. This review would monitor optometric practice principally through statistical profiles of the types of services received by patients in various age groups, of ICDA codes, and similar data.

Thus, it is apparent that within particular defined limits of practice, standards and review mechanisms can be developed for vision care as a means of quality control. It is encouraging to note that much of the development of these mechanisms is being initiated within or with the cooperation of the optometric professions itself.^{39/}

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2. Health Resources Statistics, 1974. National Center for Health Statistics, U.S. Department of Health Education, and Welfare. Rockville, Maryland, 1974.
3. The Health Careers Guidebook published jointly by the Department of Health, Education, and Welfare and the Department of Labor describes optometry as follows:

"An optometrist, Doctor of Optometry (O.D.), is educated and trained to examine eyes to detect vision problems. He may prescribe eyeglasses or contact lenses as needed, or he may recommend other optical treatment to preserve or to improve eyesight. If evidence of eye disease or injury is observed, he refers the patient to an ophthalmologist for diagnosis or treatment. In addition, an optometrist may render service in any or all of the following areas:

"Contact Lenses: Recent years have seen greatly increased use of contact lenses. Much of the research and development has been done by optometrists. Some optometrists now devote their entire attention to prescribing and fitting contact lens. To others it has become an ever increasing part of their general practice.

"Children's Vision: Optometry is playing a leading role in discovering and solving children's vision problems, especially in the development and use of vision training and in orthoptics. Many optometrists specialize in children's vision; others serve as consultants to schools and school systems.

"Aids for the Partially Sighted: Many of the effective aids for the partially sighted have been developed by optometrists. Through their research, telescopic and microscopic lens systems have been improved to benefit many in the older age group; these aids have also helped thousands of children with seriously impaired vision.

"Vision Training: Vision training has long been recognized as an effective method of correcting some types of crossed eyes. It is also useful as a way to sharpen visual perception and to improve vision for reading. Some optometrists devote a large part of their time to this specialty; others include it as one of several services."

4. Roberts, Bertram L., "Communication Between Optometrists." J. American Optometric Association. V. 42, No. 1, January 1971.
5. An example of change in the scope and depth of optometry occurred in the 1940's when it became apparent that in the control of blindness due to glaucoma, early detection and treatment was essential. Optometric education was modified to emphasize this and to stress the importance of a case history, physical findings, and the measurement of intraocular tension. Optometrists have been quick to use the latest technical advances in tonometry.
6. Tempchin v. Sampson, 277 A. 2d 67.

The court, in its opinion, equated the duty of an optometrist to that of a physician and stated the general rule to be: "The liability of an optometrist to a patient is to be tested by standards analogous to those used to test physicians and surgeons--whether or not he did fail to exercise the amount of care, skill and diligence as [an optometrist] which is exercised generally in the community...in which he was practicing by [other practitioners] in the same field".
7. Helling v. Carey, 519 P.2d 981.
8. In New Jersey, the question raised was whether an optometrist may be permitted to utilize a local anesthetic in performing a corneal tonometric examination during the course of examining the eyes for the purpose of prescribing lenses. The Attorney General's opinion stated: "It is clear that the New Jersey Supreme Court has indicated that optometrists have the right to recognize pathology. Since glaucoma is a pathological condition, an optometrist has the right, during the course of an examination for determining whether or not such pathological impairment exists. However, while the optometrist has the training to diagnose the pathology of the eye, he has the duty to refer such cases involving ocular pathology to medical doctors because the Code of Ethics of New Jersey Optometric Association, Section 1, prohibits optometrists from the care or treatment of injuries, growths or diseases of the eye. Formal Opinion 1961, No. 8, Attorney General David D. Furman."
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13. Continuing Education Courses Directed Toward Care of the Aphakic Patient. Compiled by Division of Education and Manpower, American Optometric Association, 1976.
14. The United States Army's MOS Code 3340, "Optometry Officer", lists the duties of the optometrist:

"Conducts examinations of eyes and, when appropriate, prescribes corrective treatment without the use of medicine or surgery. Determines by means of ophthalmic instruments and optometric procedures, vision abnormalities which may be corrected or improved by contact or ophthalmic lenses, prisms or other ophthalmic devices; prescribes corrective lenses; refers patients for medical treatment or surgery when ocular manifestation of disease is detected; develops and monitors eye and vision protection programs; supervises optician technicians in fabricating and dispensing spectacles, manages optical service unit or lens laboratory; instructs and supervises subordinate personnel in optical and optometric procedures; engages in vision research; provides optometric consultant services; records optometric data on approved forms and records."
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Table 3, p. 23 of this report shows that of 18,238 optometrists providing refraction, 16,928 provided ophthalmoscopy, 13,780 examination of visual fields, 12,098 tonometry, and 5,907 biomicroscopy. The proportions for solo practitioners only proved much the same. Non-performance of diagnostic procedures proved to be highly correlated with age, year of graduation, State of practice, and school.

The reliability of this data is open to question since the procedures were listed and the respondent was asked to check if they were done but to make no mark if they were not done. Therefore, incomplete response is treated as non-performance of the procedure. Furthermore,

refraction headed the list and to many optometrists (especially those relatively long out of school) the term "refraction" covers all normal diagnostic procedures. (A principal textbook of optometric practice is titled simply "Refraction"). The use of the term refraction in this larger sense is thought to be associated with the school and year of graduation and to some extent with the State of practice. After much discussion, therefore, it was concluded that these data cannot be taken at face value.

In addition, the data were collected in 1968. In the intervening eight years two things have happened: many of the older or part-time optometrists who reported minimal diagnostic procedures have retired, and the active optometric work force has upgraded practice (although to an unknown extent) as standards have risen in the profession, practitioners have been pressured to meet the new standards, and continuing education has been emphasized. It therefore becomes even more difficult to draw conclusions respecting optometrists active in 1976 from this data.

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ATTACHMENT A

SPECIFIC PROVISIONS FOR THE PRACTICE OF OPTOMETRY
AS FOUND IN STATE LAWS AND BOARD REGULATIONS

Based upon provisions of State optometric practice acts and board regulations outlining the equipment which an optometrist must have, a chart of functions/procedures has been compiled. In most cases, only the functions expressly authorized in the laws or regulations appear on the chart for a given State. However, where specific functions were not detailed, an analysis of the provision could often uncover implied functions. For example, the Delaware licensing law authorizes optometrists to "employ any objective or subjective means or methods for the purpose of determining the refractive powers of the human eyes and/or any visual, muscular or anatomical anomalies of the human eyes and their appendages; or any ocular deficiency". On the basis of this definition, the chart for Delaware was composed to reflect the following procedures: external and internal examination, visual fields, visual acuity, refraction, and sensory motor testing. The definition may in fact be broad enough to encompass all of the functions on the chart. If a provision empowers an optometrist to measure visual powers or visual range, the chart will reflect visual acuity and visual fields. If the provision defines "optometry" as the "measurement" or "diagnosis" of the human eye, it may be inferred that the authority to examine the eye is granted.

When both the express and implied functions are tabularized, the following patterns appear. In each State, optometrists may or must perform external and internal examinations of the eye. Visual acuity testing is either part of the required minimum examination of each patient or a function expressly or impliedly permitted in the laws and regulations of 34 States. Visual fields measurement is required or permitted in 33 jurisdictions. Twenty-seven States direct optometrists to keep patient histories for varying periods of time.

Twenty-four States mention refraction or measurement of refractive powers among the permitted or required functions of an optometrist. The measurement of muscular anomalies or muscle balance falls within the practice of optometrists in 22 jurisdictions.

Eighteen States define the functions of an optometrist to include measurement of the amplitude of convergence and accommodation. In eighteen jurisdictions, one of two situations occurred:

either the retinoscope was required equipment or the optometrist was expressly authorized to perform a retinoscopy.

Phoria and duction appeared 13 times among lists of conditions for which each patient must be tested. In 13 States, either the keratometer is required equipment or the measurement of corneal or curves is expressly within the scope of practice of an optometrist. Color testing and stereopsis appeared 8 times each on the minimum requirements lists for patient examination.

"Subjective findings far and near" appears on six lists of conditions which must be tested as part of a minimum patient exam, while "trial case" appears on five lists. Only three States include consultation with the patient, advice, or follow through on lists of required procedures.

To date only 10 States expressly require, by statute or regulation, that an optometrist refer patients in need of other professional care to the appropriate professions. On this chart, the following abbreviations were used to indicate the location of the referral provision:

- D - Definition section
- Disc. - Disciplinary provision (Suspension and revocation)
- M.E. - Minimum Examination of Patients provision
- Pol - Statement of policy
- Rec - Records provision

SPECIFIC PROVISIONS FOR THE PRACTICE OF OPTOMETRY, 1975

	Patient History	External Exam of the Eye	Internal Opth. Exam	Sensory Motor/ Muscle Balance Visual Fields	Refraction	Visual Acuity	Tonometry	Color Testing	Subjective Findings	Neurological Assessment	Phoria and Duction	Trial Case	Consultation, Advice Follow-Through	Corneal Curvature Measurements	Retinoscopy	Fusion	Stereopsis	Amplitude of Convergence & Accomodation Referrals	a. Section	b. Cities
Alabama	X	X																		
Alaska	X	X ⁴	X	X ⁴																
Arizona	X	X	X		XL	X		X		X	X			X	X	X	X	X		
Arkansas		X ⁴	X		X ⁴	X ⁴														
California	X	X ⁴	X		X ⁴	X	X ⁴				X	X						X		
Colorado		X	X	X ⁴	X ⁴	X	X ⁴			X									X Disc/	\$12-40-125
Connecticut	x	X	X		X ⁴	X	X				X			X	X	X				
Delaware		X	X	X ⁴	X ⁴	X	X ⁴	X												
Florida	X	X ⁴	X	X ⁴	X ⁴	X	X	X		X				X	X					
Georgia	X	X	X																	
Hawaii		X ⁴	X	X ⁴	X ⁴	X	X ⁴													
Idaho	X	x	X		X ⁴	X	X						X					X	X	Disc/Reg. XIV p. 18
Illinois	X	X	X	X ⁴	X ⁴			X	X						X	X	X	X		
Indiana	X	X	X		X ⁴		X ⁴													
Iowa		X ⁴	X		X ⁴		X ⁴													
Kansas	X	X	X	X		X													X D	Reg. 65-6-6
Kentucky		X	X		X		X													
Louisiana		X	X		X	X	X											X		
Maine	X	X	X	X		X	X												X	M.F./32 \$2567
Maryland		X ⁴	X																	
Massachusetts	X ²	X	X				X				X			X	X	X	X	X		
Michigan	X	X	X	X	X ⁴	X	X					X	X	X	X				X	D Reg. 338.291
Minnesota	X	X	X	X ⁴	X ⁴	X	X												X	Rec/Reg. Opt. 3
Mississippi	X	X	X		X		X	X	X		X		X	X	X	X	X		X	M.E./Rules 1E & 21
Missouri		X	X			X														
Montana	X	X	X												X					
Nebraska		X	X																	
Nevada		X	X	X ⁴	X ⁴					X										
New Hampshire		X ⁴	X	X ⁴																
New Jersey	X	X	X	X ⁴	X ¹	X	X ³	X	X		X			X	X	X	X	X		
New Mexico		X ⁴	X	X ⁴		X														
New York		X ⁴	X	X ⁴																
North Carolina	X	X ⁴	X		X ⁴		X ⁴													

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SPECIFIC PROVISIONS FOR THE PRACTICE OF OPTOMETRY, 1975 (CONTINUED)

	PATIENT HISTORY	EXTERNAL EXAM OF THE EYE ¹	INTERNAL OPTH. EXAM	SENSORY MOTOR/MUSCLE BALANCE	VISUAL FIELDS	REFRACTION	VISUAL ACUITY	TONOMETRY	COLOR TESTING	SUBJECTIVE FINDINGS	NEUROLOGICAL ASSESSMENT	PHORIA AND DUCTION	TRIAL CASE	CONSULTATION, ADVICE, FOLLOW-THROUGH	CORNEAL CURVATURE MEASUREMENTS	RETINOSCOPY	FUSION	STEREOPSIS	AMPLITUDE OF CONVERGENCE & ACCOMODATION REFERRALS	a. SECTION	b. CITES
North Dakota	X	X	X	X	X	X	X	X			X	X			X	X	X		X		
Ohio		X	X																		
Oklahoma		X	X		X	X									X	X					
Oregon	X	X ⁴	X ⁴		X ⁴	X	X ⁴												X	X	Reg
Pennsylvania	X	X	X		X ¹	X			X	X		X	X		X	X	X		X	X	D 63
Rhode Island	X	X	X		X	X			X			X	X					X			
South Carolina		X ⁴	X ⁴				X ⁴														
South Dakota	X	X	X	X	X		X		X		X					X		X			
Tennessee	X	X	X	X												X					
Texas	X	X	X	X	X		X	X		X		X				X			X		
Utah	X	X	X	X	X ⁴	X	X					X	X		X	X			X		
Vermont		X	X	X	X	X	X												X	X	Pol
Virginia		X	X	X	X ⁴	X	X ⁴												X		
Washington		X	X	X							X										
West Virginia		X	X		X ⁴	X	X ⁴												X		
Wisconsin	X	X	X		X		X		X	X		X			X	X	X	X	X		
Wyoming		X ⁴	X ⁴		X ⁴	X	X ⁴												X		
District of Columbia	X	X																			

¹Visual fields (confrontation) and visual fields central (after age 40).

²Including presbyopic findings if prescribed for.

³Performed on patients after age 40 unless contra-indicated.

⁴By implication/analysis.

ATTACHMENT B

LAWS AND REGULATIONS RESPECTING THE
USE OF DRUGS BY OPTOMETRISTS, 1976

Delaware optometrists may employ "topical ophthalmic drugs for diagnostic purposes only." The drugs for such diagnosis will be limited to: topical anesthetics, mydriatics, cycloplegics, and myotics. Each new applicant for licensure in Delaware will be examined on the subject of pharmacology as it relates to optometry. Practicing optometrists must complete a refresher course in pharmacology as it relates to optometry before employing these drugs. This course must be given by an institution recognized by the National Commission on Accreditation or the Delaware State Board of Examiners in Optometry.

Louisiana permits optometrists to use "topical ocular diagnostic pharmaceutical agents." In the initial examination for licensure, applicants will be tested on "general pharmacology and ocular pharmacology as it applies to optometry with emphasis on the topical use of diagnostic pharmaceutical agents to the eye."

Louisiana defines diagnostic pharmaceutical agent as "any chemical in solution, suspension emulsion, or ointment base other than a narcotic which when applied topically to the eye, results in physiological changes which permit more efficient or otherwise facilitates examination of the external eye or its adnexa or the evaluation of vision or which is necessary to determine normal physiological function as part of an examination regimen."

Prior to the employment of topical ocular diagnostic pharmaceutical agents by a licensed optometrist, that licensed optometrist must submit to the Louisiana State Board of Optometry Examiners satisfactory evidence that the optometrist has successfully completed courses, approved by the board, in pharmacology as they apply to optometry, with particular emphasis on topical application of diagnostic pharmaceutical agents to the eye.

Optometrists in Maine may use diagnostic drugs solely for "the purpose of detecting any pathological condition or functional abnormality to the eye." Prior to employing these drugs, practicing optometrists must obtain a diagnostic drug license by completing "a course in general and ocular pharmacology as it applied to optometry approved by the board." Furthermore, "each use of a diagnostic drug shall be noted in writing and shall be made part of the record of each examination and placed on file." Licensure

EXHIBIT B

examinations for all new applicants will include the "subject of general and ocular pharmacology as it relates to optometry and the use of topically applied diagnostic drugs."

Every individual desiring to commence the practice of optometry in Oregon after January 1, 1976, or to use diagnostic drugs in his practice shall have satisfactorily completed "a course in pharmacology as it applies to optometry, by an institution accredited by a regional or professional accreditation organization which is recognized or approved by the National Commission on Accrediting or the United States Commissioner of Education with a particular emphasis on the topical application of diagnostic agents to the eye for the purpose of examination of the human eye and the analysis of ocular functions." The Oregon Board of Examiners must designate those diagnostic pharmaceutical agents which may be used in the practice of optometry. Categories for selecting such drugs shall be cycloplegics, mydriatics, topical anesthetics, dyes such as fluorescein and, for emergency use only, miotics.

In Pennsylvania, the Secretary of Health shall determine the specific agents optometrists may use. The determination shall be made from the following categories: cycloplegics, mydriatics, topical anesthetics and miotics which are applied topically. Licensed optometrists may employ these agents only after completing "a course in pharmacology as it applies to optometry, by an institution accredited by a regional or professional accreditation organization which is recognized or approved by the National Commission on Accrediting or the United States Commissioner of Education with particular emphasis on the topical application of diagnostic pharmaceutical agents to the eye for the purpose of examination of the human eye and the analysis of ocular functions." The examination for licensure will include the subject of pharmacology as it applies to optometry.

In Rhode Island, only those presently licensed optometrists who have "(i) satisfactorily completed a course in pharmacology, as it applies to optometry, at an institution accredited by a regional or professional accreditation organization which is recognized by the National Commission on Accreditation, with particular emphasis on drugs to the eye for the purpose of detecting any diseased or pathological condition of the eye, approved by the Board of Examiners in optometry and the chief of pharmacy in the Department of Health, and (ii) have successfully completed an examination given by the Board of Examiners in conjunction with the Chief of Pharmacy of the Department of Health, shall be permitted to apply drugs topically to the eye. Said Chief of Pharmacy shall consult and advise the Board of Examiners in optometry with respect to that portion of the examination dealing

with pharmacology." The standard examination for licensure in optometry shall also include pharmacology as it applies to optometry with particular emphasis on the topical application of diagnostic drugs.

In order to employ diagnostic drugs in their practice of optometry, optometrists in Tennessee must demonstrate "professional competence and transcript credit of at least six (6) quarter hours in a course or courses in general and ocular pharmacology with particular emphasis on diagnostic pharmaceutical agents applied topically to the eye, from a college or university accredited by a regional or professional accreditation organization which is recognized or approved by the National Commission on Accrediting or the United States Commissioner of Education." It specifies, further that "the optometrists so qualified are authorized to utilize in connection therewith diagnostic pharmaceutical agents (miotics, mydriatics, cycloplegics and anesthetics), applied topically only."

West Virginia now defines optometry as "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, treat or refer for consultation or treatment any abnormal condition of the human eye or its appendages."

Only two of these, Maine and Rhode Island, expressly state that the diagnostic drug shall be used only for detecting any diseased or functional abnormality of the eye. All State laws, with the exception of West Virginia, prohibit the use of ocular drugs or pharmaceutical agents in the "treatment" of disease.

The optometric practice acts of three States amended the definition of optometry to extend the scope of vision care without the use of drugs. Alabama enlarged the practice of optometry to "(a) ascertaining the status of the human visual system, including the refractive and functional abilities thereof; or (b) ascertaining the presence of ocular disease or ocular manifestations of systemic disease and any other departure from the normal which may require referral to other health care practitioners."

Idaho permits optometrists to "employ in the examination, diagnosis, or treatment of another, any means 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."

New Mexico enacted legislation in 1973 to define the practice of optometry and prohibit the use of drugs.

The State of Washington, in its definition of the practice of optometry, permits the use of any "diagnostic instruments or devices for the examination or analysis of the human vision system." It is doubtful that these four provisions extend to diagnostic pharmaceutical agents.

Other legislative authorities have addressed these changes in definition. The Rhode Island State Supreme Court Decision upheld the constitutionality of the Rhode Island amendment which was passed in 1971. This decision of March 27, 1974, remitted the case to the Superior Court, where no further action was taken, thus ending the matter. Thus, optometrists in the State of Rhode Island have utilized pharmaceutical agents for diagnostic purposes since 1974.

A recent Louisiana Attorney General's opinion held that the new law "does not illegally encroach upon the practice of medicine." Also opinions of State Attorneys General in Florida, Indiana, Nevada, and New Jersey state that there is no statutory prohibition in those States which preclude the utilization of pharmaceutical agents for diagnostic purposes by optometrists.

SUBJECT MATTER MASTERY REQUIRED FOR INITIAL STATE LICENSURE OF OPTOMETRISTS⁴ (CONTINUED)

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	Geometric Optics	Ocular Anatomy	Ocular Pathology	Ocular Physiology	Theoretical Optics	Practical Optics	Physiological Optics	Theoretical Optometry	Practical Optometry	Hygiene	Psychology	Optical Laboratory & Clinical Work	Visual Training/Orthoptics	Contact Lenses	General Anatomy	Physiology	Pathology	Mathematics (as related to O)	Physics	Optics	Ocular Examination	Refraction	Case Analysis	Prescribing & Fitting Duplication	Clinical Optometry	Pharmacology	Physical Optics	Mechanical Optics	Psychological Optics	Tonometry	Ocular Myology	Ocular Neurology	
New Mexico																																	
New York							X								X	X	X			X			X										
North Carolina ²		X					X	X	X				X	X	X	X	X			X		X				X	X						
North Dakota ⁵																																	
Ohio ¹		X		X	X	X	X	X	X								X																
Oklahoma		X	X				X				X		X		X	X			X	X		X			X					X	X		
Oregon ^{1,2}		X																			X				X								
Pennsylvania ²		X	X	X	X	X	X	X	X													X				X							
Rhode Island		X	X	X	X	X	X	X	X																	X							
South Carolina	X	X			X	X	X	X	X	X	X		X				X									X							
South Dakota ¹	X	X		X	X	X	X	X	X		X		X	X			X	X				X	X					X					
Tennessee ¹		X	X	X	X	X	X	X	X	X																							
Texas ¹		X	X	X	X	X	X																										
Utah ¹		X						X	X								X	X									X						
Vermont ^{1,2,5}																																	
Virginia ^{1,2}		X	X	X																													
Washington		X	X				X				X		X		X	X	X		X	X		X			X	X					X	X	
West Virginia ¹							X	X	X					X	X	X	X								X								
Wisconsin ¹		X	X	X																		X											
Wyoming			X		X	X		X	X	X	X	X			X	X		X	X	X													
District of Columbia		X	X	X	X	X	X	X	X				X	X																			

¹Plus those courses the Board may require.

²Accepts National Board Exam.

³Actual course requirements.

⁴Except as specified, indicates subject/matter required to be covered in an examination

⁵Not specified.

REQUIREMENTS FOR INITIAL STATE LICENSURE OF OPTOMETRIST

State	Personal Qualifications			Education			Examination				Number of times Candidate may be reexamined
	Age	Citizenship	Good Character Other	Preliminary	Professional Experience	Written	Oral	Practical	Proficiency		
Alabama	21	X	X	H.S.	X 3 mos.	X		X			
Alaska	21		X	H.S.	X	X	X	X			
Arizona			X	H.S.	(1)	X			75%		
Arkansas	21		X		X	X ⁷	X ⁷				
California	18		X	H.S./60hrs. College	2800 hrs.	X ⁵		X	75%	32	
Colorado	21	X	X		X	X	X	X	75%		
Connecticut	18		X	H.S.	4 years ³	X ⁵		X			
Delaware			X	H.S./2yrs. College	4 years 6 mos.	X ⁵	X	X	75%		
Florida	18	X ⁴	X		4 years	X ¹¹					
Georgia	21		X	H.S./2 yrs. College	3 years	X			75%		
Hawaii	18	X		H.S.	X	X ⁵		X	75%		
Idaho	21		X		X	X ⁵	X	X			
Illinois	21	X	X	H.S. 1 yr 2 yrs. Coll.	3 or 4 yrs. 4 years	X ⁵	X	X	75-60% ^B	32	
Indiana	16		X		4 years	X ⁵		X	75-65% ^B	2	
Iowa				H.S.	4 years	X ⁵	X				
Kansas		X	X	H.S.	4 years	X	X				
Kentucky	18	X	X	H.S.	5 years	X ⁵	X ¹²		75-60% ^B	X ²	
Louisiana		X	X	H.S.	X	X					
Maine	18		X		X	X		X			
Maryland	18		X	H.S./2 yrs. College	4 years	X	X	X			
Massachusetts	18		X	H.S.	3 years	X		X	70%	X ²	
Michigan	18		X	H.S./2 yrs. College	4 years	X			75%		
Minnesota			X	2 yrs. Coll.	X	X ⁵		X		2 ⁶	
Mississippi	21		X	H.S.	X	X ⁹		X			
Missouri	21		X	H.S./X ¹³	X ¹³	X	X	X			
Montana	18	X	X	H.S.	4 years	X ⁵	X	X	75%		
Nebraska	21	X	X	H.S./2 yr. College	3 years	X			75-60% ^B		
Nevada	21	X	X	H.S./2 yrs. College	4 years	X		X	75%	X ²	

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ATTACHMENT D.

REQUIREMENTS FOR INITIAL LICENSURE OF OPTOMETRISTS (CONTINUED)

State	Personal Qualifications			Education			Examination				
	Age	Citizenship	Good Character	Other	Preliminary	Professional	Experience	Written	Oral	Practical	Proficiency
New Hampshire	18		X		2 yrs. Coll.	4 yrs.		X ^{3,5}	X	X	
New Jersey	21	X	X	Residency	H.S./2yrs. College	4 yrs.		X ⁵		X	
New Mexico	18	X ⁴	X		H.S./College	X		X	X ⁷	X	75%
New York	21		X			X		X		X	75-60% ⁸
North Carolina	21		X			4 yrs.	X ¹⁰	X ⁵	X	X	75-60% ⁸
North Dakota	18		X		H.S.	X		X		X ⁷	
Ohio	21	X	X		2 yrs. Coll.	3 yrs.		X			75%
Oklahoma	21		X		H.S.	X		X			75%
Oregon	18		X			4 yrs.	1 yr. (I)	X ⁵			
Pennsylvania	21					X		X		X	75%
Rhode Island	21	X	X		H.S./2yrs.	4 yrs.	6 mos.	X	X		
South Carolina	21		X		2 yrs. Coll.	4 yrs.		X	X	X	
South Dakota	18	X	X		H.S.	X		X ⁵			70%
Tennessee	18	X	X		H.S.	4 yrs.		X ¹²	X ¹²		75%
Texas	21	X	X		H.S./2 yrs.	4 yrs.		X ⁷	X ⁷	X ⁷	75-70%
Utah	21		X		H.S.	2000 hrs.		X		X	75-60% ⁸
Vermont	18		X		H.S./2 yrs. College	4 yrs.		X ⁵	X	X	
Virginia	18		X		H.S.	X		X ⁵			
Washington		X	X		H.S.	X		X ⁵			
West Virginia	18		X		H.S.	2000 hrs.		X			
Wisconsin	18		X		H.S./2 yrs. College	3 yrs.		X ⁵		X	75-70% ⁸
Wyoming	19		X			4 yrs.		X			75%
District of Columbia	21		X		2 yrs. H.S.	5 yrs.		X			

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1. 2 alternate methods (a) 5 year course in optometry (b) 3 year optometry course with 60 hours of college work
2. Reexamined in failed area
3. 6 month internship required after written examination and before any practical examination or receiving certificate to practice
4. Or declared intent to become a citizen
5. National Board accepted for written examination
6. Further education may be required after failure
7. At boards direction
8. Minimum in any one subject
9. Applicant must pass a second exam after 1 year's practice
10. 2 week practice orientation
11. Exam required, form not specified
12. Either written or oral, not both
13. Must graduate from an approved school of optometry. The school require for graduation a minimum of 5 terms of pre-optometric tr in not less than 5 years.

RENEWAL OF LICENSES AND CONTINUED EDUCATION FOR OPTOMETRISTS

State	Renewal Period (yrs.)	Continuing Education		
		Required	Type	Duration
Alabama	1	X		25 hours/yr.
Alaska	2	X	(3)	24 hours/2 yrs.
Arizona	1			
Arkansas	1	X	(3)	2 days/yr.
California	1	X ¹	(2)	
Colorado	1	X		24 hours/yr.
Connecticut	1	X		8 hours/yr.
Delaware	1	X	(3)	12 hours/2 yrs.
Florida	1	X	(3)	24 hours/yr.
Georgia	1	X	(3)	10 hours/yr.
Hawaii	1	X	(3)	8 hours/yr.
Idaho	1	X	(3)	12 hours/yr.
Illinois	1	X ⁶	(5)	(5)
Indiana	1	X	(3)	12 hours/yr.
Iowa	1	X	(3)	12 hours/yr.
Kansas	1	X	(3)	2 days/yr.
Kentucky	1	X	(3)	8 hours/yr.
Louisiana	1	X	(3)	12 hours/yr.
Maine	1	X	(3)	20 hours/yr.
Maryland	1	X	(3)	25 hours/yr.
Massachusetts	1	X	(4)	(4)
Michigan	1	X	(3)	12 hours/yr.
Minnesota	1	X ⁴	(4)	12 hours/yr.
Mississippi	1	X	(4)	20 hours/yr.
Missouri	1	X	(3)	8 hours/yr.
Montana	1	X	(3)	12 hours/yr.
Nebraska	1	X	(3)	16 hours/yr.
Nevada	1	X		24 hours/yr.
New Hampshire	1	X	(3)	25 hours/yr.
New Jersey	1	X	(3)	50 hours/2 yrs.
New Mexico	1	X	(3)	2 days/yr.
New York	2			
North Carolina	1	X	(3)	10 hours/yr.

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RENEWAL OF LICENSES AND CONTINUED EDUCATION FOR OPTOMETRISTS

State	Renewal Period (yrs.)	Continuing Education		
		Required	Type	Duration
North Dakota	1	X	(3)	18 hours/3 yrs.
Ohio	1	X	(3)	12 hours/yr.
Oklahoma	1	X	(3)	2 days/yr.
Oregon	1	X	(3)	12 hours/2 yrs.
Pennsylvania	2			
Rhode Island	1			
South Carolina	1	X	(3)	6 hours/yr.
South Dakota	1	X	(3)	8 hours/yr.
Tennessee	1	X	(3)	18 hours/yr.
Texas	1	X	(3)	12 hours/yr.
Utah	1			
Vermont	1			
Virginia	1	X ⁷	(3)	Not to exceed 16 hours
Washington	1			
West Virginia	1	X	(3)	8 hours/yr.
Wisconsin	1	X	(3)	10 hours/yr.
Wyoming	1	X	(3)	25 hours/yr.
District of Columbia				

1. Board regulations being developed
2. Requires satisfactory proof that licensee has stayed abreast of present developments by mean of Continuing Education.
3. Optometric or other scientific education, lecture, symposium or course approved by board and postgraduate study at school of optometry or course given by Optometric Association.
4. Set by board
5. Determined by examining committee
6. Effective May 1977.
7. Effective August 1976.

SECTION II-C

OPTOMETRIC EDUCATION

Compiled by
David B. Hoover, M.P.H.*

The responsibilities and functions of health professionals are to a large extent defined by the basic occupational preparation for the profession. The organization of health care is such that personnel tend to be utilized to the limit of their capacities, especially in institutional settings and subject to sometimes vague constraints in law. Typically, legal or other formal recognition of a responsibility or function of a health occupation follows its adoption by some practitioners and its incorporation into educational objectives and philosophy. An examination of how optometrists are educated, therefore, contributes to understanding their functions and capabilities, as does analysis of the legal basis for practice and the data that are available about practice itself.

There are thirteen schools of optometry in the United States. The oldest was established in 1870, the youngest in 1975. Seven are schools or colleges within public universities (or in one case within a State college). Five are private and independent institutions, and one is a school within a private university. All meet the accreditation standards of the Council on Education and Professional Guidance of the American Optometric Association.

Admission to a school of optometry requires at least two years of college study.^{1/} The optometry professional curriculum itself is four years long, leading to the degree of Doctor of Optometry (O.D.). Seven schools also have graduate programs which grant a Master of Science degree, and six have programs leading to a Ph.D. in physiological optics. Enrollment in optometry schools ranges from 85 to 566, with an average of about 300; a class size is about one-fourth of this. A list of schools and their enrollments is found as attachment A to this section.

The Development of Optometric Education

Education for the health professions has evolved from informal apprenticeship in on-the-job types of training to the present

*Associate Director for Program Planning and Evaluation, Division of Associated Health Professions, Bureau of Health Manpower, Health Resources Administration, Department of Health, Education, and Welfare.

elaborate, formal, and controlled systems found in medicine, dentistry, optometry, pharmacy, and other disciplines. Organized optometric education dates from the nineteenth century, beginning with schools in which students served a formal apprenticeship under a successful practitioner. Specialized educational institutions emerged rapidly since in the latter half of the century, there were many advances in optics and in the application of optical principles to the correction of vision.^{2/} Ohio State University dates its education in optometry from 1870, and the independent Illinois College of Optometry from 1872.

A university program (now defunct) was established at Columbia University in 1910, and full four-year programs leading to the O.D. degree at Ohio State and the University of California at Berkeley followed. These early university courses were usually conceived of as a division within the general study of Physics. In time, however, the emphasis in optometry shifted toward the physiological aspects of vision and the programs became distinct from physical optics.^{3/}

As optometry began to be recognized as an appropriate subject for university education, there was a corresponding movement within the profession to standardize the qualifications for optometric education and actual course offerings at the various colleges. The 1912 convention of the American Optometric Association adopted a resolution concerning educational standards of qualification for practice. The standardization and upgrading of education has continued to the present day, stimulated by new knowledge of vision disorders, technological advances in diagnosis, treatment, and rehabilitation, obvious unmet needs for optometric services, and more stringent requirements for licensure and educational program accreditation.

Development of the Accreditation Process

The International Association of Boards of Examiners in Optometry, (IAB) was created in 1922. At a "Conference to Establish Optometric Standards" held in St. Louis that same year, it was resolved that the process of accreditation should include adoption of a uniform syllabus by all the schools.^{4/}

During 1925 and 1926 the accreditation process, which involved on-site inspections by a committee of the IAB, was commenced. Accrediting procedures were continually refined, with the AOA's Council on Education and Professional Guidance eventually taking over the function of the IAB in this area by 1941.*

*The Council is recognized by the Commissioner, U.S. Office of Education, as the official accrediting agency for schools of optometry.

At a 1936 meeting of representatives from the AOA, IAB, American Academy of Optometry and most of the schools and colleges, it was first proposed that a four year curriculum be implemented by all the educational institutions.^{5/} In 1941, the Council on Education and Professional Guidance produced a manual of accrediting which is now in its eighth (1975) edition.

The Association of Schools and Colleges of Optometry (ASCO) was organized in 1941, to "aid in the advancement of optometry by giving attention to the problems of the education of optometrists, and by formulating and supporting desirable educational standards and policies." Today the Association represents the thirteen schools and colleges of optometry in the United States and two programs in Canada. The Association incorporated in 1972 and established a staffed national office in 1974, which publishes a monthly newsletter, the ASCO EDUCATOR, and a quarterly JOURNAL OF OPTOMETRIC EDUCATION (JOE).

ASCO maintains standing Councils in; Academic Affairs, Student Affairs, and Institutional Affairs. The Council on Academic Affairs is currently reviewing curricular standards. This Council has also developed guidelines for optometric residency programs and post-graduate pharmacology training, and is proposing to study the feasibility of conducting an organized and structured national program of continuing education for practicing optometrists, using the schools and colleges as a base.

The Council on Student Affairs has developed and produced the Optometry College Admissions Test. The test is administered to over 4,000 applicants yearly throughout the U.S. and Canada, and is required as part of the admissions process at each member institution.

National Board Examinations

If there is variation from State to State in the subject matter in which a candidate is examined for licensure, and especially if some of the subjects are no longer relevant to proficiency in practice, educational programs for that occupation are faced with a dilemma. Training the student to master all of the subjects on which he may be examined becomes difficult or impossible as well as undesirable. The examinations will not represent, collectively, a suitable set of educational objectives. Optometry found itself in this position in the 1940's, with the additional complication that rapid advances in optometric knowledge were quickly making examinations obsolete. A uniform national examination that could be adopted by States as a licensing examination seemed in order.

Both the IAB and ASCO constituted committee in 1950 to formulate proposals for a National Examining Board of Optometry, and established the National Board of Examiners in Optometry in 1951.6/ Currently, the national examination is administered over a two day period in April and involves approximately nineteen hours of testing. It currently serves as the written examination for licensure in 18 States. Candidates are examined in the areas listed below: 7/

- Visual Science
- Ocular Pathology
- Theory and Practice of Optometry
- Theoretical Optics
- Ophthalmic Optics
- Ocular Anatomy
- Social, Legal, Ethical, Economic and Professional Aspects of Optometry
- Ocular Pharmacology

During the 1950's, most of the schools adopted first a five and then a six year program of studies, including four years of professional instruction leading to a doctor of optometry degree. "The move from a two year to a four year professional course over the past 25 years has resulted in much more clinical experience for the optometry student, now commencing in the second year and expanding until, in the fourth year, he devotes at least half-time to work under supervision in the clinic. He gains experience in such areas as contact lenses, low vision, children's vision and vision therapy, in addition to basic visual analysis and the prescription of lenses". 8/

The sixties had witnessed a sharp rise in the number of applicants seeking admission to colleges of optometry. As a step toward securing highly qualified candidates as potential optometrists, ASCO explored the feasibility of instituting a national entrance examination for all prospective optometry students. The first Optometry College Admissions (OCAT) was administered in 1971, and in 1972 the test was offered using approximately the same format in existence today.9/

Educational Trends

In 1971, an eighteen month study was undertaken by the National Commission on Accrediting which examined all aspects of optometric education. Under the direction of Robert J. Havighurst, Professor of Education and Human Development at the University of Chicago, a

report was prepared and subsequently published in 1973. "Optometric Education, A Summary Report" dealt with current trends and future goals of the professions under such topics as Manpower Needs, The Scope of Optometry, and Financing Optometric Education. The Commission said: "in the past three or four decades in particular, optometry has greatly expanded its own diagnostic and treatment armamentarium in the wide field of visual performance, visual efficiency, visual skills, visual development, and visual comfort and safety. It has contributed important new knowledge in the fields of physiological optics, sensory psychology, ophthalmic optics (including contact lenses), orthoptics, learning theory, and recognition of pathology."

The broad scope of present day optometry has been officially recognized by the Department of Health, Education, and Welfare as is seen in a report by Elliot L. Richardson, former Secretary of HEW:*

Although the primary service performed by most practicing optometrist is the provision of eye examinations and visual analyses, optometrists are trained to detect any departure from the optimally health eye. The scope of the optometric services has expanded beyond basic clinical refractions, fabricating and dispensing eyeware; now included are visual screening examinations, clinical instrumentation, contact-lens fitting, visual training, orthoptics, low-vision aids for the partially sighted, artificial eyes, industrial vision-consultation, and public and community health. The most rapidly expanding area of service is in school consultation and remedial services for low achievers.

Optometric education has reflected this expanding role of the optometrist. In the last twenty-five years major modifications have taken place in the educational process. They can be measured both in additions to the curricula of the schools and in the continuing revision of the NBEO.

Among the courses that evidence the direction of optometric education are "Pennsylvania College of Optometry's Environmental Optometry" and "Illinois' Learning Disabilities of Children", which carry the following descriptions:

Environmental Optometry

The student will be taught the application of standard optometric techniques as well as new and innovative procedures for the detection

*"The Health Professions Educational Assistance Act". Report to the President and the Congress, Elliot L. Richardson, Secretary, U.S. Dept. of HEW, September 1970, page 67.

and correction of visual problems resulting from changes and alterations in man's environment. Special problems of illumination; seeing under condition of movement, especially high speed transport; reactions of the eye to smog and pollutants; problems of vision in the industrial setting; and classroom design to assist vision in the educational institution. This will serve to prepare the future practitioner for the role of consultant on such matters. A concurrent laboratory will give the student exposure to experiences of working in these areas in the college building as well as external training centers (schools, factories, etc.)11/

Learning Disabilities of Children

This seminar provides students with the opportunity of indepth discussions of issues in the complex field of children's learning disabilities. The multidisciplinary approach is considered in an analysis of the contributions of several professional disciplines to the overall optometric evaluation of treatment of the learning-disabled child.12/

Advanced Degrees

Ohio State was the first of the optometry schools to offer a master's degree and later a Ph.D. in physiological optics, beginning its program in 1936. At the end of World War II, the University of California at Berkeley initiated its own graduate curriculum. A few years after its founding, Indiana conferred advanced degrees, while the College of Optometry at the University of Houston secured approval for a Master's program in 1971 and admitted students for Ph.D. study in 1975. The University of Alabama and the State University of New York are the schools with the newest programs for Graduate Study in Optometry. The schools which currently award the M.S. and Ph.D. degrees are seeking to develop qualified persons to be primarily employed in teaching and research in vision science. In the academic year 1974-75 sixty-six students were enrolled in graduate programs.

The graduate degree in physiological optics is available not only to O.D.s, but also to others with professional scientific backgrounds. Also, a program at the Massachusetts College of Optometry provides individuals who presently hold a Ph.D. degree with an opportunity to receive their O.D. in two years. This is in keeping with the recommendation of the Havighurst Study (1973) that "every school should have a core of full-time faculty with both the O.D. and Ph.D. degrees".

Education for Care of the Cataract and Aphakic Patient

The proper care of the cataract and aphakic patient requires specific knowledge, skills, and attitudes by the practicing optometrist, but no anomaly can be evaluated and treated as a separate entity. Further, patients with aphakia or cataract, whether congenital, traumatic, or metabolic, are subject to a high probability that other visual, ocular, or systemic abnormalities will be present. The proper optometric care of any patient whether they have cataract, aphakia, or other condition requires a full evaluation and analysis followed by a selection of treatment based on all of the anomalies present, the needs and characteristics of the patient, the prognosis, and the possible interrelated effects of the proposed treatment procedures. To provide this full scope of care, the optometrist must not only be trained in the care of cataract and aphakic problems, but must be educated and trained to be concerned about all aspects of health care that may fall within his purview, and specifically to detect and manage visual problems and to enhance visual performance (see Optometric Curriculum Elements, Attachment B, page 103).

Optometry students in their clinical training rotate through affiliated clinics in hospitals, nursing homes, and other community health facilities. Here they examine patients with cataract and aphakia, and detect and diagnose ocular diseases related to these conditions as well as other ocular abnormalities.

On the basis of this educational and clinical experience the optometric student must demonstrate a mastery of the skills and knowledge necessary for the diagnosis and management of the cataract and aphakia patient for both graduation and licensure.

The training is designed to provide the capability to diagnose complications of cataract surgery such as shallow anterior chamber, secondary glaucoma, cystoid maculopathy, intraocular infection, Elschnig Pearls, etc.; and the appropriate use of techniques such as biomicroscopy, gonioscopy, tonometry, direct and indirect ophthalmoscopy perimetry, etc., as well as the skilled use of standard optometric techniques applicable to patients with cataract or aphakia.

All optometry schools share certain basic curricular elements which follow at least two years (and for the majority of students four years) of undergraduate studies, predominately in the biological sciences.

The basic elements include:

- A biological science component.
This includes gross and microscopic human anatomy, general human physiology, biochemistry, and pharmacological principles, all presented with emphasis on the visual system and related structures.
- Physiological optics.
Vision processes, visual stimuli, accommodation mechanisms, neurophysiological mechanism, ocular motility, binocular perception.
- Pathology
Essentials of bacteriology and virology, principles of health and disease, tissue changes in pathology, ocular diseases and abnormalities, ocular manifestations of systemic disease.
- Optics
Light, lenses, optical systems, ophthalmic materials.
- Professional orientation (health practice)
Epidemiological procedures, the epidemiology of specific disorders, health care organization, public health, interpersonal relations, management of practice.
- Clinical skills
Patient history, refraction, visual performance measurement, detection and diagnosis of visual anomalies and visually-related learning and perceptual disturbances, low vision rehabilitation, care of the aging patient, contact lens fitting.

for1

A more complete listing of this common subject matter is found in attachment B to this Section. The catalogues of the schools provide still more detail.

Some areas of the optometric curriculum have more information on or are directed more toward the care of the patient with cataract or aphakia than others, but elements of the whole curriculum are involved in preparing the optometrist to care for such patients. The understanding of the functioning and anomalies of the body as well as the eye are involved. Elements of optics, pharmacology, and visual perception, understanding of the aging process, health care delivery systems and the problems of the partially-sighted, as well as patient care skills and experience, are all involved in providing care for the patient with cataract or aphakia. A broad range of knowledge, skills and attitudes are necessary and the elements of care to be considered are:

1. Geriatric consideration: The patient with cataract or aphakia is generally elderly, and consequently the care of such patients necessitates an understanding of the physiological, psychological, and sociological changes associated with aging. The decrease in mobility and activity, the increase in illness and accidents, and the psycho-social problems of the elderly pose special problems to those providing health care to such patients. (see Optometric Curriculum Elements, Attachment B, 6i)
2. Low vision consideration: If the patient is a surgical high risk patient and the cataractous lens is left in place, attempts are made to improve the visual performance with the use of low vision devices and/or modification of the visual environment. In some patients (7% to 16%) who have the crystalline lens removed, the corrected visual acuity is reduced, due to prior problems or surgical complications. Low vision services may be helpful to these patients, and therefore are often utilized in the care of patients with cataract or aphakia. Optometry specializes in low vision aids, and students are taught to understand their function and application and to recognize situations in which they will be of benefit.
3. Pathology consideration: Patients with cataract or aphakia are generally elderly and have a high incidence of systemic and ocular pathological conditions with frequent use of therapeutic drugs. The association of systemic disease and cataract (diabetic cataract, thyroid cataract, tetany cataract) and of ocular disease and cataract (iridocyclitis, intraocular tumor, glaucoma) and the cataractogenic character of some drugs (steroids, miotics, antimitotics) needs to be understood by the practitioner for assistance in the early detection and care of such patients. These subjects have received increased emphasis in recent years in the optometric curriculum and in supervised clinical experience.

An understanding of ocular pathology, its causes, symptoms and detection, and treatment is provided students to enable them to make early detection of and prompt referral for complications of cataracts and cataract surgery such as secondary glaucoma, corneal edema, retinal detachment, and the like. Effective optometric practice in this area requires integration and synthesis of many basic elements in the optometric curriculum, through supervised clinical training.

4. Optical consideration: Optometrists must be skilled in the fitting of contact lenses and ophthalmic lenses (spectacles)

on patients with aphakia, who present special problems. The prescription of ophthalmic lenses induces several optical complications such as ring scotoma, increased peripheral prismatic effects and aberrations, increased magnification of the field, decreased field of view, thick lenses, convergence problems, etc. If there is a unilateral aphakia there is the additional problem of aniseikonia (a difference in image size between the two eyes). The capability of the elderly patient in the physical management of contact lenses must be a factor in prescribing. Students need to call upon knowledge of basic optical principles, physiologic optics, and optical anatomy, among other subjects, to deal with these problems. An objective of education and training is to have the practitioner skilled in the fitting of contact lenses and ophthalmic lenses on patients with aphakia, understanding the sources of the optical problems, and able to select the most appropriate lens design.

5. Visual performance consideration: The ultimate aid of visual rehabilitation is to maximize visually-dependent functions, not merely to obtain a particular correction of refractive error. Visual performance is dependent upon many factors other than acuity. For providing service to elderly and, especially, aphakic patients, the optometry student is taught this broad view of rehabilitation and the underlying concepts of health and health services.

The use of vision to relate the patient to his environment is directly related to the characteristics of the patient's retinal images. When an elderly patient has had good clear vision for several years, followed by a period of dim cataractous vision, and then suddenly, following cataract surgery, has clear but magnified and somewhat distorted retinal images, significant consequences can occur in his visual performance. Older patients often have mobility problems, and the change in their perception of space brought about by the magnification and other optical problems of aphakic lenses can aggravate the mobility problem and produce a significant obstacle to their moving about effectively in their environment. Since falling is the major cause of accidents in the elderly, and most of them are aware of it, this changed perception of space can have a profound impact on their activity. A visual rehabilitation to the new visual system must occur before the patient can return to somewhat near his pre-cataractous life style. Optometry students obtain an understanding of visual perception, visual performance, lens design, and the problems of aging so

they will be equipped to design the best correction lens and to assist the patient with the necessary rehabilitation.

Faculty

The nature of the faculty is recognized as a principal determinant of educational experience in the health professions. In schools of optometry, the great majority of faculty are optometrists, as is to be expected. Many of these hold advanced degrees in optometry or other fields. At the University of Alabama, for example, among 33 faculty, 20 hold higher degrees other than or in addition to the O.D., including 12 Ph.D.s (7 in physiological optics, two in neurophysiology, and one each in biomedical science, physics, and experimental psychology). Three faculty hold degrees in public health. At the Illinois College of Optometry, 21 faculty have advanced degrees other than the O.D., including 10 Ph.D.s (psychology, pharmacology, microbiology, and biochemistry), 2 M.D.s (ophthalmology and anatomy), and 2 Ed.D.s.

At the Pennsylvania College of Optometry 30 faculty members hold advanced degrees other than the O.D., including 18 Ph.D.s, 8 Master's degrees excluding the M. Opt., and 2 M.D.s. The Ph.D. in physiological optics is becoming recognized as an appropriate point of entry into optometric education, but the faculty of the schools shows a diversification that is consonant with the broad range of subject matter taught.

All schools include physicians and particularly ophthalmologists on their faculty and in their clinical programs.

EXHIBIT B

Footnotes and Bibliography

- 1/ According to The Association of Schools and Colleges of Optometry, 53% of the 1975 entering class had baccalaureate degrees, and an additional 6% had a higher degree. Of applicants to optometry schools, 15% have also applied to medical schools and 14% to dental schools, and 16% and 15% have taken the respective admissions tests for these schools.
- 2/ Hofstetter, Henry W., Optometry: Professional, Economic and Legal Aspects. St. Louis: The C.V. Mosby Company, 1948, p. 295.
- 3/ Gregg, James R., American Optometric Association: A History. St. Louis: American Optometric Association, 1972, pp. 51-52.
- 4/ Hofstetter, Henry W., Optometry: Professional, Economic and Legal Aspects, p. 298.
- 5/ National Academy of Sciences, Report of a Study: Costs of Education in the Health Professions, Parts I and II, Washington: Department of Health, Education, and Welfare, 1974.
- 6/ Carter, Darrell B. and Uglum, John R., "The History, Activities and Present Status of the National Board of Examiners in Optometry," Journal of the American Optometric Association. 37:2 (February, 1966) pp. 130-131.
- 7/ National Board of Examiners in Optometry, Topical Outline, 1976 Revision. New York: NBE0, 1976.
- 8/ Havighurst, Robert J., Optometric Education: A Summary Report. Washington: National Commission on Accrediting, 1973, p. 32.
- 9/ Optometry College Admission Test, Handbook. New York: The Psychological Corporation, 1974, p. 1.
- 10/ Havighurst, Robert J. (Op. Cit.)
- 11/ Pennsylvania College of Optometry 1975/1976, Philadelphia: Pennsylvania College of Optometry, 1975, pp. 50-51.
- 12/ Illinois College of Optometry Catalog 1973-1975, Chicago: Illinois College of Optometry, 1973, p. 61.

Currently Active Professional Programs in Optometry

<u>School or College Name*</u>	<u>City</u>	<u>State</u>	<u>Public/ Indepen.</u>	<u>Year Estab.</u>	<u>Degree (s) Offered</u>	<u>Total Enrollment¹</u>
ICO	Chicago	Illinois	Indepen.	1872 ²	O.D.	532
IU	Bloomington	Indiana	Public	1951	O.D., M.S., Ph.D.	266
MCO	Boston	Mass.	Indepen.	1894 ³	O.D.	285
PCO	Philadelphia	Penn.	Indepen.	1919	O.D.	533
PU	Forest Grove	Oregon	Private	1921 ⁴	O.D., M.S.	294
SCCO	Fullerton	Cal.	Indepen.	1904 ⁵	O.D.	307
SCO	Memphis	Tenn.	Indepen.	1932 ⁶	O.D.	566
SUNY	New York	NY	Public	1970	O.D., M.S., Ph.D.	85
TOSU	Columbus	Ohio	Public	1870 ⁷	O.D., M.S., Ph.D.	218
UAB	Birmingham	Alabama	Public	1969	O.D., M.S., Ph.D.	98
UCB	Berkeley	Cal.	Public	1923 ⁸	O.D., M.S., Ph.D.	231
UH	Houston	Texas	Public	1952 ⁹	O.D., M.S., Ph.D.	264
Ferris State	Big Rapids	Michigan	Public	1975	O.D.	20 ¹⁰

- ¹ 1974-75 Annual Survey of Optometric Institutions, Council on Optometric Education, American Optometric Association.
- ² Began as Northern Illinois College of Ophthalmology and Otology, later the Northern Illinois College of Optometry.
- ³ Began as Klein School of Optics, adopted the name Massachusetts College of Optometry in 1909, will change to New England College of Optometry in 1976.
- ⁴ Operated as North Pacific College until 1945, when its charter was transferred to Pacific University.
- ⁵ Founded in 1904 under the name Los Angeles College of Optometry, the present name was adopted in 1972.
- ⁶ Founded by J.J. Horton, changed to non-profit status in 1944.
- ⁷ First established as a division of the Physics Department, became a separate school in 1952.
- ⁸ Founded as a division of the Physics Department. In 1941 a separate school was established.
- ⁹ Originally a private school, the school became state supported in 1963.
- ¹⁰ Presently only the first year class is enrolled.

* See attached page for full names.

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Attachment A

Attachment A, Con't.

ICO - Illinois College of Optometry
IU - Indiana University, School of Optometry
MCO - Massachusetts College of Optometry
PCO - Pennsylvania College of Optometry
PU - Pacific University, College of Optometry
SCCO - Southern California College of Optometry
SCO - Southern College of Optometry
SUNY - State University of New York, College of Optometry
TOSU - The Ohio State University, College of Optometry
UAB - University of Alabama in Birmingham, School of Optometry
UCB - University of California, Berkeley, School of Optometry
UH - University of Houston, College of Optometry
Ferris State - Ferris State College, College of Optometry

ATTACHMENT B

BASIC ELEMENTS OF THE CURRICULUM OF SCHOOLS OF OPTOMETRY

1. Biological science knowledge base.
 - a. Gross human anatomy and microscopic anatomy, with emphasis on head, neck, and thorax.
 - b. Embryology, gross and microscopic anatomy of the human nervous system - concentrating on the central nervous system.
 - c. General human physiology, including the study of the fundamental organ systems and the mechanisms which regulate body function. Emphasis is on the sensory, motor and cardiovascular systems.
 - d. Basic concepts of general and cellular biochemistry, with study of nomenclature, structure, and reactions of organic molecules. Emphasis is on the visual system - tears, intra-ocular fluids, lens, retinal photochemistry, and actions of drugs upon these.
 - e. Concepts of human genetics and genetic disorders, including the frequency and distribution of genetic disease, inheritance patterns, polygenic inheritance, chromosomal aberration syndromes, multifactorial genetics, and principles of genetic counseling.
 - f. Gross and microscopic anatomy of the lids, orbit, orbital content, globe, muscles, nerves, and vessels, and embryology of the eye.
 - g. Vegetative physiology of the eye, extraocular and intra-ocular fluids, corneal and lens metabolism, ocular circulation, retina and optic nerve metabolism.
 - h. General pharmacological principles, methods of administration, various systemic drugs and their pharmacological action and side effects with emphasis on those that affect the visual system, such as cataractogenic and glaucoma-producing drugs.
 - i. Pharmacology; uses, doses, contraindications, and adverse effect of drugs producing miosis, mydriasis, cycloplegia, accommodation, and ocular anesthesia. The pharmacology, use contraindications, and adverse effect of drugs commonly used in treating visual and ocular problems.

2. Physiological optics knowledge base:

- a. Introduction and orientation to physiological optics, anatomical and physiological processes associated with responses to light; vision and the processes of vision.
- b. Measurement and specification of visual stimuli, light sources, radiometry, photometry, colorimetry. The eye as an image forming mechanism, the optical role of the pupil, the retinal image and its evaluation. Nature, classification, and etiology of ametropia. Physiological mechanism and optical aspects of accommodation.
- c. Monocular sensory mechanism of vision, photoreception and retinocortical transmission, spatial and temporal interaction and resolution, adaptation, brightness discrimination, color vision and their possible neurophysiological mechanisms.
- d. Ocular motility. Intra- and extra-ocular muscle systems with regard to their anatomy, physiology, pharmacology, and neurology. Measurement, characteristics, and control of ocular movements.
- e. Binocular vision and space perception. Visual direction, theory of correspondence, mapping of binocular space, Modifications of space perception. Binocular eye movements, fusion, rivalry, ocular dominance, stereopsis. Neurophysiological mechanisms.
- f. Perception and information processing. Theories of perception. The perception of time, size, shape, distance, motion. Perceptual and sensory deprivation, and perceptual adaptations.

3. Pathology knowledge and skills base:

- a. The essentials of bacteriology, virology, and immunology and the biological properties of micro-organisms, processes of infection and chemotherapy. Flora of the anterior segment of the eye and adnexa and the anatomical and physiological features which favor or inhibit their activity.
- b. Principles of health and disease. A survey of disease, disease processes, and disease manifestations. A study of tissue changes in inflammation, tumor formation, allergies, disturbances of metabolism and circulation, and injuries.

- c. The etiology, epidemiology, symptoms, signs, and course sequelae of ocular disease and anomalies. Disease and anomalies of lids, orbit, conjunctiva, cornea, sclera, iris, ciliary body, lens, vitreous, retina, choroid, and optic nerve.
 - d. Ocular manifestations of systemic disease and anomalies. The etiology, epidemiology, symptoms, signs and course sequelae of visual and ocular neurological anomalies, lid and pupillary anomalies, paralytic strabismus, and visual field problems.
 - e. The etiology, epidemiology, symptoms, signs and course sequelae of the major and/or more common health problems in the U.S.A.. Principles of emergency care.
4. Optics knowledge and skills base:
- a. Light and light rays, the formation of images, reflection, spherical mirrors, refraction, spherical refracting surfaces, thick lenses, thin lenses, centered systems, theory of stops, fields of view.
 - b. Cylindrical lenses, prisms, aberrations, aspherical mirrors and lenses, magnification, microscopes, telescopes. Nature of light, interference, diffraction, polarization, resolving power, dispersion, spectra, thin films. Principles of optical systems, optics of keratometer, lensometer, radiuscope, retinoscope, ophthalmoscope, slit-lamp, NCT tonometer, troposcope, eikonometer, stereoscope, fundus camera.
 - c. History of ophthalmic materials; physical characteristics of lenses, lens aberrations, lens design; ophthalmic prisms, multifocal lenses, lens specifications; physical characteristics of frames; lens and frame specification, elements of a prescription, lens and frame inspection and verification; fitting and dispensing concepts.
 - d. Special lenses and frames, protective eyewear, unique designs, low-vision aids, aniseikonic lenses, fitting and dispensing. Optics and design of contact lenses, contact lens specification, fabrication, verification, and modification of contact lenses.

EXHIBIT B

5. Professional orientation knowledge and skills base:

- a. National, State and local development of the optometric profession. Opportunities available in the eye care and vision research fields.
- b. A review of descriptive statistics, probability, sampling, correlation, prediction, and their use in optometry and vision research. The essentials of epidemiological study procedures and their significance in health care. Epidemiology of major systemic disorders and disorders of the visual system.
- c. Introduction to health care. Health care and sick care. Health care systems. Health care professions, their numbers and distribution. Role of optometry in health care. What an optometrist is and what he does.
- d. Principles of human interpersonal relationships. The development of patient-doctor, technician-doctor, staff-doctor, and community-doctor relationships. Emphasis is on preparing the student to understand and deal with the many human interpersonal relationships necessary in the practice of optometry.
- e. History of public health, sociological aspects of health care, the financing of health care, organizations of health care. Methods of payment. Evaluating an optometric practice.
- f. Local, State, Federal organizations involved in health care, comprehensive health planning and new trends in health care delivery, health and patient-community education, organization of health services.
- g. The development and management of an optometric practice from a patient and community service point of view-- office design, office routine, patient care administration, personnel management, recall systems, developing patient and interprofessional relationships through effective communication.
- h. The establishment, development, and management of an optometric practice from a business point of view. Legal development, governmental relationships, legislation and the legislative process, licensing procedures, State boards and laws, malpractice, professional ethics, taxes, fee structures, insurance, and accounting methods.

6. Clinical patient care knowledge and skills base:

- a. Introductory clinical optometry, patient orientation, essentials of case history, clinical testing of inter-pupillary distance, versions, accommodation, and pupillary reflexes.
- b. Development of clinical skills necessary for patient care in the areas of refraction, ocular motility, binocular integration, and visual performance.
- c. Correlation, evaluation and analysis of optometric data. The process of patient care--diagnosis, prognosis, therapy--relating to the needs of the patient. Preview discussion of optometric specialty areas.
- d. Historical development of the contact lens and its use. Basis theories and methods of fitting. Contraindications for fitting. Fitting of hard and soft contact lenses and their modification, post fitting care and problems, care and treatment of contact lenses. Contact lens solutions.
- e. Advanced contact lens fitting, theories and clinical methods for meridional, prism segment, bifocal contact lenses. Fitting keratoconus, astigmatic corneas, aphakic eyes, and high refractive errors. Use and fitting of haptic lenses, cosmetic shells, and prosthetic eyes.
- f. The etiology, epidemiology, symptoms, signs, and course sequelae of the obstacles of binocular vision--sensory, integrative, motor--and the detection, diagnosis, prognosis, and orthoptic treatment of such anomalies. Clinical care of aniseikonia.
- g. The etiology, epidemiology, symptoms, signs, and course sequelae of learning, perceptual, motor, and other vision performance problems, and their detection, diagnosis, prognosis, and therapy. Study of the psychology, unique examination procedures, and care of pediatric patients and their problems and needs.
- h. The etiology, epidemiology, symptoms, signs and course sequelae of low vision. Methods of testing, prognosis, and selection of therapy, design of environmental and optical aids, problems of rehabilitation. Agencies, laws, public and social assistance for the partially sighted and blind.

- i. The physiological, psychological, and sociological changes with age. Disease and aging. Visual and ocular problems of the elderly. Unique examination procedures and care of the geriatric patients.
- j. The principles of efficient illumination, vision requirements in homes, schools, business, industry, and vision safety in the environment. Vision screening in schools, industry, community, motor vehicle examinations. Visual aspects of job analysis, the relationship between vision and vocational and avocational efficiency. The roles of patient care and human engineering in maximum visual performance.
- k. Presentation and discussion of special clinical patients. Additional clinical testing techniques and concepts. Further discussion of patient data analysis--the process of determining diagnosis, prognosis, and therapy. Further discussions on the optometric specialties. Recent information that relates to the process of vision and the clinical practice of optometry.

7. Patient care experience:

- a. The clinical examination and care of patients in the general optometry clinic, along with the design, fitting, evaluation, and dispensing of ophthalmic lenses and frames.
- b. The clinical examination and care of special patient populations in hospitals, nursing homes, schools for blind, visual screening, etc.
- c. The clinical examination and care of patients in the optometric specialty areas--contact lenses, low vision, aniseikonia, etc.

SECTION II-D

SUPPLY AND DISTRIBUTION CONSIDERATIONS: ACCESS

Compiled by
Stuart Bernstein, B.A. *

In 1973, there were 10,496 active ophthalmologists and 19,265 active optometrists in the United States, a ratio of nearly one to two.

Sources of Data

The data on ophthalmologists are from the records of the American Medical Association.^{1/2/3/} The AMA defines ophthalmologists as any physician in practice who declares ophthalmology as a primary specialty. This includes ophthalmologists in private practice as well as those active in clinics, hospitals or other institutions. However, this self declaration implies neither board certification in ophthalmology nor full time commitment to the practice of ophthalmology. Any physician who reports practicing ophthalmology as a secondary or tertiary specialty is also, therefore, not included in the number of ophthalmologists reported by AMA.

Data on active optometrists are from the 1972-73 inventory of optometrists conducted by the American Optometric Association through State Licensure Boards and with the cooperation of the International Association of Boards of Examiners in Optometry.^{4/} The inventory, supported by the Bureau of Health Manpower, HRA, took place between October 1972 and December 1973, following the licensure renewal cycle of the Boards.

Of the total number of active ophthalmologists, 9,568, or 91 percent are classified by the AMA as non-Federal practitioners in patient care activities.^{5/} About 95 percent or 18,300 of the active optometrists are comparably classified as being non-Federal practitioners in patient care activities.

A count of Board Certified Ophthalmologists from the 1974-75 Directory of Medical Specialists indicated that 6,600 or about three-fifths of all ophthalmologists are Board Certified.^{6/}

*Statistician, Manpower Analysis Branch, Office of the Director, Bureau of Health Manpower, Health Resources Administration, DHEW.

Difference Between States

In terms of the medicare eligible population, age 65 and over,^{7/} there were 45 active non-Federal ophthalmologists and 90 active optometrists per 100,000 resident population in 1973. Table 1 shows the number of active non-Federal ophthalmologists and optometrists in each State and geographic division as well as the ratio to 100,000 resident population age 65 and over. Although the same two States, California and New York, have the largest numbers of both ophthalmologists and optometrists, careful examination of the table will show that in the Nation, as a whole, there is no apparent correlation between the ratios of ophthalmologists and optometrists to the medicare eligible population in a given State. This has been demonstrated by other studies as well.^{8/} On a regional basis, it can be said that the highest ratios of practitioners to the over 65 population occur in the Pacific States for both ophthalmologists and optometrists. Conversely, the lowest ratios for both disciplines occur in the East South Central States.

The relationship between optometrists and ophthalmologists that exists on a national basis (2 to 1) is exceeded or approximated in most States. However, notable exceptions exist. Only in Maryland and the District of Columbia does the number of active ophthalmologists actually exceed the number of active optometrists. Louisiana has only 20 percent more optometrists than ophthalmologists and New York, Florida and Utah have fewer than 50 percent more optometrists than ophthalmologists. In seven States (Maine, Rhode Island, Indiana, Illinois, North Dakota, South Dakota, and Nebraska) there were greater than three times as many optometrists as ophthalmologists. It should be noted that, proportionately, the distribution of all active ophthalmologists by State approximates the State distribution of board certified ophthalmologists.

Differences Between Metropolitan and Non-Metropolitan Areas

The major concern as related to access of the medicare eligible population to the services of ophthalmologists and optometrists is the gross difference in distribution of the two disciplines within States, namely between metropolitan and non-metropolitan areas.

Table 2 shows that in metropolitan areas of the United States, there were approximately 1.7 optometrists for every ophthalmologist, while in non-metropolitan areas the ratio was two and a half times as great, 4.2 optometrists for every ophthalmologist. In terms of persons 65 and over with medical insurance coverage,^{9/} there were 55 ophthalmologists and 99 optometrists per 100,000 persons in metropolitan areas while there were 19 ophthalmologists and 79 optometrists in non-metropolitan areas. Clearly, the medicare eligible population in non-metropolitan areas has greater access to the service of optometrists in that approximately 27 percent of the optometrists and 13 percent of

the ophthalmologists are in non-metropolitan areas potentially serving 32 percent of the medicare eligible population. Within metropolitan areas, available data indicate that there are a somewhat higher ratio of both ophthalmologists and optometrists to medicare eligible population in areas of 500,000 population or more than in smaller metropolitan areas.

Only 6 of the 69 metropolitan areas of 500,000 or more population had more active ophthalmologists than optometrists in 1973.^{5/} The largest of these metropolitan areas were Baltimore and New Orleans. The Chicago metropolitan area had the greatest difference, more than three times as many optometrists than ophthalmologists.

The distribution of ophthalmologists and optometrists between metropolitan and non-metropolitan areas differs throughout the Geographic Divisions of the United States (Table 3). In non-metropolitan areas of the North Central States there are between six and seven optometrists for every ophthalmologist. In non-metropolitan areas of the South (South Atlantic, East South Central and West South Central Divisions) there are between four and five optometrists for every ophthalmologist. The remainder of the non-metropolitan areas of the Nation has approximately three optometrists for every ophthalmologist.

There is substantially less difference between the numbers of optometrists and ophthalmologists in metropolitan areas of the United States than non-metropolitan areas. Only in the New England and East North Central Divisions are there more than two optometrists for every ophthalmologist. In the remainder of the metropolitan areas of the Nation, there are approximately 1.6 optometrists for every ophthalmologist.

The highest ratio of ophthalmologists to 100,000 medicare eligible population is in the metropolitan areas of the Mountain States; the lowest ratio is in non-metropolitan areas of the West South Central States. The highest ratio of optometrists to 100,000 medicare eligible population is in the metropolitan areas of the Pacific States; the lowest ratio is in non-metropolitan areas of the East South Central States.

Distribution Within Counties

The most recent data on the distribution of ophthalmologists within counties of the United States is from the 1968 Survey of Ophthalmologists conducted by the National Center for Health Statistics.^{10/} However, more recent data in a number of States indicate that there has been little change in the number of counties with and without the services of ophthalmologists since this time. In 1968, only one-third of the counties in the United States had active ophthalmologists.^{5/} This is in sharp contrast to the fact that two-thirds of the counties in the United States in 1973 had the services of optometrists. The proportion of counties with and without the

services of ophthalmologists and optometrists varies in the different regions of the Nation.

In the Northeast (New England and Middle Atlantic States) in contrast to the Nation as a whole, four-fifths of the counties had active ophthalmologists in 1968. One-half of the counties in the Pacific States had active ophthalmologists. In contrast, five of the six remaining Divisions in the United States had fewer than 30 percent of the counties with active ophthalmologists in 1968. To substantiate this, a study by the Southern Regional Education Board showed that there were only 19 percent of the counties of the South with Board Certified Ophthalmologists in 1973.^{11/} Also, data used in a study by the Institute of Medicine, National Academy of Sciences^{12/} showed that in the States of Georgia, Michigan and Oregon there was little difference in the number of counties with ophthalmologists in 1974 as compared to 1968.

Only four States (Massachusetts, New Hampshire, Rhode Island and New Jersey) had fewer counties without ophthalmologists than without optometrists. Broken out by region, the following table illustrates the proportion of counties without the services of ophthalmologists in 1968 or without optometrists in 1973.

	<u>Counties Without Ophthalmologists</u>	<u>Counties Without Optometrists</u>
United States	67%	32%
Northeast	<u>19</u>	<u>13</u>
South	73	38
North Central	69	26
West	65	37

It should be noted that in the non-metropolitan counties with the smallest population, a far greater proportion of optometrists are located than are ophthalmologists.^{5/} Eleven percent of ophthalmologists are located in counties with total population of under 25,000 in contrast to 22 percent of optometrists in the same county size group. Fewer than 1,000 ophthalmologists were located in such counties in contrast to nearly 4,200 optometrists, a number more than four times as great.

In comparing 1968 ophthalmologist data with 1973 optometrist data by county, 1,251 or 40 percent of the counties have one or more optometrists but no ophthalmologists, 33 or 1 percent have one or more ophthalmologists but no optometrists, 1,009 or 32 percent of the counties have both optometrists and ophthalmologists and 851 or 27 percent have neither optometrists nor ophthalmologists.

On a regional basis, the break-out follows:

	All Counties	Optometrists Only	Ophthalmologists Only	Both	Neither
Northeast	100%	16%	1%	80%	3%
South	100%	39%	2%	26%	33%
North Central	100%	48%	1%	30%	21%
West	100%	32%	1%	34%	33%

Future Supply and Other Considerations

Between 1968 and 1973, active non-Federal ophthalmologists in patient care grew from 8,300 to 9,600, an annual growth rate of 2.8 percent compounded. At the same time, active optometrists grew from 18,400 to 19,300, an annual growth rate of 0.9 percent compounded. The Bureau of Health Manpower projects the number of active ophthalmologists in the United States to grow from 13,300 in 1980 to 18,400 in 1990.^{5/} The number of active optometrists are projected to grow to 22,000 in 1980 and 28,200 in 1990. The proportion of ophthalmologists as a percent of total professional vision care manpower is projected to grow from 35 percent in 1973 to 38 percent in 1980 and 39 percent in 1990.^{13/}

The number of active ophthalmologists per 100,000 population age 65 and over is projected to grow from 49 in 1973 to 54 in 1980 and 64 in 1990. The number of active optometrists per 100,000 population age 65 and over is projected to be about level at 90 between 1973 and 1980 and grow to 97 in 1990.

The greatest growth in the number of active ophthalmologists over the period from 1968 to 1973 was in the South.^{2/} However, during the same period the greatest growth in ophthalmology residencies as reported by AMA was in the West.^{14/} No data exists relating place of ophthalmology residency to place of eventual practice. However, a study published by AMA indicated that for interns and residents who were 1960 graduates of medical schools, 51.7 percent were practicing in the same State in 1975 as the final year of graduate training.^{15/} The same study showed that 42.7 percent were practicing in the same State in 1975 as where they graduated from Medical School in 1960. However, no conclusions can be drawn as to whether ophthalmologists in practice followed a similar pattern.

Optometrists experienced a much smaller growth than did ophthalmologists between 1968 and 1973.^{16/} However, it is notable that the South and West experienced a far greater growth in optometrists in this time interval than did the Northeast and North Central States.

More than four out of five optometrists under age 45 practicing in States where Schools of Optometry are located are graduates from the school(s) within their State. Little difference in this statistic exists between metropolitan and non-metropolitan areas.

In States with long-standing Schools of Optometry, the relationship is even more marked. The proportion of all active optometrists who are graduates from schools within their State of practice are more than 92 percent in Illinois, 86 percent in Pennsylvania, 81 percent in California and 77 percent in Massachusetts.

It should be noted that in two States where there has been a substantial growth in the over 65 population, Florida and Arizona, there was a substantial growth in the numbers of both ophthalmologists and optometrists between 1968 and 1973. In neither of these States is located a School of Optometry.

In regard to the relationship between location of school and State of practice, it is notable that Illinois has both the greatest concentration of optometrists and the most prolific School of Optometry. Illinois College of Optometry and its predecessors, the Northern Illinois College of Optometry and Chicago-Monroe College of Optometry have accounted for nearly one-third of all active optometrists in the United States.

The American Medical Association in its "Directory of Approved Residencies" reports that only 2.3 percent of the approved residencies offered in ophthalmology in 1975-76 were located in non-metropolitan areas. Little change in this statistic is evident over the last decade as three percent of the approved residencies in 1974 and two percent of the approved residencies in ophthalmology in 1969 were located in non-metropolitan areas. There have been no studies relating metropolitan status of residency location to metropolitan status of practice location for ophthalmologists. However, several studies support the thesis that hometown size and specialty choice are interrelated predictors of the community in which physicians practice.^{17/} Physicians with non-metropolitan backgrounds were two to three times as likely to select non-metropolitan practice as physicians with urban backgrounds.

Overall, 27.4 percent of the active optometrists in the United States are located in non-metropolitan areas. This statistic varies somewhat by age of the optometrist. Older optometrists, those age 55 and over, are somewhat less likely to be practicing in non-metropolitan areas than those under age 45.

Data from the most recent inventory of optometrists show that schools of optometry make a varied contribution of optometrists to non-metropolitan areas. Two schools, the Southern College of Optometry and the Pacific University College of Optometry have contributed 48 and 43 percent of their graduates to non-metropolitan areas, respectively. Three other schools have contributed more than 30 percent of their graduates to these areas - (Illinois, Houston, and Indiana). Together, these schools account for three out of four optometrists practicing in non-metropolitan areas.

Based upon existing trends and without other intervention, little change in the proportion of either ophthalmologists or optometrists practicing in non-metropolitan areas can be expected. The proportion of recent graduates from schools of optometry, age 30 and younger, practicing in non-metropolitan areas is about the same or slightly lower for nine out of ten established optometry schools as compared to the proportion of total graduates practicing in these areas. In comparing 1968 to 1973 data, a lower proportion of ophthalmologists were practicing in non-metropolitan areas in 1972. While 16 percent of ophthalmologists were practicing in non-metropolitan areas in 1968, only 13 percent were practicing in such areas in 1972.

Volume of Services

If services by optometrists were reimbursed under Part of Medicare, the workload of practicing optometrists may increase. This is especially true in sections of the country where the medicare eligible population has not had access to the services of an ophthalmologist but may now be eligible for reimbursement of optometric services. To get an understanding of possible increases in volume of services rendered by optometrists, one must look at existing data on productivity of optometrists. One such measure for which data are available relates to vision analyses performed by optometrists in 1973. Such data shows little overall difference between metropolitan and non-metropolitan areas in the average number of vision analyses per optometrist. However, within non-metropolitan areas for optometrists practicing in very small communities, there is a sharp drop off in this statistic.

This data becomes more significant when one relates utilization of full time auxiliary personnel, other than secretaries or receptionists, to the average number of vision analyses performed by optometrists. While non-metropolitan optometrists showed a somewhat greater proportionate utilization of auxiliaries than did optometrists in metropolitan areas, optometrists in metropolitan areas utilizing auxiliaries had a somewhat greater average number of vision analyses than did optometrists in non-metropolitan areas utilizing auxiliaries. In fact, within non-metropolitan areas, for these optometrists utilizing full time auxiliaries, there was also a sharp drop in the average number of vision analyses in the very smaller communities. The data shows that in all areas, optometrists employing full time auxiliaries were able to perform about 28 percent more vision analyses, on the average, than were optometrists not utilizing auxiliaries.

Given the potential of included reimbursement coverage for optometrists under Part B of Medicare, it could be expected that the effects in terms of increased demands for vision care services would be felt, particularly, in areas served by optometrists but not by ophthalmologists. This chapter has sought to demonstrate

that a substantial part of the country, particularly in non-metropolitan areas, is being served by optometrists only. Such optometrists, as the data have shown, by a basic measure of productivity, may be seeing fewer patients on the average than optometrists not in these areas. Yet, the data have also shown that the use of full time auxiliary personnel may potentially relate directly to growth in productivity. In fact, on a national basis, a U.S. Department of Labor survey has demonstrated that more than 9 out of 10 optometric practices have room for additional growth and that optometrists can care for 30 percent or more patients under their present structure.^{18/} Particularly, in areas where the potential growth in demand for vision care services may be the greatest, there is also potential for additional growth in optometric practice through the increased use of auxiliaries or by other means.

Table 1 Number of Active Ophthalmologists and Optometrists and Ratio to 100,000 Resident Population Age 65 and Over by Division and State: 1973

<u>Division and State</u>	<u>Active Non-Federal Ophthalmologists</u>	<u>Active Optometrists</u>	<u>Resident Population 65+ (000's)</u>	<u>Ophthalmologists per 100,000 Resident Population 65+</u>	<u>Optometrists per 100,000 Resident Population 65+</u>
<u>U.S. Total</u>	<u>9,568</u>	<u>19,265</u>	<u>21,329</u>	<u>45</u>	<u>90</u>
<u>Division</u>					
<u>New England</u>	<u>625</u>	<u>1,381</u>	<u>1,322</u>	<u>47</u>	<u>105</u>
Maine	39	124	121	32	102
New Hampshire	32	72	84	38	86
Vermont	18	44	50	36	88
Massachusetts	333	749	652	51	115
Rhode Island	36	126	109	33	116
Connecticut	167	266	306	55	87
<u>Middle Atlantic</u>	<u>2,065</u>	<u>3,393</u>	<u>4,044</u>	<u>51</u>	<u>84</u>
New York	1,132	1,590	1,987	57	80
New Jersey	342	675	734	47	92
Pennsylvania	591	1,128	1,323	45	85
<u>East North Central</u>	<u>1,555</u>	<u>4,262</u>	<u>3,967</u>	<u>39</u>	<u>107</u>
Ohio	396	974	1,037	38	94
Indiana	180	538	523	34	101
Illinois	438	1,569	1,125	39	139
Michigan	340	745	787	43	95
Wisconsin	201	436	495	41	88

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Table 1 (Cont'd.) - Number of Active Ophthalmologists and Optometrists and Ratio to 100,000 Resident Population Age 65 and Over by Division and State: 1973 (Con't)

Division and State	Active Non-Federal Ophthalmologists	Active Optometrists	Resident Population 65+ (000's)	Ophthalmologists per 100,000 Resident Population 65+	Optometrists per 100,000 Resident Population 65+
<u>West North Central</u>	<u>689</u>	<u>1,654</u>	<u>1,984</u>	<u>35</u>	<u>83</u>
Minnesota	188	361	425	44	85
Iowa	114	314	357	32	88
Missouri	222	422	583	38	72
North Dakota	17	74	70	24	106
South Dakota	15	87	83	18	105
Nebraska	50	149	189	26	79
Kansas	83	247	277	30	89
<u>South Atlantic</u>	<u>1,422</u>	<u>2,204</u>	<u>3,306</u>	<u>43</u>	<u>67</u>
Delaware	20	38	47	43	81
Maryland	227	210	326	70	64
District of Columbia	77	68	71	109	96
Virginia	198	326	398	50	82
West Virginia	59	135	204	29	66
North Carolina	183	336	456	40	74
South Carolina	84	179	212	40	84
Georgia	158	291	402	39	72
Florida	416	621	1,190	35	52
<u>East South Central</u>	<u>436</u>	<u>893</u>	<u>1,368</u>	<u>32</u>	<u>65</u>
Kentucky	112	225	355	32	63
Tennessee	154	363	414	37	88
Alabama	104	181	357	29	51
Mississippi	66	124	242	27	51

Table 1 (Cont'd.) - Number of Active Ophthalmologists and Optometrists and Ratio to 100,000 Resident Population Age 65 and Over by Division and State: 1973 (Con't)

<u>Division and State</u>	<u>Active Non-Federal Ophthalmologists</u>	<u>Active Optometrists</u>	<u>Resident Population 65+ (000's)</u>	<u>Ophthalmologists per 100,000 Resident Population 65+</u>	<u>Optometrists per 100,000 Resident Population 65+</u>
<u>West South Central</u>	<u>816</u>	<u>1,489</u>	<u>1,992</u>	<u>41</u>	<u>75</u>
Arkansas	67	163	258	26	63
Louisiana	182	225	329	55	68
Oklahoma	95	273	321	30	85
Texas	472	828	1,084	44	76
<u>Mountain</u>	<u>437</u>	<u>786</u>	<u>778</u>	<u>56</u>	<u>101</u>
Montana	35	101	71	49	142
Idaho	33	85	74	45	115
Wyoming	18	40	32	56	125
Colorado	136	208	200	68	104
New Mexico	42	80	82	51	98
Arizona	97	149	196	49	76
Utah	51	75	85	60	88
Nevada	25	48	38	66	126
<u>Pacific</u>	<u>1,523</u>	<u>3,203</u>	<u>2,577</u>	<u>59</u>	<u>124</u>
Washington	167	385	344	49	112
Oregon	131	305	245	53	124
California	1,169	2,421	1,929	61	126
Alaska	12	18	8	150	225
Hawaii	44	74	51	86	145

Sources: American Medical Association, Distribution of Physicians in the U.S., 1972, Volume 2

Bureau of Health Manpower, 1972-73 Inventory of Licensed Optometrists conducted under contract by American Optometric Association

Bureau of the Census Current Population Reports, Series P-25, No. 518, June 1974

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**TABLE 2-NUMBER OF ACTIVE OPHTHALMOLOGISTS AND OPTOMETRISTS
AND RATIOS TO 100,000 PERSONS 65 AND OVER COVERED UNDER MEDICARE
MEDICAL INSURANCE: 1973**

	<u>Active Non-Federal Ophthalmologists^{1/}</u>	<u>Active Optometrists</u>	<u>Persons 65+ With Medical Insur. Coverage (100,000's)</u>	<u>Ophthalmologists per 100,000 Persons 65+ Covered</u>	<u>Optometrists per 100,000 Persons 65+ Covered</u>
UNITED STATES	<u>9,510</u>	<u>19,265</u>	<u>207.8</u>	<u>45.8</u>	<u>92.7</u>
Metropolitan, Total	<u>8,270</u>	<u>13,987</u>	<u>141.0</u>	<u>58.7</u>	<u>99.2</u>
Metro - 500,000 or More	6,152	10,527	103.8	59.2	101.4
Metro - Less than 500,000	2,118	3,460	37.2	57.0	93.0
Non-Metropolitan	1,240	5,278	66.8	18.6	79.0

^{1/} 1972 estimate of active ophthalmologists in patient care. 1973 estimate - 9,568

Source: AMA Distribution of Physicians in the United States, 1972, Volume 2

Bureau of Health Manpower, 1972-73 Inventory of Licensed Optometrists

DHEW, Social Security Administration, Medicare - 1973, Section 2 - Enrollment, 1975

Table 3 Distribution of Active Ophthalmologists and Optometrists for Metropolitan and Non-Metropolitan Areas and Ratios of Practitioners to 100,000 Population 65 and Over Covered Under Medical Insurance Program of Medicare By Geographic Division: 1973

Geographic Division	Active Ophthalmologists (1972)		Active Optometrists (1973)		Ophthalmologists Ratio to 100,000 65+ Medicare Eligible Pop.		Optometrists Ratio to 100,000 65+ Medicare Eligible Pop.	
	Metro	Non-Metro	Metro	Non-Metro	Metro	Non-Metro	Metro	Non-Metro
United States	<u>8,270</u>	<u>1,240</u>	<u>13,987</u>	<u>5,278</u>	<u>59</u>	<u>19</u>	<u>99</u>	<u>79</u>
New England	531	75	1,141	240	52	26	112	83
Middle Atlantic	1,954	147	2,963	430	58	26	87	76
South Atlantic	1,147	225	1,484	720	57	20	74	83
East South Central	331	104	442	451	56	14	75	60
West South Central	669	113	968	521	62	13	90	61
East North Central	1,417	163	3,159	1,103	52	14	115	97
West North Central	507	170	643	1,010	63	15	80	87
Mountain	304	120	412	374	74	34	100	108
Pacific	1,410	123	2,774	429	66	33	129	115

NOTE: Entries may not add to totals due to rounding in computational process

Sources: Bureau of Health Manpower 1972-73 Inventory of Optometrists conducted under contract by American Optometric Association
 American Medical Association, Distribution of Physicians in the United States, 1972
 DHEW, Social Security Administration, Medicare: Health Insurance for the Aged and Disabled, 1973. Section 2 - Persons Enrolled

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SECTION II-E

COST IMPLICATIONS

Compiled by Larry W. Lacy, M.A.*

Issues and Difficulties

In judging the question of whether there should be reimbursement for optometrists' services provided to cataract and aphakic enrollees¹ under Part B of Medicare, consideration must be given to the effect of such a modification of reimbursement policy on Medicare program costs. The estimate of any cost increase could then be weighed against the benefits provided Medicare enrollees. The proposed change in policy would benefit those enrollees who now use an optometrist as well as those probably few enrollees with cataracts who are now deterred from seeking any vision care by the cost of optometric services.

A lack of reliable information on the current use of optometrists by enrollees and uncertainty of the extent to which enrollees would increase their utilization of optometric services after the change in policy, prevent exact estimation of the costs to the Medicare program of the proposed change. Also, the exact rules for reimbursement of optometrists that might be adopted subsequent to any policy change are unknown, and these would have substantial effects upon costs. Such problems require that estimates be presented in the form of ranges of costs which are roughly illustrative of the actual program expenses likely to be incurred after the change in policy. The results of the analysis explained below, for which 1975 serves as the base year, indicate that the change possibly would have resulted, in that year, in Medicare payments for optometrists' services of from \$5,000,000 to \$10,000,000, of which half would have been for presurgical care of cataract patients and half for post-surgical care for aphakic enrollees. This estimate does not reflect the probability that the change in policy would lead to slightly greater number of diagnoses of cataracts which, in turn, would lead to higher rates of cataract surgery with the consequent increased program payments to surgeons and hospitals. (The cost estimates above were derived by making assumptions about several key unknown factors. A later subsection will demonstrate the sensitivity of these estimates to the key assumptions).

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Estimation of the Cost of Reimbursement for Presurgical Visits to Optometrists

Should optometrists be reimbursed for cataract-related services provided to enrollees when referral is made to ophthalmologists for further care, then at least one presurgical visit of reimbursable presurgical visits would be equal to the number of referred cataract cases. Unfortunately, no direct information exists on the 1975 volume of such referrals or how the change in policy would have affected that total. However, indirect estimates of the 1975 volume were made by combining information on the number of Medicare-reimbursed operations in recent years, results from a survey of the over-65 population conducted by the American Optometric Association, and opinions offered by study advisors.

The Social Security Administration has provided this study with unpublished estimates of the numbers of Medicare-reimbursed cataract operations for the years 1967 through 1972. These numbers are based on claims gathered by the various Medicare intermediaries.

<u>Calendar Year</u>	<u>Number of Medicare Reimbursed Cataract Operations</u> ^{2/}
1967	155,000
1968	159,000
1969	161,000
1970	172,000
1971	172,000
1972	202,000

The upward trend of the SSA figures suggests a 1975 total of from 220,000 to 245,000 cataract operations. Other sources indicate that the higher number may be more accurate. In unpublished data the National Eye Institute estimates there were 332,000 annual operations for cataracts for people of all ages in 1972. According to unpublished data from the 1971 National Health Interview Survey, 74 percent of all cataracts occur in the over 65 population. Therefore, the figure 245,000 (74% of 332,000) will be used as a rough estimate of 1975 cataract operations that were reimbursed by Medicare.

These operations can be translated into reimbursable presurgical visits to optometrists with data from the 1975 American Optometric Association Senior Citizens Survey. Based on results from a national sample of about 3,000 respondents, AOA staff inferred that "optometrists initially refer to the ophthalmologists two-thirds of those persons for whom cataract surgery is performed, although such surgery may not be performed for several years after referral".^{3/}

Unfortunately, the AOA did not obtain a random sample of the entire over-65 U.S. population. Probably under-represented are the poor, minority groups, and residents of rural areas. Such problems may reduce the reliability of the survey's results. Also, study advisors

indicated that probably considerably fewer than two-thirds of Medicare patients who have cataract operations were referred by optometrists. The advisors felt that one-third corresponds more closely to the true figure.

Thus available information suggests that between one-third and two-thirds of the cataract cases which resulted in surgery in 1975 were originally referred by optometrists. This alone would have amounted to between 82,000 and 163,000 reimbursable visits to optometrists with referrals to ophthalmologists in 1975. Total presurgical referrals, including those which did not result in surgery, would have been some unknown multiple of this range. If it is arbitrarily assumed that one-half of those who were referred eventually had surgery, the range for total reimbursable visits would have been 164,000 to 326,000.* Later it will be shown how varying the assumption as to the proportion of referrals that result in surgery affects the cost estimates.

The question of the extent to which the policy change might increase (compared to current experience) the number of enrollees with cataracts visiting optometrists is much more difficult and will be deferred until a later subsection on surgical costs. There it will be argued that enrollees would not greatly increase their use of optometric services if these were reimbursable.

The estimated range of costs for presurgical visits to optometrists was derived by multiplying the figures above by the estimated average charge to the Medicare program of a single reimbursable visit. This value was not known exactly because of a lack of data on optometrists' fees and uncertainty about the proportion of an optometrists' visit that would be classified as non-reimbursable refraction by Medicare regulations. The American Optometric Association does not collect data on the average fees charged by its members; neither does the Bureau of Labor Statistics collect the needed information. Several other sources including the California Medical Program, the National Eye Institute, and a survey for the Optical Manufacturers Association suggest that the average fee for an office visit to an optometrist is from \$20.00 to \$26.00.^{4/} For the purpose of the calculations below, \$23.00 serves as the average fee. Not all of this fee, however, would be chargeable to the Medicare program under the proposed policy change. Supplementary Medical Insurance regulations require that 20 percent be deducted to reflect enrollee cost-sharing. Regulations also would require that another fraction be deducted for any non-reimbursable refraction portion of an office visit.

*This estimate is supported to some extent by unpublished data from the National Eye Institute which indicates that people over 65 years of age present about 680,000 new cataract cases to physicians each year. If one-half, which is midway between 1/3 and 2/3, of these are referred by optometrists, there would be 340,000 reimbursable visits to optometrists a year.

For the initial cost estimate, it was assumed that regulations would specify a 20 percent deduction for refraction, the same proportion deducted from the bill for an ophthalmologist's diagnostic services on an initial visit. These two deductions would mean about a \$15.00 charge to Medicare for each reimbursable visit. Later it will be shown what effect the assumption of the percentage deducted for refraction has on the cost estimates.

Multiply \$15.00 (estimated charge to the Medicare program per reimbursable visit) by 164,000 (low estimate of reimbursable visits) produces \$2,500,000 as a low estimate of program costs for pre-surgical visits in 1975 under the policy change. Multiplying by 326,000 (high estimate of reimbursable visits) yields about \$5,000,000 as a high cost estimate.

Estimation of the Cost of Reimbursement for Post-Surgical Visits to Optometrists

According to the estimates explained earlier, cataract operations resulted in about 245,000 cases of aphakia among enrollees in 1975. The AOA Senior Citizens Survey suggest that one-third, or 82,000 of these came to optometrists after recovery from the effects of surgery. This is in contrast to the AOA estimate that two-thirds of the over-65 having cataract surgery were originally referred by optometrists. If the AOA estimates are reliable, the difference in the two fractions may be explained in part as the effect of existing regulations which give aphakic enrollees a direct incentive to visit ophthalmologists rather than optometrists. (After seeing both an optometrist and an ophthalmologist, the enrollee would be well aware of which provides reimbursable services). Without the existing reimbursement incentive to obtain services from ophthalmologists, more enrollees perhaps would chose to obtain post-surgical care from optometrists. For purposes of illustration, it was assumed that with the policy change the volume of aphakic enrollee cases treated by optometrists might in 1975 have been as high as 163,000--the earlier estimate, based on the AOA survey, of the number of cataract cases having surgery after referral by optometrists.

Thus, in the absence of direct information, we assume that there would have been between 82,000 and 163,000 cases of aphakic enrollees obtaining care from optometrists in 1975 if reimbursement had been in effect then.

The suggested policy concerning aphakic enrollees does not specify the number of visits to optometrists per case which would be reimbursable. The possibility of multiple reimbursable visits clearly exists since it may take as long as a year after surgery for aphakic vision to be stabilized and a permanent lens fitted. For the initial cost estimate it was assumed that there would have been two reimbursable visits for each case seen by an optometrist. This number will later be varied to demonstrate its importance in the cost estimates. Multiplying two

visits per case by the range of 82,000 to 163,000 cases produces an estimate of from 164,000 to 326,000 reimbursable visits by aphakic enrollees to optometrists in 1975. If there had been a \$15.00 charge to the Medicare program for each reimbursable visit to an optometrists, this range of visits would have added \$2,500,000 to \$5,000,000 to Medicare program costs.

Effect on Cost Estimates of Varying Key Assumptions

To obtain the two cost range estimates presented earlier it was necessary to make key assumptions relating first to the proportion of cataract referrals which led to surgery, second to the deduction made for the refractive segment of an optometrist's examination, and third to the average number of reimbursable optometric visits per case of aphakia. The table below shows the effects on cost estimates of varying these factors within the range of values they might take. Although the figures vary widely for any single factor, the cost estimates remain small in the context of total Medicare program costs for cataract-and-aphakia-related care for enrollees in 1975. (This amount was probably between \$300 and \$400 million, including surgical costs. See the subsection on surgical costs).

Effects of Varying Key Assumptions upon the Estimates of
the Cost of Reimbursing for Optometrist's Services

Factor	Cost Estimate (in \$000)	
	Presurgical Visit Cost	Post-Surgical Visit Costs
Proportion of optometrists' referrals leading to surgery:		
One-third	\$3,750 to \$7,500	NA
One-half	\$2,500 to \$5,000	NA
All	\$1,250 to \$2,500	NA
Number of reimbursable visits to optometrist per case of aphakia:		
One	NA	\$1,250 to \$2,500
Two	NA	\$2,500 to \$5,000
Three	NA	\$3,750 to \$7,500
Percentage of bill for optometrist's visit deducted for non-reimbursable refraction:		
0%	\$3,000 to \$6,000	\$3,000 to \$6,000
20%	\$2,500 to \$5,000	\$2,500 to \$5,000
50%	\$1,500 to \$3,000	\$1,500 to \$3,000

NA - not applicable

Surgical Costs

Some small number of Medicare enrollees may be deterred by current reimbursement policy from seeking vision care. These would primarily be people who have limited access to an ophthalmologist, who would not be willing to pay the full cost of the services of an optometrist, and who would also not qualify for Medicaid. This number may include some enrollees who have operable cataract. The latter is probably a very small number, however, because these individuals would have to be deterred from obtaining care for a severe visual defect solely by the cost of an optometrist's visit. (Also they would have to be well informed of Medicare reimbursement policies before obtaining care, otherwise their behavior would not change and they would not affect program cost estimates). Whatever this number, a change in reimbursement policy could lead to an increase in the number of reimbursed operations.

Even if the number of additional operations were very small, it could have appreciable effects on Medicare program costs. Unpublished figures provided for this report by the National Eye Institute give a basis for estimating the current average reimbursable cost to the program of a single operation for cataracts, including pre-and post-surgical care, to be about \$1,500.^{5/} If, for example, there are 1,000 additional operations as a result of reimbursement extension, Medicare program costs would rise \$1,500,000. Three thousand additional operations would mean \$4,500,000 in increased costs. It seems possible, therefore, that a chief cause of higher charges to the program would be a rise in surgical rates. (It should be noted that nearly all of such increased payments resulting from surgery would not be for optometrists' services but for surgical and hospital services).

Relation to Medicaid Program

A small portion, perhaps 5-10 percent, of the Medicare program cost increases would be offset by a decrease in Federal Medicaid payments. Thirty-two States, with perhaps 80 percent of the U.S. population, provide Medicaid coverage for optometrists' services with the Federal government assuming about 60 percent of total payments. About 17 percent of all Medicare enrollees are also eligible for Medicaid benefits. Multiplying all these percentages together produces 8 percent as a rough estimate of the Medicare cost increase which would be offset by a reduction in Federal Medicaid payments.^{6/}

Payments to Ophthalmologists

Because of the variety of prevailing medical billing practices, it is difficult to determine the extent to which increased use of optometrists by aphakic enrollees would bring off-setting decreases in charges for ophthalmologic services. Some ophthalmologists include the cost of post-surgical care in their surgical fee and make no separate charge for post-surgical examination and prescription of lenses. In such cases,

there would be no off-setting decreases. Other ophthalmologists, however, itemize bills for their services. In these instances, increases in payments for optometrists' services would not constitute additional Medicare program costs.

There is no available evidence to suggest that optometrists charge lower fees than do ophthalmologists. Thus, the possibility of reducing program costs by transferring patients from ophthalmologists to optometrists was not considered.

Optometric Malpractice Insurance

It has been suggested that reimbursement of optometrists under Part B would change the nature of optometric practice sufficiently to raise the cost of malpractice insurance for optometrists. This seems improbable because the over 65 are only a fraction of an optometrist's practice and cataract services constitute only a part of the vision care of enrollees.^{7/} Also, optometrists would still not perform surgery, the major source of malpractice claims. Conversations with the Chairman of the AOA Committee on Insurance and an associate of the major carrier of malpractice insurance for optometrists support the conclusion that no significant effects on insurance rates would result from extension.

Summary of Findings

The results of the analysis indicate that the proposed change in reimbursement policy would have resulted in 1975 in Medicare payments for optometrists' services of from \$5,000,000 to \$10,000,000, of which half would have been for the detection and referral of cataract cases and half for care of aphakic patients. As explained earlier, these figures are only illustrative due to the lack of reliable information. Also the estimated costs for aphakic enrollees does not consider the extent to which higher payments for optometric services would be offset by decreases in ophthalmologic charges. An additional and potentially significant cost to the Medicare program would result if some enrollees with cataract, who due to existing reimbursement policy are not receiving any vision care, react to the proposed change by going to optometrists who detect cataracts and refer the patients to ophthalmologists who in turn would perform surgery. On average, each of these surgical procedures would add \$1,500 to Medicare expenses. A lack of information prevents estimating the number, if any, of additional operations which would result from such extension.

Sources:

Many people and organizations were consulted during the preparation of this section of the report. In particular, an unsuccessful attempt was made to find a source with useful economic analysis of the demand for vision services. Those organizations that provided the unpublished data on which this section is based are listed as follows:

- American Optometric Association
- California State Department of Health
- National Center for Health Statistics, DHEW
- National Eye Institute, DHEW
- Social and Rehabilitation Service, DHEW
- Social Security Administration, DHEW

Footnotes and Bibliography

- 1/ This section will deal only with those enrollees 65 years of age or older.
- 2/ Source: unpublished SSA figures based on 5 percent samples of beneficiaries.
- 3/ Internal American Optometric Association memorandum of March 1, 1976.
- 4/ California and NEI data are unpublished. The Optical Manufacturers Association figures are from "The Impact of National Health Insurance on the Use and Spending for Sight Correction Service", Gordon R. Trapnell, Consulting Actuaries, 1976.
- 5/ This includes an initial diagnostic visit to an optometrist plus a total ophthalmologist fee of \$580. Of the latter, \$480 would be reimbursable. Fully reimbursable would be five days in the hospital at \$840. Deducting 20 percent for cost-sharing leaves about \$120 as the charge to the Medicare program for post-surgical examination by an optometrist, prescription, and provision of lenses (\$14 + \$480 + \$840 + \$120 = \$1,454).
- 6/ $.8 \times .6 \times .17 = .081$
- 7/ If the increase in the use of optometric and ophthalmologic services were much broader, it could contribute to rises in the unit price of vision care. Consideration of this last question, however, lies outside the scope of this paper.

LEGISLATION TO AUTHORIZE OPTOMETRISTS
TO USE TOPICAL DIAGNOSTIC
AGENTS WHILE PERFORMING EYE EXAMINATIONS
FOR BETTER EYE CARE FOR
THE PEOPLE OF NEVADA

EXHIBIT "C"

INDEX

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HISTORY

The profession of optometry started in 1898 and had been known as a drugless profession.

In the last thirty years Pharmacology has made great advances with new drugs becoming more available.

Optometrists, endeavoring to give their patients the best vision care possible, began to avail themselves of certain diagnostic drugs in some states and in the armed forces.

In the state of Nevada, some twenty years ago, it became evident that some Optometrists sought to use diagnostic drugs. The Nevada Optometry Law was reviewed with the conclusion that there was nothing in the Nevada Optometric Law prohibiting the use of diagnostic drugs.

In 1976 the Nevada Optometric State Board of Examiners sent all optometrists licensed in Nevada a letter stating that the Nevada Optometric Law allowed the use of diagnostic drugs.

In 1978 the Nevada Optometric State Board of Examiners sent all optometrists licensed in Nevada a letter stating that all drug use was to be suspended as of that date in view of the fact that there was a conflict in the law in that the Pharmacy Law did not permit Optometrists to have drugs in possession.

EXHIBIT C

STATE OF NEVADA
HOUSE BILL NO. _____

Optometric use of drugs.

Sponsored by: Representatives _____

A BILL
for

AN ACT to amend NRS 454.316; after NRS 454.535 to add a new section NRS 454.536; to amend NRS 636.015; to amend NRS 636.025 relating to optometrists; providing that optometrists may use certain diagnostic agents in the practice of optometry; providing for education in the use of these agents.

BE It Enacted by the Legislature of the State of Nevada:

Section 1. NRS 454.316 is created to read:

NRS 454.316 - No prescription is required for a certified optometrist to possess drugs authorized by Chapter 636, Nevada Revised Statutes.

Section 2. After NRS 454.535 to add the following new section NRS 454.536:

NRS 454.536 - Nothing contained in this Chapter shall prohibit a certified optometrist from purchasing drugs authorized by Chapter 636, Nevada Revised Statutes.

- 1 -

EXHIBIT C

952

STATE OF NEVADA

Section 3. NRS 636.015 is amended to add the following new definition:

NRS 636.015 - 6. "Diagnostic pharmaceutical agents" means anesthetics, cycloplegics, miotics and mydriatics.

Section 4. NRS 636.025 is amended to add the following new section:

NRS 636.025 - 7. The topical use of diagnostic pharmaceutical agents for the purpose of determining any visual, muscular, neurological, interpretative or anatomic anomalies or deficiencies of eye, or appendages or visual processes thereof by licensed optometrists who, as certified by the Board, have sufficient education and professional competence as a result of having satisfactorily completed a course or courses in general and ocular pharmacology approved by the Board.

(END)

INFORMATION ABOUT THE BILL

INTENT: To update the statutory definition of the practice of optometry so as to permit optometrists to care for patients in a manner consistent with current education and practice. The bill would permit optometrists, during the course of eye examinations, using professional judgement, to use topically applied (dropped on the eye) pharmaceutical agents. Expanded eye examination capabilities will allow for better eye or systemic pathology detection, so that these patients may be referred to a medical doctor for treatment. The agents optometrists would be able to use will serve to dilate the eye to allow a more comprehensive view of the interior of the eye, and to permit better use of instrumentation to detect glaucoma, a leading cause of blindness. Optometrists will not gain economically by the passage of this legislation, but will be able to provide an additional safeguard to their patients.

CURRENT OPTOMETRIC EDUCATION: A doctor of optometry must meet education requirements similar to those of a dentist: four years of professional school preceded by at least two (and now normally four) years of undergraduate education. Today's optometrist is specifically educated in the sciences of optics, pharmacology, disease processes, disease detection, microbiology, zoology, neurology, physics, physiology, anatomy, psychology, social sciences, and public health, not only in the classroom, but also in actual clinical patient care. The curriculum consists of a total minimum of 3910 hours of instruction. There is a minimum 720 hours of training in biological and other sciences that relate to the use of topical pharmaceutical agents.

SAFEGUARDS: The state Board of Optometry will be required to specify those pharmaceutical agents that may be used, as well as preparing the education and examination requirements for those optometrists seeking to use pharmaceutical agents. Only those optometrists who have met such requirements would be permitted the limited use of pharmaceutical agents described by this bill. This bill does not contain a "grandfather clause" on this subject.

STATES USING DIAGNOSTIC DRUGS: 16 states by laws specifically permit optometrists to use pharmaceutical agents: California, Delaware, Kansas, Kentucky, Louisiana, Maine, Montana, New Mexico, North Carolina, Oregon, Pennsylvania, Rhode Island, Tennessee, West Virginia, Wisconsin and Wyoming. 6 other states, similar to Nevada for many years, do not prohibit such use. These states are: Florida, Idaho, Indiana, Michigan, Minnesota and New Jersey.

ADVERSE REACTIONS: According to medical literature, the possibility of adverse reactions by persons to whom the topical pharmaceutical agents would be applied is considered extremely remote or virtually non-existent (1 to 18,000). In states where optometrists do now have the right to use these agents, there have been no reported cases of death, blindness or other complications from the optometrists' utilization of the agents.

PROFESSIONAL RESPONSIBILITY: Optometrists would retain and enhance their professional responsibility to recognize any abnormalities of a pathological nature, make tentative diagnoses, and then refer patients to physicians/surgeons as needed. This legislation will not enable optometrists to make definitive medical diagnoses or conduct medical therapeutic treatment. Such diagnoses and treatment lie soely within the province of medicine.

*Nevada State
Pharmaceutical Association*

President
MARY BETH ARNOLD, R.Ph.
1923 Las Vegas Boulevard South
Las Vegas, Nevada 89104
Work: (702) 382-6456
Home: (702) 648-7303

January 5, 1979

First Vice President
MILTON KEVERSHAN, R.Ph.
P.O. Box 1112
Tonopah, Nevada 89049
Work: (702) 482-6711
Home: (702) 482-6732

Van B. Davis, O. D.
Vice President
Nevada Optometric Association
819 South Decatur Blvd.
Las Vegas, Nev. 89107

Second Vice President
MARVIN STUTESMAN, R.Ph.
4213 Boulder Highway
Las Vegas, Nevada 89121
Work: (702) 451-1229
Home: (702) 733-9096

Dear Dr. Davis:

Treasurer
WILLIAM LOCKE, R.Ph.
2130 Allen Street
Reno, Nevada 89509
Work: (702) 329-1848
Home: (702) 786-3325

As the representative organization for professional pharmacists in the State of Nevada, we are not opposed to the inclusion of optometry in the pharmacy law as one of the professions allowed to possess and administer certain legend drugs pertaining to the diagnosis of ocular conditions, these drugs to be specified, preferably by therapeutic class.

SOUTHERN NEVADA PHARMACEUTICAL SOCIETY
President
MICHAEL BARBERA, R.Ph.
3750 East Desert Inn Road
Las Vegas, Nevada 89121
Work: (702) 458-6511

Since optometry provides a primary point of entry for many citizens seeking health care, we feel that the use of diagnostic pharmaceutical agents by optometrists would be in the best interest of the public health.

NORTHERN NEVADA PHARMACEUTICAL SOCIETY
President
KERMIT SHAREN BROCK, R.Ph.
1755 Van Ness Avenue
Reno, Nevada 89503
Work: (702) 625-9663
Home: (702) 747-4811

If you desire any further information or advice concerning the specific drugs or therapeutic classes, please feel free to contact me:

Very truly yours,

cc: Wm. Van Fatten, O.D.
1200 N. Mountain
Carson City, N.V.
89701

Mary Beth Arnold
Mary Beth Arnold, R. Ph.
President
Nevada State Pharmaceutical
Association

EXHIBIT C

956

RESOURCES

Approximatley 95% of the Nevada students in optometry schools today attend the Southern California College of Optometry in Fullerton, California, the University of California at Berkeley, California or Pacific University, which is located in Forest Grove. Oregon. Both California and Oregon, by laws similar to this proposed law, have authorized optometrists to use diagnostic drugs. Should Nevada not pass this legislation these Nevada optometrists now graduating from the above mentioned schools may stay in those states where they can practice at their highest degree of proficiency and learning, rather than return to Nevada where they are presently restricted by this confining interpretation of the state law from using harmless topical, diagnostic drugs.

December 15, 1978
Pacific University
College of Optometry
Forest Grove, Or 97116
Nevada Students

William Van Patten, O.D.
President, Nevada State Optometric Association
1200 Mountain
Carson City, Nevada 89701

Dear Dr. Van Patten:

We students of Pacific University Collge of Optometry would like to take this opportunity to express the high admiation we have for the Nevada Optometric Association for having established a fine standard of professionalism in our home state, and also to offer our gratitude to the Nevada State W.I.C.H.E. Commission for the financial assistance that has been extended to us.

In addition we would like to convey our deep concern with regard to the issue of whether on returning to Nevada we will find it within our professional and legal power to continue to use diagnostic pharmaceutical agents (d.p.a.'s) to assess eye health and vision. As students of an institution in a state in which d.p.a.'s are approved for use in optometry we have come to use d.p.a.'s on a regular clinical basis (underclassmen excluded) and wish to continue actively making use of this basic mode in practice to more readily gather meaningful information. We feel that if deprived of the use of d.p.a.'s we would be unnecessarily restrained in our capacity to efficiently provide the quality of eye care to which we have become accustomed.

For these reasons we native sons implore the state of Nevada, like the fourteen states before it, to enact affirmative legislation authorizing the use of d.p.a.'s in optometry and offer our assistance to that effect.

Sincerely,

Jane J. Keller
Norman H. Butler

EXHIBIT C

358



Optometric Center of Los Angeles

Southern California College of Optometry
3916 South Broadway • Los Angeles, California 90037 • (213) 234-9137

December 15, 1978

William G. VanPatten, O.D.
President
Nevada Optometric Association
1200 N. Mountain Street
Carson City, Nevada 89701

RE: Nevada Optometric Drug Law

Dear Dr. VanPatten,

As fourth year optometric students at Southern California College of Optometry, who plan to return to Nevada to practice, my wife, Susan Shipley, and I are very much interested and concerned about the passage of the proposed Nevada legislation regulating the optometric use of pharmaceutical agents for diagnostic purposes. We feel that we have received the finest, most up to date education available and that only through modern optometric laws can we provide the type of optometric care commensurate with our education.

As a certified WICHE student and a resident of Nevada for over twenty-five years, I would sincerely hope that we could return to my home state to practice and that Nevada could continue to lead the nation in its health care services.

Sincerely,

Richard H. Slick
3340 Quartz Lane #L-17
Fullerton, CA 92631

EXHIBIT C

359

2025 Embrey Avenue
Las Vegas, Nevada 89106
December 20, 1978

Dr. William G. Van Patten, President
Nevada Optometric Association
1200 N. Mountain Street
Carson City, Nevada 89701

Dear Dr. Van Patten:

As a third year student at Southern California College of Optometry, I am concerned about current legislation involving the use of specific pharmaceutical agents for diagnostic reasons in the State of Nevada.

I am a WICHE student, grateful for the investment my state has made in my education and in return would like to provide the ultimate in optometric care to the people of Nevada whom I will be serving. My education at SSCO has included excellent instruction in the techniques of gonioscopy, binocular indirect ophthalmoscopy, and Goldman tonometry.

I feel that my diagnostic skills would be handicapped if current legislation allowing qualified optometrists to use pharmaceutical agents associated with the above techniques is not passed. Instruction in pharmacology, knowledge of the sympathetic and parasympathetic nervous system, and in possible systemic side effects involved in the use of ocular drugs has been complete.

Sincerely yours,

Ronald Ward Dutton

Ronald Ward Dutton

Weldon Ray SADBERRY
1511 North Gilbert #13
Fullerton, California 92633

January 2, 1979

Dr. William G. Van Patten, President
Nevada Optometric Association
1200 North Mountain Street
Carson City, Nevada 89701

Re: Proposed Nevada Legislation

Dear Dr. Van Patten:

As a concerned optometry student who will soon be practicing in the State of Nevada, I would like to voice my support for the proposed Nevada legislation, which would permit optometrists to use certain pharmaceuticals for diagnostic purposes. I would like to urge you to do whatever is possible to cause the current law regulating the practice of optometry in the State of Nevada, to be amended to allow optometrists to use these agents, which would provide us with an additional tool, to provide the finest of optometric care commensurate with our education and interests.

Nevada is far behind many other states, whose laws are far more progressive and appealing in this area.

Again, May I, as a professional, voice my support in favor of the above referred to legislation. Please do all you can to assure its passage.

Sincerely,

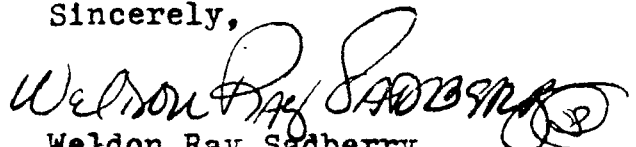

Weldon Ray SADBERRY
Certified Nevada WICHE Student
Southern California College
of Optometry - second year

EXHIBIT C

961

December 28, 1978

Michael Crutchfield
2105 Bonnie Brae
Las Vegas, Nevada 89102

Dear Sir,

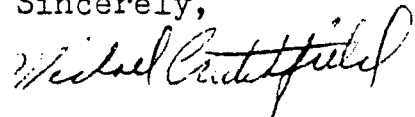
I am a third year student at Southern California College of Optometry. As a Nevada resident I am concerned about the lack of a modern optometric law which would permit me to practice and provide the finest of optometric care.

I am writing this letter to say I am in favor of the bill to amend the current law regulating the practice of optometry, to permit optometric use of pharmaceutical agents for diagnostic purposes.

We have been educated in the use of these drugs and other states are presently using them, I feel this is a more progressive and appealing way of practicing optometry.

Since the State of Nevada has invested in me as a certified WICHE Student I would like to be part of the passage of this legislation.

Sincerely,



Michael Crutchfield

EXHIBIT C

962

2011 Derek Dr. # 132
Fullerton, Calif. 92631

Dr. William G. Van Patten, President
Nevada Optometric Association
1200 N. Mountain Street
Carson City, Nevada 89701

Dear Sir:

I am currently attending the Southern California College of Optometry, provided for by a WICHE certification by my home state of Nevada. The current proposed legislation amending the regulation of optometry within the state is of great interest to me. The purpose of my studies is obviously to become the " best " optometrist I possibly can be so as to best serve my patients when that " day " arrives. It is in regards to the uncertainty about that " day " that I write this letter to you.

My four years of studies in Optometry college are designed for me to develop the skills I will one day need to be a competent eye health care provider. To do that what my studies intend for me to be , it is important that my state allow me to practice what I have learned. The use of pharmaceuticals is only one avenue to better service an Optometrist can take, but it is essential that all trained optometrists have the right to use it and any other means available in order to best serve the patient. It is wrong that the legal interests of the state of Nevada be adverse to the best needs of the state which is the people the Optometrist has dedicated his or her life to serve. It is for all these reasons that I ask you to be my voice before the legislators in Carson City ;to make them understand that it is the quality of vision care that is important and that the law must be amended to permit optometrists to practice and provide the finest of care that their education and interests will allow.

Sincerely,
James Robert [Signature]

EXHIBIT C

UTILIZATION OF PHARMACEUTICAL AGENTS BY OPTOMETRISTS

SEPTEMBER 1978

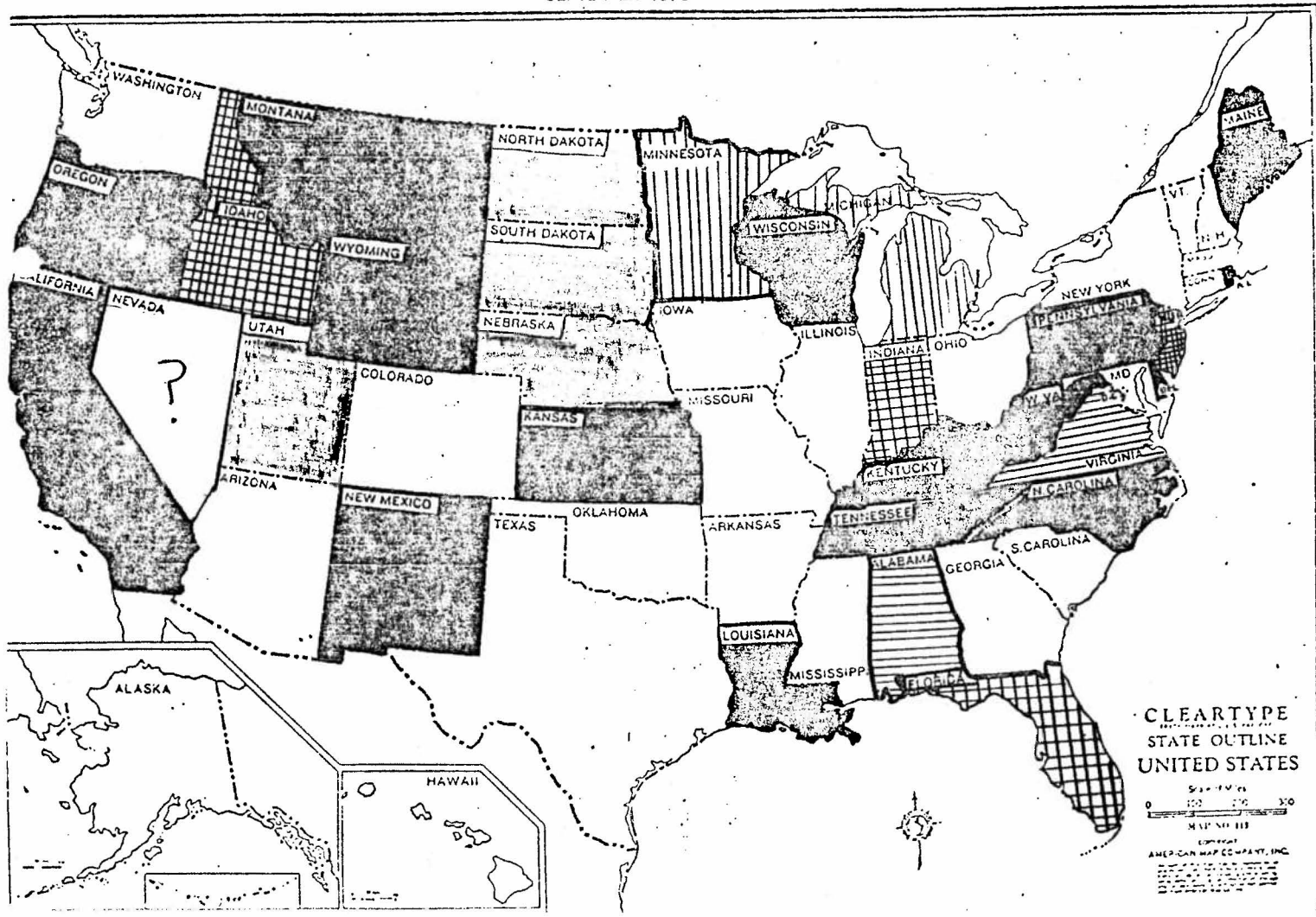
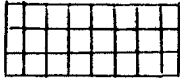


EXHIBIT C 964

UTILIZATION OF PHARMACEUTICAL AGENTS BY OPTOMETRISTS



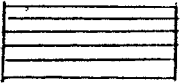
Authorized by Optometrists by Statute



Permitted by Opinion of Attorney General or State Board Statement



No Statutory Prohibition



No Statutory Prohibition but Negative A.G. Opinion

9/78



717 DELAWARE ST. S.E.
ROOM 342
MINNEAPOLIS, MINNESOTA 55440
(612) 296-5544

STATE OF MINNESOTA
BOARD OF OPTOMETRY

LEO A. MEYER, O. D.
EXECUTIVE SECRETARY

November 4, 1978

William Van Patten, O. D.
P. O. Box 1687
Carson City, NV 89701

Dear Dr. Van Patten:

In response to your letter of October 27, 1978 be advised that to the best of my knowledge the Minnesota Statute contains the language "employ any means for the measurement of the powers of vision" has been in the law at least since 1939.

The benefit to the public must be assumed as there is no documentation of a single complaint having been filed with this Board relating to the adverse effects from the use of diagnostic drugs by any optometrist in this State.

Sincerely,

A handwritten signature in cursive script, appearing to read "L. A. Meyer".

Leo A. Meyer, O. D.,
Executive Secretary

copies: Board Members
Mr. Holley, A. A. G.

AN EQUAL OPPORTUNITY EMPLOYER

EXHIBIT C -

966



BOARD OF OPTOMETRY

1020 N STREET, SACRAMENTO, CALIFORNIA 95814
TELEPHONE (916) 445-7075



November 15, 1978

William Van Patten, O.D., President
Nevada Optometric Association
1200 North Mountain Street
Carson City, Nevada 89701


Dear Doctor Van Patten:

This Board gave its first pharmacology examination on April 15, 1978, and issued 590 topical pharmaceutical agents certifications to the qualifying optometrists on May 6; the Board gave its second examination on July 16, 1978, and issued 804 TPA certifications on September 22.

Thus far for the six months that optometrists have been authorized to utilize topical pharmaceutical agents in California we have had no reports of any problems whatsoever. We have enclosed for your information letters from other states that the California Optometric Association solicited on behalf of the Board regarding the issue of unwanted side effects and/or reactions to TPA's by patients; it appears there have been none.

If we can furnish you any further information, please let us know.

Sincerely,


LAWRENCE D. PRICE
Executive Officer

LDP:ej

Enclosure

EXHIBIT C

967

28 November 1978

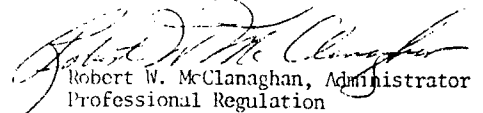
William Van Patten
President
Nevada Optometric Association
1200 N. Mountain Street
Carson City, Nevada 89701

Dear Mr. Van Patten:

Your letter of 25 September 1978 was presented to the Rhode Island Board of Examiners in Optometry on 1 November 1978 by Dr. David Ferris.

Please be advised that this office or the Board of Examiners in Optometry has had no complaints of adverse reactions from the use of diagnostic pharmaceutical agents by optometrists in Rhode Island since they were first allowed.

Sincerely yours,


Robert W. McClanaghan, Administrator
Professional Regulation

RWN:bg

PROTECTING THE PEOPLE  A CENTURY OF SERVICE

EXHIBIT C

368



Department of Human Resources

HEALTH DIVISION

Oregon Board of Optometry

12770 S.W. PACIFIC HIGHWAY, TIGARD, OREGON 97223

November 28, 1978

William Van Patten, O.D.
President
Nevada Optometric Association
P.O. Box 1687
Carson City, Nevada 89701

Dear Dr. Van Patten:

Oregon passed legislation allowing Doctors of Optometry to use diagnostic pharmaceutical agents beginning January 1, 1976. About 200 doctors have been certified to use these agents since that time. This Board has received no reports of adverse reactions from the use of such agents nor has there been any evidence of misuse of any of the agents.

We feel this law has given Doctors of Optometry a safe, effective diagnostic tool and has benefited the Oregon public.

Sincerely,

OREGON BOARD OF OPTOMETRY

Charles H. Samuel (at)
Charles H. Samuel, O.D.
Executive Secretary

CHS/ds

AN EQUAL OPPORTUNITY EMPLOYER

EXHIBIT C

969

STATE OF INDIANA

INDIANA STATE BOARD OF OPTOMETRY



INDIANAPOLIS 46224

700 N. High School Road
Indianapolis, Indiana
(317) 633-4847

November 16, 1978

Dr. W. G. Van Patten, President
Nevada State Optometric Association
Post Office Box 1687
Carson City, NV 89701

Dear Dr. Van Patten:

I am writing this letter to relay information to you and members of your Association concerning the use of pharmaceutical agents by Indiana optometrists.

Indiana O.D.'s have used drugs for diagnosis since 1935, when the present statute was amended to read:

" . . . or the employment of any means, for the purpose of detecting any diseased or pathological condition of the eye, or the effects of any diseased or pathological condition of the eye . . . "

To our knowledge, there has never been a case of adverse reaction to the use of topical diagnostic agents in the clinical practice of optometry. The utilization of drugs for diagnosis by optometrists in Indiana over the past forty years has reduced significantly the incidence of blindness through early detection and referral.

If I can offer further assistance, please do not hesitate to contact me.

Sincerely,

R. Lewis Scott, O.D. (4)

R. Lewis Scott, O.D.
Secretary of the Board

RLS:bj

EXHIBIT C

570

OPTOMETRY CURRICULUM AT UNIVERSITY OF CALIFORNIA, BERKELEY

Units, Hours, and Percentage Breakdown

	<u>Units</u>	<u>Percent</u>	<u>Hours</u>	<u>Percent</u>
<u>Biological Sciences</u>	29	15	410	11
General Human Anatomy (6)				
Mammalian Physiology (6)				
Neurobiology (3)				
Microbiology/Health and Disease (4)				
Anatomy of Visual System (5)				
Vegetative Function of the Eye (5)				
<u>Physical Sciences - Optics</u>	19	9	210	6
Geometrical Optics (4)				
Physical Optics (4)				
Ophthalmic Optics (6)				
Advanced Geo. Optics (5)				
<u>Physiological Optics</u>	26	13	340	9
Dioptrics of the Eye (5)				
Motility of the Eye (5)				
Visual Stimuli (5)				
Monocular Sensory Processes (5)				
Binocular Vision/Space Perception (5)				
Recent Advance in Physiological Optics (1)				
<u>Disease and Pharmacology</u>	23	12	310	9
Pathology (3)				
General and Ocular Pharmacology (3)				
Clinicla Manifestations of Disease (3)				
Ocular Disease (14)				
<u>Anomalies of Eye and Vision</u>	32	16	460	13
Refraction of the Eye (5)				
Optometric Analysis (5)				
Anomalies of Binocular Vision (5)				
Visual Rehabilitation (8)				
Contact Lenses (5)				
Clinical Colloquia (4)				
<u>Clinical Practice</u>	49	25	1470	41
Introduction to Optometric Patient Care (6)				
Optometry Clinic (16)				
Clinical Internship (15)				
Special Clinical Internship (12)				

Other Courses

History of Optometry (2)
Public Health of Optometry (4)
Practice Management (4)
Applied Psychology (12)
Research Project (9)

TOTALS

<u>Units</u>	<u>Percent</u>	<u>Hours</u>	<u>Percent</u>
21	10	410	11
<hr/>			
199	100	3610	100

OPTOMETRY CURRICULUM AT SOUTHERN
CALIFORNIA COLLEGE OF OPTOMETRY

Units, Hours and Percentage Breakdown

	<u>Units</u>	<u>Percent</u>	<u>Hours</u>	<u>Percent</u>
<u>Biological Sciences</u>	21	9	324	8
General Human Anatomy (5)				
Ocular Anatomy (5)				
Physiology (4)				
Neurology (4)				
Developmental Psychobiology (3)				
<u>Physical Sciences - Optics</u>	27	11	408	10
Geometrical Optics (10)				
Physical Optics (4)				
Ophthalmic Optics (13)				
<u>Physiological Optics (Visual Science)</u>	30	13	432	11
Visual Stimuli (5)				
Eye as an Optical Instrument (5)				
Monocular Sensory Processes (5)				
Ocular Motility (5)				
Ocular Physiology (5)				
Binocular Sensory Aspects (5)				
<u>Disease and Pharmacology</u>	26	11	328	8
General Pharmacology (3)				
Ocular Pharmacology (4)				
General Pathology (5)				
Diseases of the Eye (9)				
Pathology Seminar (3)				
Visual Fields (2)				
<u>Anomalies of Eye and Vision</u>	62	26	876	21
Refraction of the Eye (5)				
Clinical Techniques (11)				
Optometric Analysis (7)				
Special Testing (6)				
Contact Lenses (11)				
Vision Perception & Learning (4)				
Vision Therapy (13)				
Clinical Seminar (3)				
Industrial and Vocational Optometry (2)				

	<u>Units</u>	<u>Percent</u>	<u>Hours</u>	<u>Percent</u>
<u>Clinical Practice</u>	54	23	1512	37
Clinical Internship (54) (Including contact lens, vision therapy, low vision, outreach clinics and school screening.)				
<u>Other Courses</u>	18	7	224	5
History and Orientation (2)				
Psychometrics and Statistics (4)				
Practice Management (6)				
Public and Community Health (3)				
Research Project (2)				
Legal Aspects of Optometry (1)				
TOTAL	238	100	4104	100

SIGNIFICANT POINTS CONCERNING THE PROPOSED LEGISLATION

NO GRANDFATHER CLAUSE - Any optometrist who wishes to utilize topical pharmaceutical agents for examination purposes must complete educational and examination requirements prior to the use of the agents. Those optometrists who do not wish to use topical pharmaceutical agents will not be required to complete an examination, but may continue to practice optometry in the same manner as at present.

FOR EXAMINATION PURPOSES ONLY - Topical pharmaceutical agents would be allowed for the sole purpose of the examination of the human eye or eyes. The bill would not allow optometrists to treat eye pathology.

OTHER STATES' EXPERIENCE WITH TOPICAL AGENTS - Currently, optometrists employ topical agents for examination purposes in 21 other states. We have polled the various states in question, and have determined that none of those responding have received complaints of deaths, serious adverse reactions, misuse, malpractice, or incompetency resulting from allowing optometrists to use these diagnostic tools in their practice.

NO PROBABLE MALPRACTICE INCREASE - There has been some concern expressed that allowing optometrists the use of these agents will cost them increases in their professional liability insurance rates. The leading company which offers malpractice insurance for optometrists, Aetna Life and Casualty, states that they do not differentiate between states whose laws allow optometrists the use of the agents and those that do not. Consequently, they have not raised their premiums in states allowing optometrists the use of the topical agents. (See attached.)

NEGLIGIBLE FISCAL IMPACT - The Legislative Service Agency and the State Board of Examiners in Optometry estimate negligible cost to the state, from the passage of this bill, the only costs which will be incurred will be the costs of giving an examination to insure the competency of the optometrists who desire to use these agents. All schools of Optometry are now training Optometry students on how to employ diagnostic pharmaceutical drugs in their practice, and courses are being taught through the University of Nevada, Reno, in this state to teach licensed optometrists now practicing in Nevada how to use said drugs.

Passage of this bill will provide optometrists (who supply approximately 70% of the vision care in Nevada) with the tools to conduct more comprehensive eye examinations. By permitting optometrists the use of these agents, ocular and systemic pathology such as diabetes, hypertension and glaucoma can be better and more easily detected. The passage of this bill will enable Nevada citizens to enjoy better care for their precious gift of sight.

SUPPORT - The Nevada Optometric Association, The State Board of Examiners in Optometry and the Vision Service Plan of Nevada (a prepaid vision corporation) all endorse the passage of this bill.

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DIAGNOSTIC PHARMACEUTICAL DRUGS TO BE
UTILIZED BY OPTOMETRISTS

This year a bill is being introduced in the legislature which will allow optometrists in Nevada to use four classes of topical pharmaceutical agents for diagnostic purposes only. This pamphlet has been prepared to help you evaluate this bill and understand its merits.

It must be stressed that the bill permits use of these pharmaceutical agents for diagnostic purposes only, to help the optometrist more effectively use the instruments at his disposal for the early detection of eye and general systemic disease. In no manner will they be used for treatments of disease. It must also be stressed that these agents are topical in nature, that is, they will be applied to the eye in the form of eye drops only. They will not be injected into or ingested by the patient.

The bill provides for in office use of four classes of pharmaceutical agents:

1. TOPICAL ANESTHETICS: which when applied to the eye, "numb" its surface for approximately twenty minutes. This will allow the optometrist to more accurately test for glaucoma, or increased pressure within the eye (the leading cause of blindness in the United States). This test done without the aid of a topical anesthetic is uncomfortable to the patient causing apprehension which can adversely effect the accuracy of the test.
2. MYDRIATICS: These agents dilate the pupil of the eye allowing the optometrist to look through the "open door" rather than the "keyhole" when he assesses the health of the interior of the eye.
3. CYCLOPLEGICS: act to temporarily relax the accommodative or focusing system of the eye. They are ideal in aiding the optometrist to objectively measure the visual status of those patients who are too young or otherwise unable to communicate with him.
4. Complementary to mydriatic and cycloplegics - MIOTICS: act in reverse of mydriatics to constrict the pupil of the eye, and have been included in the bill for emergency use only so that the pupil which has been dilated can be returned to normal size as quickly as possible for those extremely rare instance where a mydriatic may cause an attack of acute glaucoma in those few individuals predisposed to the disease.

In Nevada, for the average patient, especially those in rural communities, the first line of defense in eye care is the optometrist. Often

the signs of general systemic disease such as diabetes, hypertension and arteriosclerosis can be observed in the eye. By allowing the optometrist to use these agents, you will allow him to utilize his training and talents to their fullest, to more effectively and efficiently detect conditions in the eye and body that depart from normal, and to make timely referrals of those patients to the proper medical practitioner for further diagnosis and treatment.

151 Farmington Avenue
Hartford, Connecticut 06156

151 Farmington Avenue
Hartford, Connecticut 06156

D. John Pecorino
Manager
Health and Insurance Department of
Connecticut State Police

September 22, 1978

W. C. VanPatten, O. D.
Box 1687
Carson City, Nevada 89701

Dear Dr. VanPatten:

Dr. Solomon called and requested that I write to you regarding rates for states using pharmaceutical agents and those which do not use them.

Our American Optometric Association rating structure is on a countrywide basis. We do not have enough exposure units in any one particular state to lend credibility to producing different rates for different states. We do not differentiate between states which have diagnostic pharmaceutical agents and those which do not. We do write coverage in states where diagnostic pharmaceutical agents are permitted.

To date we have not obtained sufficient information to determine whether an increase is warranted as a result of the use of topically applied diagnostic pharmaceutical agents.

Yours very truly,

D. John Pecorino

cc: R. Solomon, O. D., Colorado Springs, Colorado
A. Katz, Comptroller, American Optometric Association

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Southern California College of Optometry

2001 Associated Road · Fullerton · California 92631 · (714) 870-7226

October 16, 1978

William Van Patten, O.D., President
Nevada Optometric Association
1200 N. Mountain Street
Carson City, Nevada 89701

Dear Dr. Van Patten:

I wish to offer my support for use of diagnostic pharmaceutical agents by Nevada Optometrists. The opinions expressed are based on more than a decade of teaching general and ocular pharmacology. My teaching has involved contact with undergraduate medical students as well as optometric students in two Schools of Optometry. I have testified in support of optometric use of diagnostic drugs in seven states and have, since 1976, been a member of the Pharmacology Advisory Committee to the Board of Optometry in California. This committee drafted the regulations for use of diagnostic agents, including the selection of drugs, educational requirements and held several meetings with the California Medical Association, Division of Ophthalmology. Based on my professional background and experience, I will express some thoughts regarding the training of optometrists in pharmacology and the question of safety of use of diagnostic agents by optometrists.

It has been my philosophy, and those of others in similar positions in other optometric institutions, to teach pharmacology courses similar in content and scope to what is being taught to students of medicine and other health professionals. While most optometrists are not directly involved in prescribing drugs for treatment of systemic diseases, they should be aware that nearly all drugs available can have ocular effect. Moreover, it enhances the role of the optometrist in the delivery of vision care if he is knowledgeable of and can recognize such symptoms in patients. For this reason, the training of optometrists includes not only lectures, laboratory and clinical exposure to ocular pharmacology but also principles of medication for those classes of drugs used in therapeutic situations.

The curriculum at the Southern California College of Optometry includes 45 hours of lecture in general pharmacology, 35 hours in ocular pharmacology and 20 hours of laboratory on general and ocular effects of drugs. In addition, students are further exposed to the actions and uses of pharmaceutical agents in such courses as ocular disease. In the third and fourth years of study they are trained in the use of diagnostic agents on patients under supervision of our clinic staff. Thus, the

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graduate optometrist is not only knowledgeable in the use of diagnostic agents but also understands the effect of drugs on the human organism as a whole.

Another aspect of drug use, the possible risks to the patient when optometrists use topical drugs for diagnostic purposes, always becomes a central issue in the quest for drug legislation. To the best of my knowledge, including extensive research of the literature on ocular use of drugs, conversations with physicians, pharmacologists and other health care professionals, no deaths or critical side effects have occurred with topical anesthetics, mydriatics and cycloplegics if used properly for diagnostic purposes in the eye. It is also reassuring when one looks at the use of diagnostic agents on the eye from a historical perspective, having been used routinely by physicians for many decades, how relatively free of adverse effects these agents are if used in the recommended clinical dosages. On rare occasions when undesirable reactions have occurred these were minor and transient. The patient experienced no permanent ill effects. In nearly all instances where serious adverse reactions to topical agents have been reported, drugs were applied in excessive amounts such as irrigating the eye continuously, instilling multiple drops or the patient had a history of health problems or was taking other drugs concurrently.

Professionally speaking, the use of diagnostic drugs by optometrists is no longer a debatable issue. It is a necessity of which many consumers of eye care have been deprived for much too long. The profession of optometry is educating its members for such a responsibility. Health care providers are of the most benefit to society if they can practice to the fullest extent of their training. Many optometrists are deprived of this privilege at present due to out-dated optometric laws. I hope the State of Nevada appreciates the need and acts for the benefit of its peoples.

Sincerely yours,

Siret D. Jaanus

Siret D. Jaanus, Ph.D.
Associate Professor and Chairperson,
Department of Basic and Visual Sciences

EXHIBIT (

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CURRICULUM VITAE OF SIRET DESJARDIS JAANUS

Date and Place of Birth: May 17, 1937; Tallinn, Estonia

Marital Status: Married, June 30, 1973 to Jaak Jurison,
No Children

Education:

City College of New York B.S. (Biology) 1960
Hunter College of New York M.A. (Biological Sciences) 1966
State University of New York,
Downstate Medical Center Ph.D. (Pharmacology) 1970

Positions:

1960-1964 Research Assistant, Department of Pharmacology,
Albert Einstein College of Medicine, New York

1964-1966 Research Associate, Department of Pharmacology,
State University of New York, Downstate Medical
Center, Brooklyn, New York

Feb. 1966-
June 1966 Instructor, Department of Physiology, Hunter College
New York

Sept. 1966-
June 1970 National Institute of Health Predoctoral Fellow,
Department of Pharmacology, State University of New
York, Downstate Medical Center

July 1970-
Sept. 1971 National Institute of Health Postdoctoral Fellow,
Department of Pathology, State University of New
York, Downstate Medical Center

Feb. 1971-
June 1971 Adjunct Assistant Professor, Department of Biological
Sciences, City University of New York, New York

Sept. 1971-
June 1972 Assistant Professor of Biological Sciences, State
University of New York, College of Optometry, New
York, New York

July 1972-
July 1973 Chairman, Department of Basic Sciences, State
University of New York, College of Optometry,
New York, New York

Jan. 1973-
Dec. 1973 Co-Project Director on grant from the Council for
Tobacco Research, USA Department of Pharmacology,
Downstate Medical Center, Brooklyn, New York

Sept. 1973
Present Associate Professor, Southern California College of
Optometry, 2001 Associated Rd., Fullerton, CA 92631

Professional Societies:

American Society for Pharmacology and Experimental Therapeutics

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Sigma Xi

American Association for the Advancement of Science

American Optometric Association-Associate Member

Who's Who in California

American Men and Women of Science

Consultant, NBEO, 1976

Honors and Awards:

Teacher of the Year Award, Southern California College of Optometry, 1974, 1975, 1976

Oral Presentations and Lectures:

1. The Mechanisms and Utilization of Corneal Anesthetics. Optometric Center of New York, November 1971.
2. Oral Contraceptives and the Contact Lens Wearer. Lecture to residents at New York Optometric Center; July 1972.
3. Ocular Side-Effects of Systemic Medications. New York Academy of Optometry. February 1973.
4. Diagnostic Drugs. Santa Monica Optometric Group. January 1974.
5. Pharmacology for Optometry, Course C-703. University of California, Berkley, April 1974. Southern California College of Optometry, May 1974.
6. Ocular Pharmacology for the Optometric Practice. Southern California College of Optometry Alumni Homecoming, October 1974.
7. Ocular Pharmacology - Diagnostic drugs, their use and effects; Continuing Education Program in Pharmacology. Southern California College of Optometry, May 1975.
8. Possible Ocular Side-Effects of Drugs Used in the Treatment of Psychosis. Cerritos Hospital Staff Meeting, Cerritos, California, October 1975.
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10. Problems in Pharmacology: Ocular Pharmacology, University of Wyoming, 1976.

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DEPARTMENT OF THE ARMY
OFFICE OF THE SURGEON GENERAL
WASHINGTON, D.C. 20310

REPLY TO
ATTENTION OF:

DASG-PSC-0

18 OCT 1978

William Van Patten, O.D.
President, Nevada Optometric Association
1200 N. Mountain Street
Carson City, NV 89701

Dear Doctor Van Patten:

This is in response to your letter of October 9, 1978 requesting information concerning the use of diagnostic drugs in the Army.

Military optometrists have historically used various ocular diagnostic drugs in performing physical and tonometric examinations, and for disease detection. The use of these drugs by military optometrists is based on administrative and regulatory requirements.

The current policy concerning Army Optometrists states:

"Army optometrists provide optometric patient services in accordance with accepted medical guidelines. They examine the eyes and adnexa, to include refraction and other procedures, prescribe lenses to correct refractive error and improve vision. They refer patients to physicians for diagnosis and treatment of suspected disease. They use topical anesthetics and cycloplegic drugs to perform tonometry and cycloplegic refractions. When using these drugs immediate medical care is available in the event of adverse reaction."

A search of the Army's computerized data system for CY 1977 has indicated that there were no recorded admissions to Army Treatment Facilities due to adverse reactions to ocular drugs. Data for prior years or the current year are not available.

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DASG-PSC-0
William Van Patten, O.D.

According to the US Army Claims Agency, there is no record of any malpractice claims ever processed pertaining to the improper use of drugs by Army Optometrists.

I trust this information has been helpful to you.

Sincerely,



ARTHUR R. GIROUX, O.D.
Colonel, MSC
Chief, Optometry Section
Medical Service Corps

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By

Albert N. Lemoine, M.D., F.A.C.S.

March 16, 1977

Edwards
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My name is Albert Lemoine, Jr. I have been licensed as a Physician and Surgeon by the State of Kansas since 1947. My specialty is Ophthalmology (the diagnosis and treatment of diseases of the eye and visual system). I was certified as a specialist by the American Board of Ophthalmology in December 1946.

Since July, 1950 I have been Professor and Chairman of the Department of Ophthalmology at the University of Kansas School of Medicine. Between 1950 and 1971 I spent somewhat more than fifty percent of my time in administration and teaching of paramedical personnel, nurses, undergraduate medical students, residents in ophthalmology and continuing education of physicians and ophthalmologists at the University of Kansas Medical Center and other medical schools and Postgraduate Courses in the United States. Since 1967 I have had experiences in the undergraduate and continuing education of optometrists. Since 1971 I have not operated or had a private practice, but have devoted full time to administration (for the most part in ophthalmology), teaching at all levels of

-2-

medical education and serving on local and national advisory committees.

The opinions expressed in the following pages are mine and not those of The University of Kansas, The University of Kansas College of Health Sciences or any other organization of which I am a member. They are based on observations and experiences of thirty years in the practice of Ophthalmology (the diagnosis and treatment of disease of the eye and visual system) and biomedical education. My educational experience has involved the teaching of ophthalmology to paramedical personnel, nurses, undergraduate medical and optometric students, residents in ophthalmology and other medical areas, and the continuing education of physicians, ophthalmologists and optometrists.

Based on the history of the testimony in the hearings concerning the use of drugs by optometrists, there are in general, seven areas that are considered. I will state my opinion and conclusions in these seven areas, then make a brief summary.

I. THE TYPES OF DRUGS USED AND THE PURPOSE OF USE OF DRUGS BY OPTOMETRISTS.

I am in favor of the topical use of drugs for diagnostic purposes by optometrists, in specific, anesthetics, mydriatics and cycloplegics. I am unequivocally opposed to either the topical or systemic use of drugs by optometrists for

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therapeutic purposes. I believe there should not be a "grandfather" clause permitting the optometrist use of drugs for diagnostic purposes. An examination should be required that involves the pharmacological action of drugs and, in particular, the clinical effects and side effects of these drugs. This is carefully stated and identified in Senate Bill 126 lines 0041 to 0044, under consideration by this committee.

II. THE RISK TO THE PATIENT, WHEN AN OPTOMETRIST USES TOPICAL DRUGS FOR DIAGNOSTIC PURPOSES, TO LIFE AND VISION.

In my personal experience, involving over one million outpatient and in-hospital examinations, a majority as the direct supervisor of students or residents in ophthalmology, I have never seen or heard of a death or critical side effect when topical anesthetics, mydriatics or cycloplegics have been used for diagnostic purposes. In addition, I have talked with numerous private practitioners of ophthalmology and colleagues who are directors of ophthalmology training programs, and as yet have been unable to find anyone that has seen or heard of a verified death from the topical use of drugs for diagnostic purposes. I am confident that somewhere there must have been a death or critical side effect, however, considering the millions of patients who have been given topical drugs for

diagnostic purposes the risk is extremely low. Insofar as a threat to vision is concerned it is more difficult to obtain accurate data. The most common complication of the topical use of drugs for diagnostic purposes is the development of an epithelial corneal abrasion following the topical use of an anesthetic agent to measure the intra-ocular pressure, especially when using the Schiøtz tonometer. Although this produces a limited period of blurred vision and pain, I have never seen nor heard of permanent visual damage. This must not be confused with the development of a corneal ulcer following the topical use of an anesthetic agent to remove a foreign body of the cornea. In this latter situation the drug is being used for therapeutic and not diagnostic purposes. Section 1 prohibits the use of drugs or surgery for therapeutic purposes, lines 0036 to 0038. If the drug is used for therapeutic purposes it then becomes a matter for the courts to provide the control and punishment as is true in any other infraction of state statutes. Probably the most serious threat to visual loss is angle closure glaucoma following pupil dilatation. It is unusual for blindness or serious visual loss to result from acute angle closure glaucoma, if the correct diagnosis is made early and therapy is instituted. This diagnosis is not difficult, if one thinks of the possibility and especially if one

limits their practice to ocular problems. Section 1, lines 0038 to 0044 provides a reasonable protective mechanism where the optometrist must pass an examination considering the clinical side effects of the topical use of drugs for diagnostic purposes. The incidence of acute angle closure glaucoma following pupil dilatation is in the range of one person in forty to fifty thousand that have had their pupils dilated by topical or systemic medication. To my knowledge there are no other blinding conditions following the topical use of drugs for diagnostic purposes that occur with any significant frequency. One hears the complaint that there may be vision lost because an ocular condition such as glaucoma, uveitis, retinal separation, tumor, etc. has not been recognized after the topical use of drugs for diagnostic purposes have been used by an optometrist. To me this issue is not germane to the recommended legislative change. *Drugs do not make* The use of drugs for diagnostic purposes does not make a diagnosis, only the health care provider makes the diagnosis. An error in diagnosis and the failure of referral for definitive diagnosis and/or therapy is an entirely different situation. Once the optometrist uses drugs to aid in the diagnosis of ocular pathology, in my opinion he is bound by the same responsibilities as any other health care provider using drugs for the

same purpose. The fact that the health care provider is an optometrist in no way should relieve him of this diagnostic responsibility.

III. BENEFITS OF O.D.'S USING DRUGS FOR DIAGNOSTIC PURPOSES.

In my opinion the benefits that may result in the topical use of drugs by optometrists, for diagnostic purposes, far outweigh any dangers. Despite all new instrumentation there is no way to obtain a satisfactory view of the interior of the eye unless the pupil is dilated. I am unaware of anyone knowledgeable in the diagnosis of diseases behind the iris (the colored part of the eye) that would deny that pupil dilatation is necessary for accurate recognition of abnormalities or pathology. One area of controversy is the measurement of intraocular pressure by noncontact tonometry. In my opinion, the cost of the tonometer, approximately \$4000, is not insignificant. More important is the fact that nearly all ophthalmologists will agree that in almost all patients the contact applanation tonometer is the most accurate and the instrument less costly.

IV. THE USE OF THE WORD DIAGNOSIS.

It is my opinion, that this one word causes more difficulty than all of the other issues concerning the topical use of drugs for diagnostic purposes. The basic problem is the failure of both optometrists

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and ophthalmologists to recognize and accept the fact that they are not using the term diagnosis in the same manner. When one considers the broad spectrum of concepts where the term diagnosis may be correctly used, it is easy to understand this conflict. One can correctly use the term diagnosis for an abnormally functioning automobile engine, an economic crisis, political situation, etc. When a physician or an ophthalmologist uses the term diagnosis, it is in a very restrictive manner to describe a definitive abnormality of an organ or function, usually as the initial step in treatment or the ordering of other diagnostic tests on a particular patient. One of the most obvious examples of the confusion in definition is found in the diagnosis of glaucoma. In the vast majority of patients, the intraocular pressure will be increased (low tension glaucoma being an exception). The fundamental problem is agreement as to just what is an abnormal elevation of intraocular pressure and exactly what other parameters are significant, if the diagnosis of glaucoma is to be made in a particular patient. In my experience the average optometrist will use the term diagnosis in a broader manner, meaning the recognition of an ocular or visual abnormality that is an indication for referral for definite diagnosis and/or therapy. There is an area of

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overlap, such as refractive errors, muscle imbalance, muscle paralysis, etc. where both the optometrist and the ophthalmologist may make the same definitive diagnosis. To me the fact that an optometrist may use a diagnostic term such as glaucoma, iritis, papilledema, etc., without a modification, such as presumed, probable, possible, etc., is not bothersome. I believe the ophthalmologist has a serious obligation to the public to be actively involved with the undergraduate and continuing education of all eye health care providers, including optometrists, in the recognition of ocular or visual system problems requiring referral for definitive diagnosis and therapy, if needless blindness is to be avoided.

V. LEGISLATION PERMITTING OPTOMETRISTS TO USE TOPICAL DRUGS FOR DIAGNOSTIC PURPOSES IS THE FIRST STEP TOWARDS LATER LEGISLATION FOR OPTOMETRISTS TO USE DRUGS FOR THERAPY OR EVEN PERFORM SURGERY.

I fail to see that this objection is germane to the legislation under discussion because Section 1, lines 0036 to 0038 specifically state that drugs for therapy and surgery are not permitted. If at some later date legislation to use drugs for therapy, by optometrists, is considered an evaluation of the public welfare must be made at that time in view of new information and evaluation of optometrists. It

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is true that legislation in West Virginia that permits optometrists to use topical drugs for both diagnosis and therapy has caused reason by non-optometrists to question the ultimate goal of optometry. This legislation, the section of therapy that I cannot accept as being for the public welfare, has caused ophthalmology and organized medicine to become more united in the opposition to any use of drugs by optometrists. I still believe that we must consider only the present legislation that prohibits therapy and not confuse this with some presumed future legislation.

VI. LEGISLATION PERMITTING THE TOPICAL USE OF DRUGS FOR DIAGNOSTIC PURPOSES BY OPTOMETRISTS WILL OPEN THE DOORS TO THE USE OF DRUGS BY NONPHYSICIANS.

It is obvious that this is not a significant statement because already legislation permits dentists and podiatrists to use drugs for both diagnosis and therapy. It is also true that in some states, nurse clinicians and physicians' assistants may prescribe drugs, change drugs and perform minor surgery. In each of the above instances, there has been significant alteration in the educational experiences of the health care provider. In all instances there are definite restrictions as to just what may be done and not

an open license to practice medicine and surgery. Whether the future will bring changes in optometric education presenting the issue of therapy and surgery by optometrists only time will provide the answers. At present there is no justification for the inclusion of therapy or surgery by optometrists, but as stated previously this is not a factor in the legislation under consideration at this time.

VII. THE DISTRIBUTION OF OPTOMETRISTS AND OPTHALMOLOGISTS.

One cannot ignore the fact that there are more than twenty thousand (20,000) optometrists in active practice in the United States today. In Kansas there are two hundred and sixty (260) optometrists in active practice in eighty five of one hundred and five counties. More than seventy percent (70%) practice outside Kansas City, Wichita and Topeka with eighty (80) practicing in fifty (50) communities on or west of 81 highway, excluding Wichita. There are seventy eight (78) ophthalmologists in the State of Kansas with fifty two percent (52%) practicing in Kansas City, Wichita and Topeka. There are eighteen (18) ophthalmologists in ten (10) communities on or west of 81 highway, excluding Wichita. It is obvious from this data that a majority of the citizens of Kansas receive their initial or total eye care from optometrists in the State of

Kansas. As a faculty member at the University of Kansas School of Medicine, I am well aware of the critical shortage of health care providers in rural Kansas and the need to do all we can to obtain a better distribution of health care providers, as well as the best possible care from the present health care providers in rural Kansas.

The proposed legislation under consideration was the result of seven years of discussion by the members of the Kansas MD-OD Committee. The six optometric members of the committee are selected by the Kansas Optometric Association and the six ophthalmologists by the Eye Section of the Kansas Medical Society. In October, 1976 the MD-OD Committee, by a unanimous vote, recommended the proposed bill. At that time four of the ophthalmologists were in private practice in rural Kansas, one from Kansas City, Kansas and one faculty member from the University of Kansas School of Medicine. The Eye Section of the Kansas Medical Society, by a 27 to 14 vote, (78 ophthalmologists in the state) did not accept the proposed bill while a majority of the members of the Kansas Optometric Association did accept the proposed bill.

A significant factor that has evolved from the legislation under consideration is the role of the Department of Continuing Education at the University of Kansas College of Health Sciences in the continuing

education of optometrists and primary care physicians in a course designed to recognize ocular problems where referral to an ophthalmologist is indicated. In the Fall of 1977 the first two day program will be given at the University of Kansas College of Health Sciences. The plan is that this course will be presented yearly.

Another important related factor has been the request by the Kansas Board of Optometric Examiners for ophthalmologists to provide questions to be used in the State Examination in the Spring of 1977. To me, these two factors, as well as the proposed legislation, point to a core group of both ophthalmologists and optometrists that are attempting to improve the eye health care in Kansas, especially in the rural area.

Following is a summary of the issues of the legislation under consideration in Senate Bill 126, as I perceive them:

- I. The topical use of drugs, anesthetics, mydriatics and cycloplegics for diagnostic purposes by optometrists will be beneficial to the public welfare with minimal risk.
- II. Section 1, lines 0038 to 0044, provide reasonable protection that by an examination optometrists will recognize side

effects of drugs that require referral for definitive diagnosis and therapy.

III. Section 2, that clearly defines the delegation of data gathering by non-professionals, but decision making only by professionals will be of benefit to the public by making the professional more efficient in the use of his time.

IV. A related, but significant factor, will be the role of the ophthalmologist in the continuing education of the optometrist in the recognition of ocular abnormalities needing referral for definitive diagnosis and/or therapy by the Continuing Education Department of the University of Kansas College of Health Sciences.

In my opinion, the time has passed when we can retain the status quo and it behooves all of those involved (health care providers and members of the legislature) to carefully examine the facts and provide the best possible legislation for the public welfare at this time.

Respectfully submitted,

Albert N. Lemoine, M.D., F.A.C.S.

Columbia University
School of Public Health

THE FACULTY OF MEDICINE
DIVISION OF HEALTH ADMINISTRATION

600 WEST 168th STREET
New York, N.Y. 10032

March 9, 1979

Honorable Senator William A. Hermstadt
Senator from Nevada
Legislative Council Building
Carson City, Nevada

Dear Senator Hermstadt:

I write this letter in my capacity as a Board Certified internist, as former Health Commissioner of the City of New York and as Professor of Public Health at the Columbia University School of Public Health.

I write to endorse most vigorously the legislation to expand the professional scope of optometry in order to encompass the use of diagnostic pharmaceutical agents for visual examinations.

The fact that other limited licensed health professionals such as dentists and podiatrists are permitted to use pharmaceutical agents, but optometrists are still forbidden to do so in Nevada represents an anachronistic constraint that unjustifiably limits vision care services. The certified formal educational program in pharmacology provides excellent preparation for optometrists to carry out these new responsibilities.

I regret to point out that the covert but no less real motivation why some MD physicians have rejected such legislation is economic rather than concern for visual care of the citizenry, particularly in rural areas where few to no MD ophthalmologists are geographically available. For an optometrist to be hindered, for example, from applying drops to dilate a patient's pupils in order to widen the field of observation of the retina, is contrary to the public health interests of the citizens of Nevada.

I find it extraordinary that there is still discussion about the relative merits of such legislation. For ophthalmologists to claim that optometrists, adequately trained in pharmacology, should not be allowed to use diagnostic eye drops because such drops may endanger the patient is incomparable presumption. May I call to the attention of public officials in Nevada that it is common practice for MD ophthalmologists to give eye drops to a mother with instructions to apply these drops to the child's eyes an hour before the oncoming appointment. Evidently the mother - possessing no pharmacology training and no education in physiology and optics - is no danger, but the optometrist is.

EXHIBIT "E"

1000

Senator William A. Hermstadt
March 9, 1979

Page Two

I urge the State legislature of Nevada to pass this legislation and join the other states that already have done so.

Sincerely,

Lowell E. Bellin, M.D., M.P.H.
Professor of Public Health

LEB:emg

bcc: William G. Van Patten, OD
Box 1687
Carson City, Nevada

EXHIBIT E

1001

This informative pamphlet has been prepared by the Las Vegas Ophthalmological Society, a professional society of eye physicians and surgeons, to assist Nevada Legislators when they consider A.B. 580.

EXHIBIT "F"

When carefully examined, A.B. 580 contains ammendments to N.R.S. 636 which make this one of the most dangerous bills to surface in this or any session of the Nevada Legislature -- a bill which threatens not only the eyes but the actual health and safety of every citizen of Nevada.

ASSEMBLY BILL NO. 580—COMMITTEE ON COMMERCE

MARCH 21, 1979

Referred to Committee on Commerce

SUMMARY—Authorizes certification of optometrists to use in their practice certain drugs without prescription. (BDR 40-1113)

FISCAL NOTE: Effect on Local Government: No.
Effect on the State or on Industrial Insurance: No.

IMPORTANT POINT:
OPTOMETRISTS ARE NOT
M.D.'s -- MOST PEOPLE
DON'T KNOW THIS.

EXPLANATION—Matter in *italics* is new; matter in brackets [] is material to be omitted.

AN ACT relating to optometry; authorizing the certification of optometrists to use in their practice certain drugs without prescription; and providing other matters properly relating thereto.

The People of the State of Nevada, represented in Senate and Assembly, do enact as follows:

SECTION 1. Chapter 636 of NRS is hereby amended by adding thereto a new section which shall read as follows:

Any licensee who has obtained sufficient education and professional competence as a result of having satisfactorily completed a course in general and ocular pharmacology approved by the board may be certified by the board to use diagnostic pharmaceutical agents in the practice of optometry.

OPTOMETRIC EDUCATION
DOES NOT GUARANTEE
SAFE DRUG USE.

See Page 4.

SEC. 2. NRS 636.015 is hereby amended to read as follows:

636.015 - Unless otherwise indicated by the context, words and phrases, or variants thereof, employed in this chapter [shall] must be construed and given meanings, for the purpose of this chapter, in accordance with the following definitions:

1. "Advertise" means the use of a newspaper, magazine or other publication, book, notice, circular, pamphlet, letter, handbill, poster, bill, sign, placard, card, tag, label, window display, store sign, radio announcement, or any other means or method now or hereafter employed to bring to attention of the public the practice of optometry or the prescribing, fitting or dispensing, in connection therewith, of lenses, frames, eyeglasses or other accessories or appurtenances.
2. "Applicant" means a person who has applied for examination or for a license by reciprocity.
3. "Association" means the Nevada State Optometric Association.
4. "Board" means the Nevada state board of optometry.

5. "Complaint" means a complaint against a licensee for the revocation or suspension of his license.

6. "Diagnostic pharmaceutical agents" means anesthetics, cycloplegics, miotics and mydriatics.

7. "Examination" means examination of an applicant or applicants for a license.

[7.] 8. "Examinee" means a person being or who has been examined by the board.

[8.] 9. "Eye" means the human eye.

[9.] 10. "Fee" means a fee payable by an applicant or licensee to the secretary.

[10.] 11. "Governor" means the governor of the State of Nevada.

[11.] 12. "License" means a license to practice optometry in the State of Nevada.

[12.] 13. "Licensee" means a person licensed to practice optometry in the State of Nevada.

[13.] 14. "Meeting" means a meeting of the board.

[14.] 15. "Member" means a member of the board.

[15.] 16. "Membership" means membership in the board.

[16.] 17. "Ophthalmic lens" means a lense which has cylindrical, prismatic or spherical power or value.

[17.] 18. "Practice of optometry" means the doing of any or all the things mentioned in NRS 636.025.

[18.] 19. "President" means the president of the board.

[19.] 20. "Register" means the register of the licensees.

[20.] 21. "Registration" means registration as a licensee.

[21.] 22. "Secretary" means the secretary of the board.

[22.] 23. "State" means the State of Nevada.

[23.] 24. "Trial frame" or "test lens" means a frame or lens used in testing the eye, which is not sold and not for sale to patients.

[24.] 25. "Unethical or unprofessional conduct" means the doing of any or all of the things mentioned in NRS 636.300.

SEC. 3. NRS 636.025 is hereby amended to read as follows:
636.025 The acts hereinafter enumerated in this section, or any of them, whether done severally, collectively or in combination with other acts not hereinafter enumerated, [shall be deemed to] constitute practice in optometry within the purview of this chapter.

1. Advertisement or representation as an optometrist.
2. Adapting, or prescribing or dispensing, without prescription by a licensed Nevada practitioner of optometry or medicine, any ophthalmic lens, frame or mounting, or any part thereof, for correction, relief or remedy of any abnormal condition or insufficiency of the eye or any appendage or visual process thereof. The provisions of this subsection shall not be construed to prevent an optical mechanic from doing the mere mechanical work of replacement or duplication of [such] the ophthalmic lens, nor shall the provisions hereof prevent a licensed dispensing optician from engaging in the practice of ophthalmic dispensing.
3. Examination of the human eyes and appendages thereof; measurement of the powers or range of human vision; determination of the

THESE ARE DANGEROUS
DRUGS WITH POSSIBLY
FATAL SIDE EFFECTS.

See Page 2.

1 accommodative and refractive states of the eye or the scope of its func-
2 tion in general; or diagnosis or determination of any visual, muscular,
3 neurological, interpretative or anatomic anomalies or deficiencies of
4 eyes, or appendages or visual processes thereof.

5 4. Prescribing or directing the use of, or using any optical device in
6 connection with ocular exercises, orthoptics or visual training.

7 5. The prescribing of contact lenses.

8 6. The measurement, fitting or adaption of contact lenses to the
9 human eye except under the direction and supervision of a physician,
10 surgeon or optometrist licensed in the State of Nevada.

11 7. *The topical use of diagnostic pharmaceutical agents to determine*
12 *any visual, muscular, neurological, interpretative or anatomic anomalies*
13 *or deficiencies of eyes, appendages or visual processes.*

AN OPTOMETRIST'S
EDUCATION DOES NOT
PREPARE HIM TO
"DIAGNOSE."

See Page 7.

14 SEC. 4. Chapter 454 of NRS is hereby amended by adding thereto
15 a new section which shall read as follows:

16 *Nothing contained in this chapter prohibits an optometrist certified*
17 *under section 1 of this act from purchasing drugs which he is authorized*
18 *to use under chapter 636 of NRS.*

19 SEC. 5. NRS 454.316 is hereby amended to read as follows:

20 454.316 1. Except as otherwise provided in this section, every
21 person who possesses any drug defined in NRS 454.201, except that
22 furnished to such person by a pharmacist pursuant to a legal prescription
23 or a physician, dentist, podiatrist or veterinarian, is guilty of a gross
24 misdemeanor. If such person has been twice previously convicted of
25 any offense:

26 (a) Described in this section; or

27 (b) Under any other law of the United States or this or any other
28 state or district which if committed in this state would have been punish-
29 able as an offense under this section,

30 he shall be punished by imprisonment in the state prison for not less
31 than 1 year nor more than 10 years.

32 2. No prescription is required for possession of [such] those drugs
33 by pharmacists, physicians, dentists, podiatrists, veterinarians, jobbers,
34 wholesalers, manufacturers or laboratories authorized by laws of this
35 state to handle, possess and deal in [such] those drugs when [such
36 drugs] they are in stock containers properly labeled and have been
37 procured from a manufacturer, wholesaler or pharmacy, or by a rancher
38 who possesses such dangerous drugs in a reasonable amount for use
39 solely in the treatment of livestock on his own premises.

40 3. *No prescription is required for an optometrist certified under*
41 *section 1 of this act to possess drugs which he is authorized to use*
42 *under chapter 636 of NRS.*

43 SEC. 6. This act shall become effective upon passage and approval.

Contrary to what optometrists would like you to believe, A.B. 580 isn't concerned with simple "eye drops." The "diagnostic pharmaceutical agents" referred to in A.B. 580 are prescription drugs -- drugs with the power to cause illness, injury, and sometimes death, even though they're only administered to the eyes.

EXHIBIT F

1007

ANESTHETICS - Drugs to ease eye discomfort during applied force testing for glaucoma. Side effects include cardiac and respiratory failure, convulsions, and corneal epithelial lesions. Reactions can be triggered by allergies, cardiac disease, and hypertension. Reversing reactions to certain ocular anesthetics requires immediate injection of barbituates -- but optometrists are not allowed to keep barbituates or give injections.

MYDRIATICS - Drugs which dilate the pupil to allow examination of the interior eye using an ophthalmoscope. Side effects include precipitation of acute glaucoma, hypertension (a common cause of stroke and heart failure), headaches, rapid heart-beat, blurred vision, and reactivation of herpes simplex. The Herpes condition results in blindness within ten years in nine out of ten patients.

MIOTICS - Drugs which are used to constrict the pupil after mydriatic dilation, in order to speed the recovery of normal eye use. Side effects include vomiting, diarrhea, muscle weakness, respiratory difficulties, cardiac irregularities, pulmonary edema, and bronchiolar spasm. The latter two side effects can be fatal. Administration of one miotic, phosopholine iodide, within six weeks prior to general anesthesia can cause respiratory or cardiovascular collapse during anesthesia.

CYCLOPLEGICS - Drugs which cause paralysis of eye muscles and loss of ability to focus on objects within a 20 foot range. These drugs are used to aid in refraction, particularly with young patients. Side effects include rapid heartbeat, fever, irritability, delirium, and acute psychotic reaction in children.

THESE ARE HIGHLY TOXIC SUBSTANCES WHICH CAN INDUCE HARMFUL, EVEN FATAL, REACTIONS. THEY SHOULD CONTINUE TO BE USED ONLY UNDER MEDICAL - NOT OPTOMETRIC - SUPERVISION.

Optometrists are called "doctors," but they are not medical doctors or eye physicians. Their use of the title "Doctor" is like that of a minister (Doctor of Divinity) or a teacher (Doctor of Philosophy). Optometry is a measuring science, not a healing science. An optometrist hasn't completed the years of training that a physician has; he isn't allowed to "heal" a patient's disorders in the way that a physician is -- by prescribing drugs and performing surgery. And optometrists in Nevada have never before been specifically empowered to administer drugs.

AN OPTOMETRIST'S EDUCATION DOESN'T PREPARE HIM TO USE PRESCRIPTION DRUGS SAFELY

Optometric education generally includes two years of college and four years of training in a college of optometry. While recent graduates of optometric colleges may have had limited classroom exposure to pharmacology and pathology, most have received no hospital or medical clinical training, and thus have no experience in recognizing the onset of adverse reactions to the drugs they would be allowed to administer under AB 580.

Further, pharmacology and pathology have only recently been included in the course work required to obtain an optometric degree. The median age of optometrists in the United States is 49.4 years -- this means that 75% of all optometrists have received little or no exposure to pharmacology or pathology.

Proponents of AB 580 maintain that completion of "a course in general and ocular pharmacology" prior to certification to use pharmaceutical agents will adequately prepare optometrists to safely handle these toxic substances. No specific course length is actually even specified in the proposed bill, but 180 hours is frequently suggested as sufficient. 180 hours equals only about one month of training -- hardly an adequate substitute for the four to six years of post-graduate training required of physicians currently allowed to use prescription drugs in Nevada.

"The majority of the medical profession is unalterably opposed to the use of drugs by optometrists. The medical profession argues that the drugs involved have dangerous risks when used by someone without medical training and that an optometrist's training in pharmacology is not nearly enough to handle the use and side effects of the drugs." ¹

¹ "Optometric Drug Laws," Loyola Law Review, Vol. 24 / 1978, Loyola University Press, c. 1978, p. 224.

EYE CARE PRACTITIONERS

A COMPARISON OF EDUCATION AND PROFESSIONAL TRAINING

EYE CARE PHYSICIAN (OPHTHALMOLOGIST)		OPTOMETRIST (NON-PHYSICIAN)	
Undergraduate College	4 years	Undergraduate College	2 years
Medical School	4 years	Optometric School	4 years
Medical/Surgical Hospital Internship	1-2 years	Medical/Surgical Hospital Internship	NONE
Eye Clinic/Hospital Residency	3-4 years	Eye Clinic/Hospital Residency	NONE
TOTAL	<u>12-14 years</u>	TOTAL	<u>6 years</u>

In addition to the different lengths of time spent preparing for eye-care practice, there is also a great difference between the types of training received; ophthalmologists receive many hours of clinical instruction -- optometrists receive classroom education only. Further, ophthalmologists are trained in pharmacology by M.D.'s -- most optometrists are not, as shown by the chart on the following page.

WHO TEACHES OPTOMETRISTS MEDICINE?

CURRENT SCHOOL CATALOG STUDY COMPARES FACULTIES AT SEVERAL TYPICAL MEDICAL AND DENTAL SCHOOLS WITH FACULTIES AT ALL OPTOMETRY SCHOOLS IN THE U.S.

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EXHIBIT

MEDICAL COLLEGES	Total # of Students	Total # of Faculty	Faculty Student Ratio	Total # of M.D. Professors (Full or Part Time)	Full Time Clinical* Teaching M.D. Specialists	OPHTHALMOLOGISTS (M.D. Eye Specialists)			PHARMACOLOGY DEPARTMENT		O.D.s	O.D./Ph.D.	Other Ph.D., M.S. or B.S.	COMMENTS
						Full Time	Part Time	M.D. Residents	M.D.s - M.D./Ph.D.	Ph.D., M.S. or B.S.				
Medical University of South Carolina College of Medicine	660	1,281	1.9	651	201	3	23	9**	6	25	0	0	630	* CLINICAL — Refers to working with patients in hospitals or out-patient clinics ** Ophthalmology Residents spend 3 months during their 3-year residency in an intense basic science course taught by nationally prominent Ophthalmologists at Colby College, Waterville, Maine
Duke University College of Medicine	489	1,102	2.3	632	483	8	10	16	2	7	0	0	470	
Medical College of Georgia	720	944	1.3	495	246	3	10	8**	2	10	0	0	449	
DENTAL COLLEGES														
Medical University of South Carolina College of Dentistry	160	312	2.0	74	0	0	0	0	6	25	0	0	123	84 D.D.S. teaching mostly Clinical 9 are D.D.S., Ph.D.
Medical College of Virginia College of Dentistry	439	353	.80	33	0	0	0	0	8	20	0	0	127	126 D.D.S. teaching mostly Clinical 20 are D.D.S., Ph.D.
COLLEGES OF OPTOMETRY														
Southern College of Optometry	604	49	.08	2 PART TIME	0	0	0	0	0	0	37	2	7	The 2 part time M.D.s are classroom lecturers in Pathology.
Illinois College of Optometry	600	56	.09	1 PART TIME	0	0	0	0	0	1	47	1	6	The only M.D. is a part time Lecturer in Pathology.
Pennsylvania College of Optometry	552	89	.16	5 PART TIME	0	0	2	0	0	1	55	4	17	
Southern California College of Optometry	384	83	.22	5 PART TIME	0	0	2	0	0	2	65	5	8	
Pacific University College of Optometry	340	23	.07	1 PART TIME	0	0	0	0	0	0	12	1	8	The only M.D. is a Professor of Physics and Optics, part time.
New England College of Optometry	332	66	.20	4 PART TIME	0	0	2	0	0	1	52	5	4	
University of Houston College of Optometry	284	64	.23	2 PART TIME	0	0	0	0	0	0	47	4	7	The 2 part time M.D.s are Classroom Lecturers in Pathology.
Indiana University College of Optometry	276	38	.14	0	0	0	0	0	0	0	21	4	11	No M.D.s on Staff.
Ohio State College of Optometry	228	63	.28	1 PART TIME	0	0	1	0	0	0	46	4	12	The only M.D. is part time. He lives 100 miles away in Cincinnati.
University of Alabama College of Optometry	160	48	.30	3 PART TIME	0	0	0	0	1	0	22	9	12	All M.D.s are part time classroom lecturers. One M.D./Ph.D. lectures in Pharmacology.
State University of New York College of Optometry	160	122	.76	9 PART TIME	0	0	6	0	0	0	87	3	22	
University of California Berkeley College of Optometry	256	77	.30	9 PART TIME	0	0	6	0	0	0	43	11	12	One part time M.D. teaches in Public Health, one in Engineering and one in Physiological Optics
Ferris State College of Optometry	100	31	.31	0	0	0	0	0	0	3	1	0	29	All but 2 of these 29 also teach in the Biology and Chemistry departments of the Undergraduate College.

CAN MEDICAL EYE CARE BE ENTRUSTED TO OPTOMETRISTS WHEN THIS STUDY PROVES THAT THERE ARE NO FULL-TIME M.D. INSTRUCTORS IN ANY OPTOMETRY SCHOOL ANYWHERE?

Study Compiled for PEN Inc. by the EDUCATIONAL CATALOG STUDY COMMITTEE OF THE SOUTH CAROLINA OPHTHALMOLOGICAL SOCIETY DECEMBER, 1977

Optometrists say they need drugs in order to make a "better diagnosis" before referral. The purpose of referral is to obtain a diagnosis, and drugs are not needed to detect the usual reasons for referral (poor uncorrectable vision, inflamed or painful eye, high eye pressure). Diagnosis is a medical function which involves recognizing a disease state and hopefully pinpointing its cause. This is a function optometrists have not been trained - and are not required - to perform. It makes little sense, then, to allow optometrists to use drugs to "open" the eye to look for what they are not trained to recognize -- especially in light of the risks of these drugs when administered by untrained persons.

A similar conclusion was reached by Ohio Governor James Rhodes, as expressed in his veto message of optometric drug use legislation in Ohio, which follows.

STATE OF OHIO
Executive Department

OFFICE OF THE GOVERNOR

Columbus

VETO MESSAGE

AMENDED SUBSTITUTE SENATE BILL NO. 163

Pursuant to Article II, Section 16, of the Constitution of Ohio, I return herewith to the Clerk of the Senate, for presentation to the Senate, Amended Substitute Senate Bill No. 163, which I disapprove and have not signed.

Amended Substitute Senate Bill No. 163 would expand the definition of the practice of optometry to allow the use by optometrists of specific diagnostic drugs to the eye in the form of eyedrops, if the specified drugs are used solely for the purpose of detecting disease and are of a specific level of potency.

The matter of health care is of a vital concern and we must insure to all Ohio citizens that they will receive the highest quality health care possible. Health care is an area in which we can take no risks because any mistakes could bring tragic and irreversible results. We must be committed to our citizens to provide practitioners that are highly skilled individuals and who will at the same time provide the best health care at the lowest cost.

Optometrists have been doing an excellent job in working with the medical profession to bring quality eye care to Ohio's citizens. The tools that optometrists are presently using are not dangerous and are effective in screening for eye disease. However, Amended Substitute Senate Bill No. 163 would allow optometrists to use drugs in order to make a full diagnosis of the medical condition of the eye. If the individuals involved were properly trained, this procedure would be in the best interest of Ohio's citizens. However, without proper training, the bill would allow unwarranted risk without corresponding benefits. The drugs involved are dangerous and have the potential of causing a great deal of pain including blindness. The adverse reactions associated with these drugs are not common, but they do occur and emergency treatment must be administered in those instances. While this bill does provide for mandatory training of 180 clock hours, this amounts to little more than a month of isolated training in a clinical use of the drugs involved.

-over-

1014

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EXHIBIT F

Optometric drug use legislation similar to A.B. 580 was proposed in 17 states during 1978. In 13 of these states optometric drug use bills were defeated by floor vote; in 2 other states, such bills were vetoed by the Governors.

In Nevada the State Medical Association, the Clark County Medical Society, the Las Vegas Society of Eye Physicians and Surgeons, and the National Federation of the Blind of Nevada all concur that the health and safety of the public would be endangered if the optometric practices act were changed to allow optometrists to administer drugs. Their statements follow.

NEVADA STATE MEDICAL ASSOCIATION

NEIL SWISSMAN, M.D., President
RICHARD C. INSKIP, M.D., President-elect
GORDON L. NITZ, M.D., Secretary-Treasurer
ROBERT L. BROWN, M.D., Immed. Past President
LESLIE A. MOREN, M.D., AMA Delegate
LEONARD H. RAIZIN, M.D., AMA Alternate Delegate
RICHARD G. PUGH, CAE, Executive Director

3660 Baker Lane • Reno, Nevada 89509 • (702) 825-6788

February 7, 1979

To: Nevada State Legislators

From: Neil Swissman, M.D., President

Subj: Proposed Changes in Optometric Law

The Nevada State Medical Association supports the position on diagnostic drugs as outlined in a position statement issued by the Nevada Ophthalmological Society. We oppose the use of legend drugs for the diagnosis and treatment of medical conditions by untrained personnel as not being in the best interests of the citizens of our state.

Nevada is fortunate to have many excellent optometrists and ophthalmologists working together to provide the finest quality eye care for our residents and visitors. Both professions work within the framework of their respective practices act, and at the present time, only ophthalmologists-by virtue of their extensive medical education and training are authorized to use drugs in diagnosis, therapy and treatment of drug-related complications.

We believe there would be significant danger to the public if the optometric practices act were modified to allow optometrists to expand the scope of their practice when it is apparent that schools of optometry are not, and have not been, providing adequate training for such expanded usage of drugs.

Our Association urges you to reject any petition by the optometric profession to expand the optometric practices act as outlined above and to oppose such legislation should it be introduced. Please call on me if I can be of assistance or provide additional information.

NS:d

AN URGENT MESSAGE TO THE PUBLIC

THE NEVADA LEGISLATURE WILL SOON BE CONSIDERING A NEW LAW PERMITTING OPTOMETRISTS TO USE EYE DRUGS ON THEIR PATIENTS-A PRACTICE THEY WERE FORBIDDEN IN THE PAST.

WE ARE CERTAIN THIS WILL BECOME A DANGEROUS PRACTICE BECAUSE:

1. OPTOMETRISTS ARE NOT PHYSICIANS (MEDICAL DOCTORS) AND LACK THE PROPER EDUCATION OR TRAINING TO UNDERSTAND THE APPROPRIATE USE OF DRUGS. SUCH A LAW CANNOT CHANGE THESE FACTS.
2. EYE MEDICATIONS OCCASIONALLY OR UNEXPECTEDLY CAN HARM THE EYE AND OTHER ORGANS OF THE BODY SUCH AS THE HEART, LUNGS, KIDNEYS, BRAIN, ETC. BLINDNESS AND EVEN DEATH CAN RESULT.
3. ONLY MEDICAL DOCTORS ARE TRAINED TO RECOGNIZE ADVERSE REACTIONS TO DRUGS AND ARE PREPARED TO MEET SUCH EMERGENCIES WHEN THEY ARISE.

WE FEEL THIS NEW LAW WOULD ENDANGER THE PUBLIC HEALTH AND WELFARE. WE ASK YOU TO HELP US WARN THE LAWMAKERS IN CARSON CITY AGAINST IT. THIS NEW PLANNED LAW SHOULD NOT PASS!

WE URGE YOU TO TELL YOUR REPRESENTATIVE IN CARSON CITY THAT YOU AGREE WITH US IN THIS VITAL MATTER. WRITE THEM c/o LEGISLATIVE BLDG., CARSON CITY OR BY PHONING FREE 1-800-992-0970 or 1-800-992-0973.

LAS VEGAS SOCIETY OF EYE PHYSICIANS AND SURGEONS
NEVADA STATE MEDICAL ASSOCIATION
CLARK COUNTY MEDICAL SOCIETY
CENTRAL LABOR COUNCIL OF SOUTHERN NEVADA
NATIONAL FEDERATION OF THE BLIND OF NEVADA



Southern Nevada Central Labor Council

Affiliated with the AFL-CIO and the Nevada State AFL-CIO
4321 EAST BONANZA ROAD LAS VEGAS, NEVADA
702-452-8899 - 452-8799

COMMITTEE ON POLITICAL EDUCATION

March 13, 1979

MEMORANDUM

- American Federation of Teachers 1317
- American Guild of Variety Artists
- Asbestos Workers 135
- Barbers 794
- Bricklayers 3
- Boilermakers 92
- Carpenters 1780
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- Culinary Workers 226
- Floor Coverers and Glaziers 2001
- I.A.T.S.E. 720
- International Association of Firefighters 1285
- International Association of Machinists 845
- International Brotherhood of Electrical Workers 357
- International Brotherhood of Electrical Workers 396
- Elevator Constructors 18
- Laborers and Hodcarriers 872
- Lathers 487
- Meatcutters and Butchers 457
- Millwrights 1827
- Musicians 369
- Operating Engineers 12
- Stationary Engineers 501
- Iron Workers 416
- Iron Workers 433
- Office Workers 445
- Painters 159
- Plumbers and Pipefitters 525
- Printing Pressmen 284
- Retail Clerks 1526
- Roofers 162
- Sheetmetal Workers 88
- Theatrical Employees
- Typographical 933

The Southern Nevada Central Labor Council opposes the Act to Amend NRS 454.316, recently introduced to the 1979 Legislature.

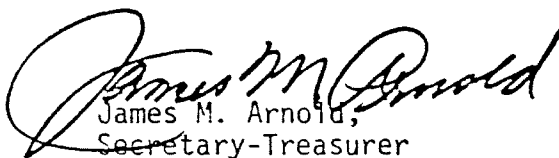
Our opposition is based on universally recognized principles:

that optometry is not a medical profession and optometrists must not be engaged in medical practice,

that optometry being a para-medical profession should be exclusively concerned with determining the refraction of the eye by methods that can be applied without the use of drugs;

that optometry must be kept confined to a limited area of the measurement for and fitting of eyeglasses and excluded from treating diseases of the eye or the practice of medicine and surgery.

This bill, by extending the practice of optometry to cycloplegics, mydiatics, miotics and ophthalmic anesthetics, obviously exceeds the limit of determining refraction and invades the area of pathology of the eye for which the optometrist lacks training and qualification and from which they should remain excluded.


James M. Arnold,
Secretary-Treasurer

JMA:blg

EXHIBIT F

1018

BE PROUD -- BE UNION -- BUY AMERICAN

Page 12

National Federation of the Blind of Nevada

1001 North Bruce • Telephone 642-6000
Las Vegas, Nevada 89101

February 15, 1979

As the president of the National Federation of the Blind of Nevada, I wish to go on record as being unequivocally opposed to the Assembly measure which will permit optometrists to administer eye drugs as a part of their practice.

We firmly believe such an intrusion by the optometrists into the medical profession may divert the optometrist from the full application of his highly developed skills and lead him into areas in which he is not qualified.

Even more, the administering of eye drops by an optometrist may lead some of his patients to the disastrous conclusion that they are receiving eye treatment regardless of any statement made by the optometrist.

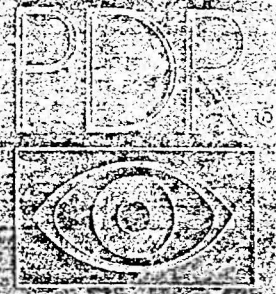
Audrey Gant

President,

National Federation of the Blind of Nevada

The distinction between medical eye care and optometric eye care is one which has long worked in the best interests of the people of Nevada. The public needs complete protection where the use of dangerous drugs is involved, and to allow optometrists to assume duties and responsibilities for which they have not been trained threatens the health and welfare of Nevada residents. The laws governing the scope of optometric practice in the State of Nevada should not be changed.

Hearman &



Physicians
Desk
Reference
For Ophthalmology

1978/9

EXHIBIT "G"

1481

I. Mydriatics and Cycloplegics

The topically applied autonomic drugs which produce mydriasis (pupillary dilatation) and cycloplegia (paralysis of accommodation) are among the most useful pharmacologic agents in ophthalmic practice. The common mydriatics comprise two groups of drugs: (A) Sympathomimetics; and (B) Parasympatholytics.

Sympathomimetic agents imitate (direct acting) or potentiate (indirect acting) the action of adrenaline, and their effect is upon the dilator muscle of the iris. They do not, with the exception of cocaine, cause cycloplegia. Table 1 lists their names and duration of action.

Parasympatholytic drugs produce pupil dilatation and paralysis of accommodation by rendering the pupillary sphincter and ciliary muscles insensitive to acetylcholine. Table 2 lists their names and duration of action.

It is important to remember that the effect of the autonomic drugs listed below depends upon many factors such as the age of the patient, the color of his iris and his race. For example, the mydriatics and cycloplegics tend to be less effective at the same dose levels in dark-eyed individuals as compared to blue-eyed ones. ⁽²⁾

1. Davidson, S. I., Drug Interactions in Ophthalmology. *Trans. Ophth. Soc. U.K.* 95:277, 1975.
2. Lieberman, T. W. Individual responsiveness to Drugs and Pharmacogenetics in Ophthalmology. In *Symposium on Ocular Therapy*: Vol 5, edited by I. Leopold St. Louis: Mosby 1972, pp. 100-103.
3. McKusick, V.: Symposium on inborn errors of metabolism: mechanism in genetic diseases of man. *Amer. J. Med.* 22:676, 1957.

Table 1—Sympathomimetic Drugs

U.S.P. or N.F. Name	Per Cent	Maximum Mydriasis	Duration of Mydriasis
Phenylephrine ^a †	10	≈ 20 minutes	≈ 3 hours
Adrenaline ^{a*}	1/1000	.	
Hydroxyamphetamine ^b	1	≈ 40 minutes	
Cocaine ^b	2-4	≈ 20 minutes	≈ 2 hours
Ephedrine ^b	5	≈ 30 minutes	≈ 3 hours

^a Direct acting sympathomimetic; ^b Indirect acting sympathomimetic; * Poor mydriatic, but will dilate pupil of patient with Horner's Syndrome † Use with caution in patients taking monoamine oxidase inhibitors.¹

Table 2—Parasympatholytic Drugs

U.S.P. or N.F. Name	Per Cent	Max. Mydriasis Max. Cycloplegia	Duration Mydriasis Duration Cycloplegia
Atropine [*]	0.25-4	≈ 30-40 minutes ≈ several hours	≈ 12 days ≈ 2 weeks
Homatropine	1-5	≈ 10-30 minutes ≈ 30-90 minutes	≈ 6 hours—4 days ≈ 10-48 hours
Scopolamine	0.25-0.5	≈ 15-30 minutes ≈ 30-45 minutes	≈ several days ≈ 5-7 days
Cyclopentolate	0.5-2	≈ 15-30 minutes ≈ 15-45 minutes	≈ 24 hours ≈ 24 hours
Tropicamide	1-2	≈ 20-30 minutes ≈ 20-25 minutes	≈ 4 hours ≈ 6 hours
Oxyphenonium ^{**}	1&5	Comparable to atropine	≈ 4 days ≈ 12 days
Eucatropine	5&10	≈ 30 minutes poor cycloplegia	≈ 4 hours

^{*}Possible exaggerated pupil response or systemic reaction in Down's Syndrome ⁽³⁾

^{**}A useful substitute for atropine in sensitive individuals. (Figures for duration are approximate and refer to maximal duration of effect.)

U.S.P.

Pilocar

Carbac

Methac

(see s

Bethan

†Also a

Pilo-20

U.S.P.

Physosti

Neostig

Diisopre

Echothi

Demeca

^a Revers^b Irrevers^c Unusual

EXHIBIT 9

1022

II. Miotics

Topically applied miotics are used in the treatment of glaucoma and in the management of accommodative esotropia. These parasympathomimetic drugs are either cholinergic (i.e., simulate the effect of acetylcholine at autonomic synapses or the neuroeffector junctions of the parasympathetic system), or anticholinesterases (prevent the hydrolysis of acetylcholine by the enzyme cholinesterase). The tables list the various topically-applied

miotics. In addition, acetylcholine is available for intracameral injection (Miochol).

Reference:

1. Apt. L. Toxicity of strong miotics in children. *In Symposium on ocular therapy*. Vol. 5, ed. by I. Leopold. St. Louis: Mosby, 1972, p. 33.

**Table 3
Cholinergic Drugs**

U.S.P. or N.F. Name	Concentration	Duration of Miotic Action
Pilocarpine	0.25—10%†	4-8 hours
Carbachol	0.75—3%	2 hours
Methacholine (see section on diagnostic drugs)		
Bethanechol	1.0%	

Also available as continuous release product (pilo-20; pilo-40, Alza). Pilo-20 seems equivalent to 0.5-1.0% pilocarpine; Pilo-40 to 2-4% pilocarpine drops.

**Table 4
Anticholinesterases**

U.S.P. or N.F. Name	Concentration	Duration of Miotic Action
Physostigmine (Eserine) ^a	0.25—1.0%	12-36 hours
Neostigmine ^a	3.0—5.0%	
Disopropyl fluorophosphate ^b	0.01—0.1%	days to weeks
Dithiophate iodide ^{b,c}	0.03—0.25%	days to weeks
Demecarium bromide ^b	0.125—0.25%	days to weeks

^aReversible anticholinesterases.

^bReversible anticholinesterases. Pralidoxime Chloride and Atropine may counteract the effects of these agents.

^cUsual hyperreactivity in Down's Syndrome (1).

at the effect of the
depends upon many
ent, the color of his
the mydriatics and
ve at the same dose
compared to blue-

in Ophthalmology.
1975.

responsiveness to
Ophthalmology. *In*
: Vol 5, edited by
972, pp. 100-103.

in inborn errors of
genetic diseases of
57.

Duration of Mydriasis

≅ 3 hours

≅ 2 hours

≅ 3 hours

of patient with Horner's

Duration Mydriasis
Duration Cycloplegia

≅ 12 days

≅ 2 weeks

≅ 6 hours—4 days

≅ 10-48 hours

≅ several days

≅ 5-7 days

≅ 24 hours

≅ 24 hours

≅ 4 hours

≅ 6 hours

≅ 4 days

≅ 12 days

≅ 4 hours

imal duration of effect.)



Southern California College of Optometry

2001 Associated Road · Fullerton · California 92631 · (714) 870-7226

Testimony of Siret D. Jaanus, Ph.D.

Mr. Chairman, Distinguished Members:

My name is Siret D. Jaanus and I am a pharmacologist with a Ph.D. degree from the State University of New York, Downstate Medical School, Department of Pharmacology. Presently, I am *Chairperson of the Department of Basic and Visual Sciences* Associate Professor of Pharmacology at the Southern California College of Optometry. From the perspective of an educator with experience in teaching both medical and optometric students, it seems appropriate for me to offer a few comments relative to the training of optometrists in pharmacology, as contrasted to that offered to students of medicine, and also address myself to the safety of use of diagnostic pharmaceutical agents.

It is my belief, after years of teaching ocular pharmacology, extensive research of the literature on ocular use of drugs, and countless conversations with physicians, pharmacologists and pharmacists, that the four categories of drugs proposed for optometric use are safe; and the optometrist knowledgeable in their use would not experience any serious adverse reactions. *Much we doubt will be said today about the side effect of TPA.* However, In consideration of the safety of these agents, it is essential to recognize the amounts of drug that is necessary to administer to a patient to perform a diagnostic optometric procedure. Generally, 1 - 2 drops would be placed in each eye prior to the examination.

EXHIBIT "H"

1024

Regarding the use of the agents from a historical perspective, having been routinely used by physicians for many decades, it is striking to observe how relatively free of adverse effects these agents are when used properly. Published literature pertinent to the issue of side effects of use indicates that these agents when used in the recommended clinical dosages are indeed safe. In those rare instances when undesirable reactions have occurred, they were usually minor and transient. The patient recovered without experiencing any permanent ill effects. In nearly all instances where adverse reactions to these four categories of pharmaceutical agents have been observed, these drugs were either used in excessive amounts such as irrigating the eye continuously, applying multiple doses over a given period of time, or the patient had complications and/or was taking other drugs concurrently.

William H. Havener, M.D. who has written the classic text on Ocular Pharmacology, makes the following statement regarding the diagnostic use of one of the categories of drugs, the local anesthetics: "The application of excessive amounts of topical anesthetics to mucosal surfaces may result in the absorption of enough drug to cause severe systemic reactions. Such problems are not encountered with the few drops of anesthetic used for ocular procedures, but result when large mucosal surfaces are anesthetized, as for example, during examination and treatment of the throat."

Furthermore, there is agreement among physicians and researchers knowledgeable in the ocular use of drugs, that the absorption into the systemic circulation of a drug applied topically to the eye is generally too slow and limited in degree to produce any severe systemic side effects.

Before closing, I would like to discuss briefly the optometric training in the use of diagnostic pharmaceutical agents. I speak here from my teaching experience in two Schools of Optometry, State University of New York, College of Optometry where I taught both General and Ocular Pharmacology and was instrumental in designing the basic Sciences curriculum for that College and now after ~~two~~ ^{five} years of teaching optometric students at Southern California College of Optometry. The philosophy is to teach courses similar in content and scope to what is being taught to students of medicine, and other health professions with the emphasis being somewhat different. The optometrist knowledge and understanding of pharmacology as it relates to the eye and visual system in general should be at least equal to if not superior to that of the general medical practitioner. While optometrists are not involved in the actual prescribing of drugs for the treatment of systemic diseases or pathology, they must be aware that drugs used for such purposes may cause many adverse ocular symptoms and it is the role of the optometrist to recognize and refer such patients for proper medical attention when necessary. The optometrists training includes an awareness of the principles of medication as used in therapeutic situations including drugs used by ophthalmologist in the treatment of ocular syndromes and diseases. Thus the optometric curriculum includes courses in both general and ocular Pharmacology along with clinical use of at least three of the four categories of diagnostic drugs. *The optometric training in topical diagnostic pharmaceutical agents for oculars and more than that whole necessary to use these pharmaceutical drugs safely on the eye. The optometrist*

I hope the above has clarified some points.

Respectfully,

Siret D. Jaanus

Siret D. Jaanus, Ph.D.

Associate Professor of Pharmacology

Southern California College of Optometry

1026

* will not be allowed to use ~~any~~ ^{any} of the ^{new} classes drugs mentioned in H B 580 to treat or alleviate ~~ocular~~ ^{eye} disease. They will be used in limited amounts on the eye to better analyze the eye health of patients in this State.

It is true that no drug presently available for use on the eye is 100% safe.

Over-the-counter drugs purchased without a prescription are also not safe if misused. The education ^{of a clinician} and his own professional skill allow for intelligent use of all drugs. Legislation can only control the actions of health care providers up to point. The rest is left in all instances to his own integrity and sound clinical judgement.

NEVADA OPTOMETRIC ASSOCIATION



TOPICAL PHARMACEUTICAL AGENTS MEANS THE FOLLOWING TYPE DRUGS AND MAXIMUM CONCENTRATION THAT MAY BE USED. THIS IS THE RECOMMENDATION OF THE NEVADA STATE OPTOMETRIC ASSOCIATION.

PRESIDENT
William Van Patten
1200 N. Mountain St.
Carson City, NV 89701

PRESIDENT-ELECT
Larry Gregerson
1244 Wyoming
Boulder City, NV 89005

VICE PRESIDENT
John Sutton
1825 Kirman Ave.
Reno, NV 89501

VICE PRESIDENT
Van Davis
819 S. Decatur Blvd.
Las Vegas, NV 89107

SECRETARY-TREASURER
Dennis Granata
919 South Wells Ave.
Reno, NV 89502

EXECUTIVE DIRECTOR
Ida Straub
P.O. Box 709
Verdi, NV 89439

LEGISLATIVE COUNSEL
Paul Bible
241 Ridge
Reno, NV 89501

STATE BOARD MEMBERS
Marvin Sedway
3201 Maryland Parkway
Las Vegas, NV 89109

Robert Myers
1187 California Ave.
Reno, NV 89501

Joel Adler
1517 East Sahara Ave.
Las Vegas, NV 89105

TYPES OF DRUGS: Maximum Concentration
that may be used.

(1) Mydriatics

- (a) Phenylephrine Hydrochloride: 2.5%
- (b) Hydroxyamphetamine Hydrobromide: 1%

(2) Cycloplegics

- (a) Tropicamide: 1%
- (b) Cyclopentolate: 1%
- (c) Homatropine Hydrobromide: 5%
- (d) Atropine Sulfate: 0.5%

(3) Topical Anesthetics

- (a) Proparacaine Hydrochloride: 0.5%
- (b) Benoxinate Hydrochloride: 0.4%
- (c) Piperocaine Hydrochloride: 2%

(4) Miotics

- (a) Pilocarpine: 1%
- (b) Pilocarpine: 3%
- (Emergency Only)

William G. Van Patten O.D.
President

AB 550

STATE OF ~~HAWAII~~

TESTIMONY ~~HB 1682~~

*one central office
4/9/10
HRA 5/1
consultant HEW PH
VA state of Calif.
FAND*

My name is Richard L. Hopping, O.D. I am President of Southern California College of Optometry. I appear on behalf of ^{AB 580 as} HB1682 _A a representative of optometric education and as President of the third oldest optometric educational institution in the nation. The institution I represent is the Southern California College of Optometry. We have been a supplier of optometric manpower for the State of ^{Nevada} ~~Hawaii~~ for many years. Of the nation's 13 optometric colleges, I can relate that they are all fully accredited by the appropriate regional accreditation agency, as well as the professional accrediting body, the Council on Optometric Education. This body receives its authority from the Council on Postsecondary Accrediting which is the same authority that grants accreditation for the professions of medicine, dentistry, law, veterinary medicine, etc.

Applicant demand this past decade for admission into optometry is at such a high level that the non-duplicate ratio of applicant to acceptance is only exceeded by the profession of veterinary medicine. For over a decade at my institution the mean class average completed by the entering class is 4½ years of the pre-optometric undergraduate education prior to admission to the four-year professional optometric curriculum.

Our new campus and a considerable part of our annual operations income comes by way of the Health Professional Educational Assistance Act; an act signed into law in 1962 provides Federal

funding for the independent health professions whose services are deemed important to the health care of the American people.

Our faculty is composed of recognized authorities in various disciplines--anatomists teach anatomy, physiologists teach physiology, pathologists teach pathology, pharmacologists teach pharmacology, optometrists teach optometry, ophthalmologists teach ^{ocular disease} ophthalmology. Some five or six of our faculty also hold joint appointments in several of the local medical schools in the University of California system.

The clinical program in optometry is analogous to the training provided in dentistry and podiatric medicine. In the institution I represent students commence their clinical training in their second year. My institution operates a total of 28 clinical programs in five states. Our private clinics in California are licensed as community clinics by the Department of Public Health of the State of California. Our other clinics are operated in conjunction with such agencies as the San Gabriel Valley Regional Health Service, Los Angeles County Department of Health Services, U.S. Public Health Service, Indian Health Service, Veterans Administration Hospital, V.A. Outpatient Clinic, Pacific State Hospital and various clinics in the four branches of the military service. Our institution has affiliations with some six hospitals, thirteen medical centers, as well as a number of other group and multi-disciplinary clinics. ^{For ~~the~~ ~~purpose~~ the college has conducted a Long Term Clinic in conjunction with the Bureau of Services to the Blind, Nevada Dept. of Rehabilitation.} Our students receive a wide range of clinical experiences with a range of patients from new borns in a children's hospital to geriatrics in convalescent and V.A. hospitals. They provide care to patients from various socio-economic and ethnic

backgrounds. Our clinical programs are designed to provide students with experience in a variety of health care delivery systems.

Pharmaceutical agents for diagnostic purposes are utilized in the clinical programs of all of the optometric institutions. Our graduates are qualified and prepared, as well as expecting to utilize PA upon their graduation.

Optometry is the nation's third largest independent health profession. We are educated and licensed to practice our own profession. Optometrists are not physicians, nor dentists, nor podiatrists; we are optometrists. Our education is one of quality. We are not attempting to imitate a physician, nor practice medicine any more than the dentist or the podiatrist does. Some medical specialists blur the issue by attempting to relate our scope of training, etc. in terms of a physician. This is no more fair than to state that physicians or dentists are non optometric, and to relate how their education and skill is inferior in some ways to that of the optometrist. If optometrists were not uniquely different in education, responsibility, and service, then distinct professions were and are not needed. It is for this reason that the profession of optometry does desire to use pharmaceutical agents topically, not orally or intravenously. The concentrations of the agents proposed to be utilized by optometrists are considerably different as is the purpose. ^{Hawaii} - ~~Hawai~~i Optometry in their pursuit of excellence desires the use of such topical agents for the purpose of enhancing their diagnostic optometric examination

procedures so that they may continue to render an even finer quality of vision care to people of the State of ^{Nevada} ~~Hawaii~~.

As an optometric educator, I respectfully urge your support of ^{ABSPU} ~~HR 1682~~ with every confidence that the people of ^{Nevada} ~~Hawaii~~ will be safe and yet better served.



RICHARD D. GRUNDY, M.D. - President
THEODORE JACOBS, M.D. - Vice President
KENNETH F. MACLEAN, M.D., Secretary-Treasurer
G. NORMAN CHRISTENSEN, M.D.
THOMAS J. SCULLEY, M.D.
W. M. CROCKEY
HARVEY KAYE

Nevada State Board of Medical Examiners

MRS. JOAN ROGERS, Executive Secretary

March 28, 1979

To: Assemblymen Robinson, Bennett, Bremner, Chaney, Horn,
Sena, FitzPatrick, Rusk, Tanner and Weise

Dear Sirs:


This is with reference to AB 580.

The Board of Medical Examiners has considered the matter of this proposed legislation which would permit the use of drugs by optometrists for diagnostic purposes.

The Board is of the opinion that there is a significant danger in the use of drugs to diagnose neurological, muscular, or anatomic anomalies or deficiencies of the eye by persons who do not have the requisite medical training and background, and that it would be detrimental to the health and welfare of our citizens to permit optometrists to perform such medical functions.

For these reasons the Board has taken the position that NRS Chapter 636 should not be amended by AB 580 to permit such medical practices.

Sincerely,


Kenneth F. Maclean, M.D.
Secretary-Treasurer

KFM/plp

EXHIBIT "K"

EXHIBIT K



Southern Nevada Central Labor Council

Affiliated with the AFL-CIO and the Nevada State AFL-CIO
4321 EAST BONANZA ROAD LAS VEGAS, NEVADA
702-452-8899 - 452-8799

COMMITTEE ON POLITICAL EDUCATION

March 13, 1979

American Federation of Teachers 1317

American Guild of Variety Artists

Asbestos Workers 135

Bartenders 166

Barbers 794

Bricklayers 3

Boilermakers 92

Carpenters 1780

Cement Masons and Plasterers 797

Culinary Workers 226

Floor Coverers and Glaziers 2001

I.A.T.S.E. 720

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Retail Clerks 1826

Roofers 162

Sheetmetal Workers 88

Theatrical Employees

Typographical 933

MEMORANDUM

The Southern Nevada Central Labor Council opposes the Act to Amend NRS 454.316, recently introduced to the 1979 Legislature.

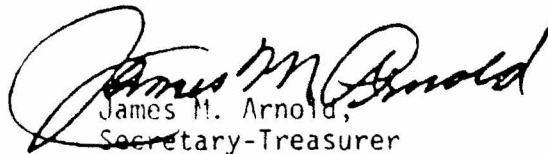
Our opposition is based on universally recognized principles:

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that optometry being a para-medical profession should be exclusively concerned with determining the refraction of the eye by methods that can be applied without the use of drugs;

that optometry must be kept confined to a limited area of the measurement for and fitting of eyeglasses and excluded from treating diseases of the eye or the practice of medicine and surgery.

This bill, by extending the practice of optometry to cycloplegics, mydiatics, miotics and ophthalmic anesthetics, obviously exceeds the limit of determining refraction and invades the area of pathology of the eye for which the optometrist lacks training and qualification and from which they should remain excluded.


James M. Arnold,
Secretary-Treasurer

JMA:blg

1034

BE PROUD -- BE UNION -- BUY AMERICAN

EXHIBIT K

a

National Federation of the Blind of Nevada

1001 North Bruce • Telephone 642-6000
Las Vegas, Nevada 89101

February 15, 1979

As the president of the National Federation of the Blind of Nevada, I wish to go on record as being unequivocally opposed to the Assembly measure which will permit optometrists to administer eye drugs as a part of their practice.

We firmly believe such an intrusion by the optometrists into the medical profession may divert the optometrist from the full application of his highly developed skills and lead him into areas in which he is not qualified.

Even more, the administering of eye drops by an optometrist may lead some of his patients to the disastrous conclusion that they are receiving eye treatment regardless of any statement made by the optometrist.

Audrey Tait

Audrey Tait, President

National Federation of the Blind of Nevada

1035

EXHIBIT K

b

Nevada State Pharmaceutical Association

President

MARY BETH ARNOLD, R.Ph.
1239 Las Vegas Boulevard South
Las Vegas, Nevada 89104
Work: (702) 382-8456
Home: (702) 648-7308

March 26, 1979

First Vice President

MILTON KEVERSHAN, R.Ph.
P.O. Box 1112
Tonopah, Nevada 89049
Work: (702) 482-6711
Home: (702) 482-6732

Van B. Davis, O. D.
Vice President
Nevada Optometric Association
819 South Decatur Blvd.
Las Vegas, Nev. 89107

Second Vice President

MARVIN STUTESMAN, R.Ph.
4213 Boulder Highway
Las Vegas, Nevada 89121
Work: (702) 451-1229
Home: (702) 733-9096

Dear Dr. Davis:

The Executive Committee of the Nevada State Pharmaceutical Association has reconsidered its position in regard to optometrists administering diagnostic drugs as stated in our letter of January 5, 1979.

Treasurer

WILLIAM LOCKE, R.Ph.
2130 Allen Street
Reno, Nevada 89509
Work: (702) 329-1848
Home: (702) 786-3325

The Executive Committee feels that inasmuch as optometrists are not requesting dispensing privileges, which would be of concern to the pharmacy profession, that at this time, the controversy over the administering of diagnostic drugs is one which primarily exists between physicians (ophthomologists) and the optometrists.

SOUTHERN NEVADA PHARMACEUTICAL SOCIETY

President

MICHAEL BARBERA, R.Ph.
3750 East Desert Inn Road
Las Vegas, Nevada 89121
Work: (702) 458-6511

Generally, it is the position of the Nevada State Pharmaceutical Association that professional prerogatives be acquired through the high degree of professional training required to perform those professional prerogatives, rather than acquired through legislative mandate.

NORTHERN NEVADA PHARMACEUTICAL SOCIETY

President

KERMIT SHAREN BROCK, R.Ph.
1755 Van Ness Avenue
Reno, Nevada 89503
Work: (702) 825-9663
Home: (702) 747-4811

Very truly yours,


cc: Mary Beth Arnold, R. Ph.
William Van Patten President
O.D. Nevada State Pharmaceutical
1200 N. Mountain Association
Carson City, N.V. 89701

To Executive Committee
John Bryan, M. D.
975 Ryland
Reno, Nevada 89520

1036

EXHIBIT K

WHO TEACHES OPTOMETRISTS MEDICINE?

CURRENT SCHOOL CATALOG STUDY COMPARES FACULTIES AT SEVERAL TYPICAL MEDICAL AND DENTAL SCHOOLS WITH FACULTIES AT ALL OPTOMETRY SCHOOLS IN THE U.S.


EXHIBIT 1937

MEDICAL COLLEGES	Total # of Students	Total # of Faculty	Faculty Student Ratio	Total # of M.D. Professors (Full or Part Time)	Full Time Clinical Teaching M.D. Specialists	OPHTHALMOLOGISTS (M.D. Eye Specialists)			PHARMACOLOGY DEPARTMENT		O.D.s	O.D./Ph.D.	Other Ph.D., M.S. or B.S.	COMMENTS
						Full Time	Part Time	M.D. Residents	M.D.s - M.D./Ph.D.	Ph.D., M.S. or B.S.				
Medical University of South Carolina College of Medicine	660	1,281	1.9	651	201	3	23	9**	6	25	0	0	630	* CLINICAL — Refers to working with patients in hospitals or out-patient clinics ** Ophthalmology Residents spend 3 months during their 3-year residency in an intense basic science course taught by nationally prominent Ophthalmologists at Colby College, Waterville, Maine
Duke University College of Medicine	489	1,102	2.3	632	483	8	10	16	2	7	0	0	470	
Medical College of Georgia	720	944	1.3	495	246	3	10	8**	2	10	0	0	449	
DENTAL COLLEGES														
Medical University of South Carolina College of Dentistry	160	312	2.0	74	0	0	0	0	6	25	0	0	123	84 D.D.S. teaching mostly Clinical 9 are D.D.S., Ph.D.
Medical College of Virginia College of Dentistry	439	353	.80	33	0	0	0	0	8	20	0	0	127	126 D.D.S. teaching mostly Clinical 20 are D.D.S., Ph.D.
COLLEGES OF OPTOMETRY														
Southern College of Optometry*	604	49	.08	2 PART TIME	0	0	0	0	0	0	37	2	7	The 2 part time M.D.s are classroom lecturers in Pathology.
Illinois College of Optometry	600	56	.09	1 PART TIME	0	0	0	0	0	1	47	1	6	The only M.D. is a part time Lecturer in Pathology.
Pennsylvania College of Optometry	552	89	.16	5 PART TIME	0	0	2	0	0	1	55	4	17	
Southern California College of Optometry	384	83	.22	5 PART TIME	0	0	2	0	0	2	65	5	8	
Pacific University College of Optometry	340	23	.07	1 PART TIME	0	0	0	0	0	0	12	1	8	The only M.D. is a Professor of Physics and Optics, part time.
New England College of Optometry	332	66	.20	4 PART TIME	0	0	2	0	0	1	52	5	4	
University of Houston College of Optometry	284	64	.23	2 PART TIME	0	0	0	0	0	0	47	4	7	The 2 part time M.D.s are Classroom Lecturers in Pathology.
Indiana University College of Optometry	276	38	.14	0	0	0	0	0	0	0	21	4	11	No M.D.s on Staff.
Ohio State College of Optometry	228	63	.28	1 PART TIME	0	0	1	0	0	0	46	4	12	The only M.D. is part time. He lives 100 miles away in Cincinnati.
University of Alabama College of Optometry	160	48	.30	3 PART TIME	0	0	0	0	1	0	22	9	12	All M.D.s are part time classroom lecturers. One M.D./Ph.D. lectures in Pharmacology.
State University of New York College of Optometry	160	122	.76	9 PART TIME	0	0	6	0	0	0	87	3	22	
University of California Berkeley College of Optometry	256	77	.30	9 PART TIME	0	0	6	0	0	0	43	11	12	One part time M.D. teaches in Public Health, one in Engineering and one in Physiological Optics
Ferris State College of Optometry	100	31	.31	0	0	0	0	0	0	3	1	0	29	All but 2 of these 29 also teach in the Biology and Chemistry departments of the Undergraduate College.

CAN MEDICAL EYE CARE BE ENTRUSTED TO OPTOMETRISTS WHEN THIS STUDY PROVES THAT THERE ARE NO FULL-TIME M.D. INSTRUCTORS IN ANY OPTOMETRY SCHOOL ANYWHERE?

Study Compiled for PEN Inc. by the EDUCATIONAL CATALOG STUDY COMMITTEE OF THE SOUTH CAROLINA OPHTHALMOLOGICAL SOCIETY
DECEMBER, 1977.

Wednesday, March 28, 1979


SUN
Editorial

A Concern For Health

There is a bill floating around in the Assembly Commerce Committee which is fraught with danger.

Assembly Bill No. 580 (AB-580) will allow optometrists to use diagnostic drugs in their practice.

An optometrist is not a medical doctor and therefore has no business using drugs without the approval of a medical doctor.

AB-580 is part of a nation-wide attempt to allow optometrists to practice medicine. An optometrist, in fact, is a limited practitioner, whose formal education limits him to testing for vision problems not related to disease. To overcome this shortcoming the bill in the legislature states they must complete "a course in general and ocular pharmacology." This is not sufficient and has been added in an effort to meet the legitimate complaints of medical people. It does not adequately meet these objections.

Confusing Arguments

The arguments over this bill may become confusing to the general public. During these debates some confusion will result from terminology. Let's clarify the difference between an optometrist and a medically trained eye doctor — an ophthalmologist.

The ophthalmologist, a true medical doctor, is qualified to provide comprehensive diagnostic eye examinations for both systematic and ocular diseases and the application of medical treatment including prescribing lenses and medication.

One Who Tests

The optometrist has a professional degree. He can test for non-disease related vision problems, test for depth and color perception, and test for the ability to focus and co-ordinate the eyes. He can also prescribe and fit lenses. He is a valuable member of any health care team. We just don't want him using drugs which may be dangerous in the hands of anyone other than a medical doctor.

AB-580 seeks to give optometrists the power to use diagnostic drugs for examinations: local anesthetics to aid in measuring pressure on the eye, mydriatics to make the pupil larger and give a better view of the eye's back wall, miotics to constrict the pupil after it has been dilated by mydriatics, and cycloplegics to eliminate muscular movements that can prevent thorough examinations.

Some of these drugs can be dangerous and affect the nervous system. An example of some of the drugs available for eye diagnosis are:

Some Drugs Used

Neosynephrine in 10 percent solution. This concentration is 80 times stronger than the neosynephrine solution used in nasal drops. It can cause a stroke if improperly used.

Phospholine iodide. This is a pupil-constricting agent, used in combination with the dilating drugs. Absorbed in the body, it can affect the enzyme system.

The opportunity to support a common position for the Southern Nevada Central Labor Council and the Nevada State Medical Association seldom arises. Common opposition to AB-580 is one time we believe both are right on target.

The SUN requests strong legislative opposition to AB-580 for protection of our citizens' health. Any legislator supporting this bill is either ignorant or has sold out to interests not concerned with the good health of our people.

EXHIBIT "M"

Wednesday, March 24, 1975

LAS VEGAS SUN

Eye Care Professionals Fighting Over Drug Bill

By JEFF ADLER

SUN Legislative Bureau

CARSON CITY — Eye care professionals are expected to blacken each others eyes Wednesday when a hotly contested bill which would allow optometrists to use certain prescription drugs for eye examination is taken up by the Assembly Commerce Committee.

The subject of controversy throughout the nation, optometrists are asking they be allowed to use drugs in their practice traditionally reserved for ophthalmologists, doctors who perform eye surgery.

AB 580, introduced by the Commerce Committee, would permit optometrists, who examine and fit for eye glasses and contact lenses, to use certain diagnostic drugs if they have completed courses in ocular pharmacology.

The drugs they are asking authorization for, are used to dilate the eye's pupil, to paralyze its ability to focus, to shrink the pupil and to desensitize the eye lens, an optometrist explained.

The drugs are used to enlarge or constrict the eye so that a more thorough examination and diagnosis is possible.

Ophthalmologists who oppose the bill claim the legislation is "unnecessary, dangerous and unwise."

While eye care professionals across the nation are busy arguing the merits of a change, 18 states, including South Dakota, Rhode Island, California, New Mexico, Wisconsin and Kansas, have

opted in favor of optometrists who want the ability to use the drugs.

Last Friday, Utah approved a similar bill, Lobbyist Jim Joyce, representing the Optometric Association, told the SUN.

State governors in Virginia and Ohio, however, have vetoed legislation permitting optometrists to use diagnostic drugs.

Fifteen states, according to an ophthalmology publication, have rejected similar legislation this year.

In vetoing the Ohio bill, Governor

James Rhodes explained the bill "would allow optometrists to use drugs in order to make full diagnosis of the medical condition of the eye.

"If the individuals involved were properly trained this procedure would be in the best interest of Ohio's citizens. However, without proper training, the bill would allow unwarranted risks without corresponding benefits."

But optometrists claim the drugs are not dangerous and they are qualified to use them.

Assemblyman Robert Robinson, D-

Las Vegas, an optometrist for the past 29 years, said ophthalmologists are "paranoid about this thing."

Robinson, who says he favors the bill, claims he will not vote on it in either committee or when (and if) it reaches the Assembly floor.

"I knew the association was going to ask for this bill, but I wasn't going to do it (introduce it)," Robinson explained. "I've gotten in enough trouble over bills like this in the past."

"This bill asks to permission to do what they've been doing for decades," Joyce said.

He added that the bill's failure will not change much except that persons living in rural areas where only optometrists are practicing will not be able to have their eyes thoroughly examined.

There are no ophthalmologists practicing in Winnemucca, Genoa or Tonopah, Joyce said.

Dr. Maurice Pearlman, president of the Las Vegas Ophthalmologists Society, said the "bill amounts to optometrists who are not MD's presuming the medical function."

He agreed that optometrists are "adequately" trained to fit eye glasses and contact lenses, but not diagnose eye disorders.

"When they find something abnormal they should refer it to a medical man," he said. "They don't need drops to do that."

Pearlman added that the use of such drugs "presumes they can recognize what they see."

He added that "they are undertaking something that is potentially dangerous."

Pearlman said that the bill was approved in many states because the

public was not informed on the issue.

"This could become a Pandora's box being opened the public will regret," he noted.

Pearlman also said he would reveal some "explosive" supporting evidence against the bill.

"We suspect they want to be MD's by legislation rather than education," he added.

Legislators said the committee hearing would be an emotional one with both sides presenting expert opinions on the issue as well as newspaper editorials from around the country both favoring and opposing the bill.

PUBLIC DANGER DOCUMENTED

ANNUAL REVIEW

As pt

TUMOR OVERLOOKED

Mrs. Lois McWalters

Massachusetts Widow

Vol. 1, No. 1, July 15, 1977



The first issue of *THE PEN* featured a tragic testimonial headlined "Massachusetts Widow: 'It Seems Bizarre.'" Excerpts follow:

Five years ago my husband began complaining about his eyesight. He decided to see an optometrist and he continued to do so for 2½ months. As his vision deteriorated at this time, he experienced headaches so violent they would awaken him from a sound sleep. I pleaded with him to see an ophthalmologist or some person with a medical background. He became increasingly irritated at my suggestions and I was forced to bow to his decision or submit to an unhappy home life.

As each day passed, before my eyes his personality changed; this sweet gentle man became verbally abusive and the general tenor of our home was unbearable. At that time our four children were 6, 7, 8, and 9 years old. They watched their father hold a cup of coffee, his hand tremors so pronounced he would spill it and leave the table in a terrible rage.

I pleaded again, to no avail. How does a wife forcibly take a grown man to a doctor? He trusted the optometrist. The optometrist changed his glasses three times - each prescription being for stronger lenses - during those 2½ months. Each time his eyesight and the pain was not even slightly improved by the change of glasses. He was told it would take time to get used to them. The optometrist never suggested he see a medical person.

His suffering increased to such a point he could not work or concentrate. I suggested a vacation and he agreed. . . . He now had a black patch over one eye "to rest it" prescribed by the optometrist.

I was frightened; I felt he was dying and I was helpless. After a few days of rest I gently broached the subject again and very unlike me, burst into tears. . . .

Our vacation was cut short because he was so ill. He insisted upon going to work when we got home, but surprised me by phoning from the hospital. He had seen an ophthalmologist who immediately spotted the problem and within minutes called in a neurosurgeon. The neurosurgeon admitted him to the hospital at once. I discovered later that when the ophthalmologist's secretary heard the symptoms over the telephone, she had insisted Dick come to the office immediately.

The neurosurgeon told me frankly he felt that Dick had a brain tumor. At our community hospital, tests were done in the next few days; the consensus was a brain tumor.

Surgery was at nine. . . .

Bad news it was, a malignant brain tumor called an astrocytoma. "I would give him about eighteen months," the doctor said, "but be prepared for some horrible times ahead." Twelve days later God mercifully took his beautiful soul and left his tired, worn body. . . .

In retrospect, it seems bizarre to me that when one (in this case the optometrist) realizes a situation is out of his control, that he wouldn't immediately make a referral, especially when seeing a patient suffer so much. ●



MEREDITH W. MORGAN, O.D.
... Optometric Educator

Optometric Educator: "A Lens Is Not A Pill"

While the optometrists of North Carolina and their non-medical lawmakers were deciding to deliver health care into the hands of the untrained, a distinguished optometric educator, Meredith W. Morgan, dean emeritus of the School of Optometry of the University of California at Berkeley, was proclaiming at an honors convocation in Alabama that "... This expansion (into medicine) is outside the traditional and historical scope of optometry."

The learned dean went on to say that, "As far as I know, there is not a school with a curriculum adequately designed to educate students in pharmaceutical therapy and there is not a school with adequate resources to establish such a curriculum."

Morgan, who told the new O.D.'s that he's seen the advent of all but two of the nation's 13 optometry schools, suggested that new graduates should be more concerned with performance than politics.

"I learned in my mechanical optics course to really adjust spectacles ... When I went to school, optics — geometrical, ophthalmic and physiological — were the heart of optometry; today this is no longer true.

"I tend to deplore this change; superior knowledge of optics set optometry apart as an independent profession," he said, adding that optometry's original saying was 'A lens is not a pill.'"

Morgan called the movement to expand the scope of optometry into the use of pharmaceutical agents a "direct overreaction to negative criticism (of the profession) combined with a non-critical optimism growing out of successful legislative ventures."

"Such (legislative) solutions, unfortunately may be short term, as witness the demise of advertising restrictions. On the other hand, educational solutions tend to be more lasting ...

"I firmly believe that the highest level of attainment in any profession is the use of intelligence and understanding rather than the use of any particular agent," Morgan said.

W. Va. Eye Victim Deplores Optometric Care

A West Virginia supermarket cashier, who is blind in her left eye and who has a serious problem with her right eye, has made a public appeal through an open letter for repeal of West Virginia's optometric drug law.

In a signed deposition, Mrs. Laura Dent of South Charleston, WV, states, "If my optometrist had been qualified to diagnose and treat diseases of the eye, maybe this disease would have been caught in time and I could read with my left eye. The people who passed this law (West Virginia law permits optometrists to use drugs for diagnosis and treatment), should stop and think what they have done; apparently some of them have never had serious eye problems or they would have known better than to do such a thing."

Saying, "I am firmly against this law allowing optometrists to prescribe medications and treat diseases of the eye, because they are not qualified," Mrs. Dent emphasized she was not offering an opinion, but was speaking from experience. Mrs. Dent related that in May of 1975 she went to see an optometrist for a general eye examination. At that time, she points out, the optometrist prescribed new glasses and advised that there were no signs of glaucoma or any other diseases of the eye. Within two weeks, Mrs. Dent said, "I was seeing distorted. I phoned my optometrist and asked what could be the problem. I was told to come in and be checked. I went in and was told it was only astigmatism, to wear my glasses all the time, and the problem would be corrected.

"It did not improve, I continued to get worse. I phoned my optometrist back in three weeks and asked just how long it would take to improve, and also asked if my family doctor could help. I was told maybe so. I will phone him; go ahead and see him.

"I went straight to my family doctor; the optometrist did not phone him. My family doctor took one look at my eye and panicked. He said there was this tremendous deterioration in both eyes, he did not know what it was, but there definitely was a problem. He sent me straight to Dr. Rashid's office. Doctors Rashid and Toma (both ophthalmologists) checked my eyes and told me I had histoplasmosis (a disease caused by a parasitic fungus) and said it was presently active in my



left eye. Since I had had numerous attacks in both eyes in the past, it was likely I had the disease all my life."

Mrs. Dent further relates that after six months of treatment, the condition did not improve and in September the laser was used to arrest the disease. She says, "It stopped the disease, but it did not save my vision. *Medical editor's footnote: Histoplasmosis is a chronic disease characterized by irregular active and inactive phases. Even during the inactive phases the lesions are easily seen. In the inactive phases, treatment is neither effective nor necessary. In the active phases, treatment is available and frequently helpful to retard or eliminate visual loss. Thus, the patient should be observed by a physician with an understanding of the disease process in order to minimize loss of visual function. I have no central vision in my left eye; I have peripheral vision but I cannot read; I can-*

not watch TV or do any close work at all with my left eye." In June of 1978 Mrs. Dent suffered a repeat attack in her right eye. This time the laser was used and Mrs. Dent advises she "is in pretty good shape except for the fact that I have a small blind spot."

Noting that the diagnosis made by Doctors Rashid and Toma was confirmed by Dr. Finklestein at the Wilmer Eye Institute in Baltimore, Mrs. Dent says, "I have been told that there is no hope for my left eye and it could happen again at any time in the right eye."

Calling on the legislature to take action now, Mrs. Dent writes, "I wish you would reconsider and repeal this law because a lot of innocent people are going to suffer unknowingly and maybe even go blind because they are trusting an unqualified optometrist."

N.C. Patient Victim Of Therapeutic Drug Law

There is increasing evidence that North Carolina's new law allowing non-medical optometrists the use of therapeutic drugs is resulting in eye damage and danger to eye care patients in the Tarheel State. One such documented case has been provided to THE PEN by William W. Foster, M.D. of Raleigh, N.C., who has asked PEN editors to publish the following statement:

"I know many fine optometrists, all of whom perform a very useful service in fitting glasses and contact lenses. However, optometrists are not medical doctors and they should leave medical and surgical diagnosis and treatment of eye disease to ophthalmologists (medical doctors) who specialize in eye disease."

"After seeing my optometrist more than a dozen times in the last months at \$15 per visit, and buying glasses I couldn't use, I am still suffering with aching, burning eyes." With these words, Cheryl Dawson related her remarkable experience to William Wade Foster, M.D., practicing ophthalmologist of Raleigh, N.C., on Feb. 24, 1978.

"For more than a month," the 31-year-old patient told Dr. Foster, "I have been going to an optometrist about every other day for treatment

POWER PLAYS MULTIPLY

Mounting evidence points to the fact that present government policies are fostering, and political pressures are forcing, the lowering of today's high medical standards. The medical profession's achievements of the past 50 years are under attack and seriously threatened. This trend is evidenced by the retirement of Col. Budd Appleton (see story above) and events taking place at the University of Alabama Medical School (see "Diagnoses," page 2).

of what he calls 'Herpes' (an acute inflammation of the corneal tissue caused by a virus). My eyes still ache and burn, although I have used the medicine he prescribed religiously. I just think I need another opinion."

Dr. Foster's examination of Ms. Dawson revealed that her eyes were healthy except for inflammation of both corneas manifested by multiple fine spots of damaged tissue caused by the medication. There was no indication either from her history or her examination that herpes had ever been present in her eyes.

He told the patient to stop all medication and use artificial tears (Tears Naturale) to remove the effects of the medication.

"To determine whether or not Cheryl's internist had been consulted regarding the medication prescribed by her optometrist," Dr. Foster said, "I called William Bellamy, M.D. He advised that the optometrist had called him reporting that the patient had conjunctivitis, but he did not 'collaborate' or approve the prescription written by the optometrist as required by North Carolina law."

On Feb. 28, 1978, Cheryl Dawson returned to see Dr. Foster, complaining that her eyes still burned and ached. "I again examined the patient," Dr. Foster said, "and found that although her eyes had improved, there was still some inflammation. To verify my diagnosis, I had Dr. Hicks, with whom I am associated, also examine the patient. He confirmed my findings."

"On March 9, 1978," Dr. Foster said, "Cheryl called to report she still had some symptoms — especially burning — and asked to be seen at the Duke University Medical Center. Both Dr. Hicks and myself felt another medical opinion was indicated, and I made the necessary arrangements."

M. Bruce Shields, M.D., and John Reed, M.D., both members of the Department of Ophthalmology at the Duke University Eye Center, examined Ms. Dawson on March 15, 1978. Their findings confirmed Dr. Foster's original diagnosis and specifically indicated that 'Herpes' was never present. They recommended that all medication be discontinued.

Ms. Dawson returned to see Dr. Foster on April 7, 1978, this time to express her appreciation. "I am most grateful," she said, "for what you and other medical doctors have done for me. I hate to think of what might have happened had I continued to see my optometrist."

An examination of the patient on this visit showed that her vision was 20/20, uncorrected in each eye (despite the fact she had been sold glasses by her optometrist) and that all symptoms had disappeared. ●

TREATMENT DELAYED

Mrs. Clara Jones

Writes Iowa Legislature

Vol. 2, No. 2, Jan. 15, 1978



The following excerpts are from a story headlined "Damaged Patient Writes Lawmakers," which carried a letter that an Iowa woman wrote to the entire Iowa Legislature, reminding them that optometrists have no medical training:

"For the last 25 years my family has been going to an optometrist for our eye care needs.

"Some time after the most recent change of lenses, I began experiencing difficulty with my vision. Consequently I returned to my optometrist and told him my sight in my right eye was blurred and that something was wrong. After his examination he told me my glasses were correct, the blood vessels were healthy, and further there were no signs of glaucoma or cataracts.

"I still believed that something was wrong in my right eye but believed the doctor must know, so accepted his diagnosis. However, as the difficulty continued and gradually increased, after five months I decided to consult a medical eye specialist. In his preliminary examination he immediately suspected glaucoma which was subsequently verified in both eyes and that the disease had been there for a long time. Also the cataracts are starting. I am informed that a considerable portion of my vision has been lost due to the delay of treatment and cannot be restored, all due to a false sense of security given me by my optometrist.

"My medical doctor tells me that an optometrist is not trained in medicine nor to diagnose eye diseases.

"Because of this lack of training, the optometrist, in my opinion, should be severely penalized when he tries to perform such services which could well end in blindness for his patient.

"I strongly urge you to give this matter your most rigid study and action."

Mrs. Jones later told her ophthalmologist that vision loss was not the only way she suffered due to the optometrist's bold attempts to practice medicine.

"I fell twice," she said, "broke my right arm near the shoulder and the second time my left wrist. I still can't see a step."

Her physician, Leo J. Plummer, M.D., reports that her glaucoma is currently under control, on a program of medications. The Des Moines ophthalmologist notes that dense and extensive visual defects in both eyes are permanent, and that it is necessary for her to learn to walk with her head down to avoid tripping. Dr. Plummer has noted that the drugs Iowa optometrists seek to use are not necessary for the trained physician to suspect, or in most cases, diagnose glaucoma. ●

Optometric "Primary Care" Results In Loss of Eye For Four-Year-Old Boy

In a landmark decision that could cause the army to re-examine its policy permitting optometrists to provide initial eye care treatment, Judge James M. Fitzgerald, United States District Judge for the District of Alaska, ruled that Timothy Steele, now an eight-year-old dependent of a soldier in the U. S. Army, was entitled to recover for the loss of his right eye.

festation of disease visible in the eye. Upon detecting disease in the eye, it is then his obligation and duty to the patient to make known what the optometrist has observed. In such cases, he may not undertake to diagnose the disease, but should inform his patient that the matter is beyond his competence and advise the patient to seek a qualified medical doctor."

The litigation stemmed from a claim brought on Timothy Steele's behalf by his father against the United States for the loss of Timothy's right eye. Timothy Steele, as a four-year-old boy, was treated by John Shank, O.D., an optometrist in charge of the Eye Clinic at Bassett Army Hospital, Fort Wainwright, Alaska.

According to testimony in the case, it was in October and November of 1973 that Timothy's mother first noticed that his eyes were crossing. On December 19, 1973, she took him to Bassett Eye Clinic where he was seen by Dr. Shank.

During his examination, Dr. Shank measured Timothy's vision and found it to be normal. He then used drops to dilate the pupil and looked inside the eye. He diagnosed Timothy's eye condition as accommodative esotropia, which is correctable by eyeglasses. He wrote a prescription for eyeglasses and made an appointment for Timothy to return to the clinic on January 29, 1974, for a checkup.

On January 29, 1974, Timothy reported to Dr. Shank as requested. The optometrist wrote a different prescription for eyeglasses and instructed Mrs. Steele to make another appointment for Timothy four months after he would begin wearing the new glasses.

The testimony further reveals that in early May, Mrs. Steele noticed that Timothy frequently removed his glasses, saying sometimes he could not see well with them.

On June 10, 1974, Timothy was again examined by Dr. Shank and it was then that he discovered that the vision in Timothy's right eye was limited

to Letterman Army Medical Center where he was examined on July 12, 1974.

At Letterman, it was determined that, because the danger of retinoblastoma, a fast-spreading, life-threatening malignancy, Timothy's eye should be removed. With parental consent, the surgery was performed by Major Bradley C. Black, M.D.

When the pathological report ruled out retinoblastoma, Timothy was returned to surgery and an implant was placed in the socket. Although recovery appeared to be good, Timothy continued to suffer from periodic socket inflammation.

In September of 1974, Timothy returned to Letterman Medical Center where a prosthesis was inserted in the socket. Testimony revealed that since the prosthesis could not be inserted immediately following the operation, it is unlikely that it will ever appear similar to a natural eye. ●

"I conclude that the plaintiff is entitled to recover in this action from the United States for the loss of Timothy's right eye."

JAMES M. FITZGERALD
U.S. District Court

Judge Fitzgerald's decision was rendered on October 20, 1978, in the case of Timothy R. Steele and Robert K. Steele, plaintiffs, vs. The United States of America, defendant. In his opinion, Judge Fitzgerald stated, "An optometrist's responsibility is to observe during his eye examinations any mani-

A SAD SUMMARY:

- When Timothy was four, his mother noticed his eyes crossing.
- A military dependent, he was taken to an army hospital where he was seen by an optometrist, instead of an M.D. (Current standard U.S. military procedure).
- The optometrist disregarded disease, infection or malignancy as causes and prescribed eyeglasses. Despite three visits, two pairs of eyeglasses and advancing blindness, Timothy was not referred to an M.D. ophthalmologist for six months, until after his right eye was blind.
- Ophthalmologists immediately recognized the probability of either retinoblastoma (malignancy) or toxocara canis (a parasitic worm infection), either of which is treatable in the early stages.

1 B. Correlate misrepresentation of military letter
2 to Dr. William Van Patton with Army malpractice
3 case in Alaska. Helling v. Carv 519 P2d 981
4 (1974).

5 Timothy Steele v. U.S., F.Supp. _____
6 (1st d.C. Alaska, 1978). Case of a 4-year
7 old boy where an Army optometrist was allowed
8 to use drops to dilate the pupil for diagnostic
9 purposes. Optometrist diagnosed the eye
10 condition as accommodative esotropia, which
11 is correctible by eye glasses. Prescription
12 for eye glasses was made on December 19, 1973.
13 On January 29, 1974, Timothy returned for a
14 second appointment at which time the optometrist
15 wrote a different prescription for eye glasses
16 and instructed Timothy's mother to make another
17 appointment in four months.

18 On June 10, 1974, Timothy was again examined
19 by the optometrist at which point the optometrist
20 discovered that the vision in the right eye
21 was limited to light perception only. Only
22 at this point did the optometrist make an
23 appointment for Timotny with an ophthalmologist.

24 On June 17, 1974, the medical doctor recognized
25 the seriousness of the case because of retinal
26 detachment of the right eye with a sub-retinal
27 mass. Thereafter, it was determined that
28 Timothy's eye had to be removed because of
29 the danger of an advanced life-threatening
30 malignancy and hopeless blindness in the
31 right eye.

32 The taxpayer/patient bears the burden. The
optometrist in this case graduated with a
degree in optometry from Pacific University
at Forest Grove, Oregon, in 1971.

The Court held that the failure to inform the
parents and refer Timothy to an ophthalmologist
is not a "judgment call" but a violation of
the governing principles of professional
standard. It further concluded that the
plaintiff was entitled to recover in the
action from the United States for the loss
of Timothy's right eye.

X. Dr. Dick Moore (Ophthalmologist)

A. Human interest.

B. Example.

C.

D.

EXHIBIT "N"

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TESTIMONY OUTLINE

AB 580

I. Don Hill

A. Introduction and overview

1. Opposition of the medical community in general and ophthalmologists as experts in the field of eye care.
2. Analogy - chiropractors are to orthopedic surgeons as denturists are to dentists as optometrists are to ophthalmologists.
3. Optometrists lack pharmacological and diagnostic training to use the drugs mentioned in AB 580.
4. Optometrists in many cases are unable to diagnose eye problems which are easily diagnosed without drugs.
5. Optometrists use of drugs have been the basis for malpractice cases in other parts of the United States where they have been licensed to use the drugs.
6. AB 580 is a bill designed to put money in optometrists' pockets at the expense of the consumer/patient.
7. Statistics show that ophthalmologists are the main point of entry for eye care not optometris.
8. Use of the drugs may cause adverse reactions or side affects which the optometrist is not trained to recognize or licensed to treat.
9. The use of diagnostic drugs by optometrists may lull the patient into believing that he or she has had the most thorough eye examination available.
10. Optometrists do not refer patients to medical doctors for treatment either through ignorance of the patient's systemic problems or through fear of the loss of a patient to a better qualified practitioner.
11. AB 580 licenses optometrists to practice medicine through legislation, not education.

EXHIBIT "O"

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B. DOCUMENTS

- 1. Memorandum from the Southern Nevada Central Labor Council opposing AB 580.
- 2. Letter from the National Federation of the Blind of Nevada opposing AB 580.
- 3. Graph illustrating that there are no full-time clinical teaching MD specialists in any college of optometry and no MD residents.

II. Neil Swissman (President of the Nevada State Medical Association)

- A. General Medical testimony regarding the medical community's opinion of optometrists' use of diagnostic drugs.
- B. AB 580 would license optometrists to practice medicine through legislation rather than education.

III. Dr. Maurice Pearlman.

- A. Potential side affects of the drugs and the requirement for immediate treatment.
- B. MD's ability and license to treat bad side effects on the spot.
- C. Example of this diagnosis.
- D.

IV. Dr. Jeff Cecci (Ophthalmologist and former optometrist)

- A. Compare the diagnostic training of an optometrist and a ophthalmologist.
- B. Quality of education of optometrists versus ophthalmologists.
- C. Example of needless blindness caused by improper diagnosis of an optometrist who should have diagnosed such disease without the use of diagnostic drugs.
- D.
- E.

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V. Dr. Dick Bjur (Professor of Pharmacology at the University of Nevada Medical School)

- A. Pharmacology training of a pharmacist and the MD's at University of Nevada Medical School.
- B. Relating that training in pharmacology does not provide for diagnostic and clinical training to recognize systemic disease.

VI. Dr. Jack Talsma (Ophthalmologist)

- A. Economic impact on the consumer/patient.
- B. Statistics
 - 1. Number of patients seen by ophthalmologists versus optometrists.
 - 2. Number of referrals to ophthalmologists by optometrists. (Particularly where the optometrist works for or with an ophthalmologist.)
 - 3. Other.
- C. Example of misdiagnosis or non-diagnosis.
- D.

VII. Dr. John Bryant (Ophthalmologist)

- A. Pharmacology and treatment of the eye.
- B. Example of a non-diagnosed disease.
- C.
- D.

VIII. Dr. Donald Mousel

- A. Use of drugs and children
- B. Example of improper diagnosis and use of drugs.
- C.
- D.

IX. Don Hill

- A. Malpractice consequences.
 - 1. General law regarding one specialist moving into another's field. Use case citation. Simpson v. Davis 549 P2d 950 (1976) Dentist doing Endodontics.

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1 AMENDMENTS

- 2 I. P. 1, line 4: "A course" as related to line 6: "to use
3 diagnostic pharmaceutical agents."

4 "A course" should be amended to read "a curriculum in
5 general and ocular pharmacology and clinical diagnostic
6 training for a period of three years under the direct
7 supervision of a physician, and approved by the board may
8 be certified by the board to use diagnostic pharmaceutical
9 agents in the practice of optometry."

10 REASON: The section seeks to license optometrists to
11 use diagnostic pharmaceutical agents in the practice of
12 optometry for diagnosing eye disease and completing a
13 course in "general and ocular pharmacology" has no
14 relationship to any training in diagnosing eye disease.

- 15 2. Page 2, lines 3 & 4: The terms "anesthetics", "Psychoplegics"
16 "miotics" and "midreatics" need to be amended for more
17 specific definition since the general term "anesthetics"
18 for example, includes many many agents such as sodium
19 penathal, cocaine and others which have no application
20 to the eye specifically.

21 REASON: The terms are not further defined in any other
22 part of the bill. Section 7 on page 3, speaks of muscular,
23 neurological interpretative or anatomic anomolies and
24 appendages which may or may not have anything to do with
25 diagnosing a disease of the eye.

- 26 3. Page 3, lines 11-13: "Topical use" needs to be further
27 defined as to "topical use on the eye" only because the
28 remaining of the terminology does not necessarily refer to
29 the eye.

30 GRAMMER

- 31 4. Because of the use of the term "visual" on line 12, that
32 type of sentence structure would indicate that "muscular,
33 neurological; interpretive, or anatomis anomolies" would or
34 could be something different from visual.

35 Additionally, the use of the word "or" in line 13 has the
36 effect of "either/or", i.e., optometrists would be able
37 to use the pharmaceutical agents either for checking
38 deficiencies in the eyes or for muscular, neurological,
39 interpretive, or anatomic anomolies which may be entirely
40 different from anything connected with the eye.

- 41 5. The use of the word "determine", Page 3, line 11, should
42 be changed to "diagnose."

31 EXHIBIT "P"

- 1 6. At page 3, Line 13, the words "deficiencies of the eye" makes
2 no specific reference to diseases of the eye and, therefore,
3 the use of drugs to diagnose difficiencies of the eyes would
4 not be necessary since optométrists now determine sight
5 differences.
6
7 7. The word "appendages" should be removed from Line 13, page 3,
8 since an appendage may be arms or legs and have nothing to do
9 with the eyes. This is true particularly since the word
10 "or" has been used.
11
12 8. Referring back to the use of drugs on Page 3, Line 11,.
13 Some of the drugs within the broad categories of the
14 bill are the controlled substances such as cocaine, covered
15 by (NRS 453.101(4)), generally, the proposed law needs
16 to be amended to conform with the appropriate provisions
17 of NRS Chapter 453, Controlled Substances.

18 (NOTE: The fact that the bill is drafted the way it is indicates
19 the optometrists' lack of understanding of drug families and the
20 types of drugs included in each of those families.)

21 Provisions which need to be amended under NRS Chapter 453
22 include, but are not limited to, NRS 453.021, 453.126,
23 453.371(2), 453.381, and 453.730.

- 24 .021 "Administering drugs" defined.
25 .126 Defines practitioner
26 .371(2) Defines who can administer, prescribe, and
27 dispense controlled substances
28 .381 Defines who has the authority to prescribe,
29 administer, and dispense controlled substances
30 .730 Authorizes emergency treatment for abuse of drugs

31 REASON: The term "topical use" by definition includes the
32 word "dispense" or refers to dispensing or administering
33 drug and, therefore, the terms of AB 580 should be do-
34 vetailed with the other appropriate statutes.

- 35 9. Page 3, Lines 16 & 18, and Lines 40-42, allow optometrists
36 to purchase and possess drugs and exempt them from the whole
37 purpose of NRS Chapter 454.
38
39 a. For example, NRS 454.191 defines "administering drugs."
40 If an optometrist is exempt from the provisions of
41 NRS 454 such as indicated, then he has a much better
42 standing than physicians, podiatrists, or veterinarianians
43 allowed to administer or dispense the drugs under
44 certain circumstances.
45
46 b. "Topical use" indicates the optometrist will "administer."
47 Therefore, some provision should be made to dovetail
48 that terminology with that of NRS 454.191 which defines
49 "administer," and also, with 454.211, which defines
50 "dispense" since the "topical use" of these drugs will,
51 under the statutory definition now in effect, be
52 administering and dispensing the drugs.

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- c. There should be a specific statement in the AB 580 which states that optometrists would be subject to the same conditions as doctors and other dispensers of the drug pursuant to NRS Chapter 454 and its provisions.

- d. The appropriate provision to have been modified in NRS 454 would have been NRS 454.221 which covers dangerous drugs not to be furnished without prescription. Therein lies the exemption for the physicians, the physicians' assistant, podiatrist, veterinarian, etc., not NRS 454.316 as it is set forth in the statute which deals exclusively with all other persons who possess dangerous drugs.

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Nevada Relative Value Scale for Ocular Services

N R V S - O

SECOND EDITION

April 1977

EXHIBIT "Q"

1054

Nevada Relative Value Scale for Ocular Services

OPTOMETRIC SERVICES

CODE	DESCRIPTION	UNITS
I	GROSS EXTERNAL EXAMINATION (survey or screening) for visual acuity to include	
	a) brief history and symptoms inventory;	
	b) visual acuity at twenty feet for each and both eyes;	
	c) visual acuity at sixteen inches for each and both eyes, without correction and with correction if worn;	
	d) cover test at twenty feet and at sixteen inches using alternate and unilateral techniques;	
	e) brief inspection for pathology and anomaly; and	
	f) gross versions: pupillary reflexes and retinoscopy.	
E0111	WITHOUT refraction	1.5

+++++

II	FULL REFRACTIVE EXAMINATION to include elements of gross examination above in addition to	
	a) full refraction with muscle balance;	
	b) complete case history and symptoms inventory with job vision analysis;	
	c) post-cycloplegic visit if required.	

<i>WITHOUT prescription/drugs:</i>		
E0121	Conventional	2.5
E0122	Contact lens	3.5

<i>WITH prescription-WITHOUT drugs:</i>		
E0131	Conventional	3.2
E0132	Contact lens	4.2

<i>WITHOUT prescription-WITH drugs:</i>		
E0141	Conventional	3.5
E0142	Contact lens	4.5

<i>WITH prescription/drugs:</i>		
E0151	Conventional	4.2
E0152	Contact lens	5.2

+++++

III	FULL REFRACTIVE EXAMINATION, as above with pressure or anesthetic tonometry.	
------------	--	--

<i>WITHOUT prescription/drugs:</i>		
E0161	Conventional	3.0
E0162	Contact lens	4.0

<i>WITH prescription-WITHOUT drugs:</i>		
E0171	Conventional	3.7
E0172	Contact lens	4.7

WITHOUT prescription-WITH drugs:

E0181	Conventional	4.0
E0182	Contact lens	5.0

WITH prescription/drugs:

E0191	Conventional	4.7
E0192	Contact lens	5.7

+++++

IV	LOW-VISION EXAMINATION: Non-standard visual acuity determination with prescription if required, to include	
-----------	---	--

- a) distance vision evaluation; and/or
- b) near vision evaluation using telescopic, microscopic or high add bifocal lenses; and/or
- c) evaluation of illumination control using pinhole lenses, special illumination devices, light shields, reading masks, etc; and/or
- d) evaluation with binocular telescopes or inclusion of prism with high plus lenses, and/or
- e) evaluation with other supplemental magnification devices; and
- f) case work-up and consultations as required.

E0211 By Report

+++++

V	ANISEIKONIC EXAMINATION: Supplemental, to include	
----------	--	--

- a) eikonometer or equivalent testing; and/or
- b) test for presence, magnitude and orientation of ocular image differences; and/or
- c) use of diagnostic eikonic lenses; and
- d) prescription and follow-up as required.

E0221 By Report

+++++

Nevada Relative Value Scale for Ocular Services

OPTOMETRIC SERVICES

CODE	DESCRIPTION	UNITS	CODE	DESCRIPTION	UNITS
VI INDEPENDENT PROCEDURES to be used only when performed independently of an examination where they are included.			VII THERAPY PROCEDURES performed normally as adjuncts to diagnostic or refractive examinations/evaluations, for disabilities in		
E0231	Tonometry, one or multiple readings, same day	0.8	a)	visual acuity; and/or	
E0232	Tonography, recording method or suction device	1.8	b)	binocular coordination; and/or	
E0233	Slit-lamp microscopy	0.8	c)	visuo-perceptual motor dysfunctions.	
E0234	Biomicroscopy	0.8	E0301	Supplemental testing, per hour	4.7
E0235	Color vision, gross version	0.5	E0302	Treatment, evaluation and consultation; per ¼ hour	1.7
E0236	Color vision, qualitative	0.8	E0303	Conferences and reports dealing with the therapy series, per ¼ hour	1.4
E0237	Color fields, perimeter/tangent	1.2	E0304	Visual therapy programming, per ¼ hour	1.4
E0238	Pattern fields, multiple	0.8	E0305	Therapy, individual patient per hour	7.0
E0239	Central fields study	1.2	E0306	Therapy, multiple patients per hour	5.3
E0240	Peripheral fields study, form and/or motion	1.2	+++++		
E0241	Tangent screen study	1.2			
E0242	Depth perception and/or stereopsis	0.8			
E0243	Orthoptic/pleoptic evaluation	By Report			
E0244	Other supplemental testing for refraction, per ¼ hour	1.5			
E0252	Funduscopy, with <u>mydriasis</u> , direct and/or <u>indirect</u> methods, adult	2.0			
E0254	Provocative testing for glaucoma, to include water drinking and/or mydriatic and/or dark room test. In conjunction with examination including tonometry	1.1			
E0255	Independent with tonometry	1.6			
E0256	Independent with tonography	3.3			
+++++					

Nevada Relative Value Scale for Ocular Services

DISPENSING SERVICES

CODE	DESCRIPTION	UNITS	CODE	DESCRIPTION	UNITS
I PROVIDE NEW OR DUPLICATE LENSES IN NEW OR EXISTING FRAMES to include			II PROVIDE CONTACT LENSES: TO NEW WEARER, to include		
	a) ordering and dispensing conventional (glass or plastic) lenses with metal, plastic or combination frames, new or existing;		a)	fitting (keratometry), verifying prescription after fabrication;	
	b) frame selection (when required), sizing verifying, ordering, initial fitting and subsequent adjustment (for specified period);		b)	all adjustments (to include follow-up visits) and procedures related to evaluation of lens fit and subsequent physical modifications to the lens(es);	
	c) lens ordering, verifying after prescription fabrication, initial fitting and subsequent adjustments (for specified period); and		c)	tolerance evaluation and instructions to the patient as to placement and removal techniques;	
	d) neutralizing as required.		d)	ordering and dispensing, care kits as applicable, ophthalmic re-testing as required; and	
	e) EXCLUDES price of material (factory and/or laboratory charges for frames and/or optics) and all refractive procedures.		e)	EXCLUDES price of optics and all refractive procedures.	
E0411	Single vision, monocular	1.5	E0511	Spherical, monocular	9.9
E0412	Binocular	3.0	E0512	Binocular	16.5
E0416	Multi-focal, monocular	2.0	E0516	Toric/Keratoconus, monocular	10.5
E0417	Binocular	4.0	E0517	Binocular	17.5
E0421	Cataract, single vision, monocular	2.5	E0521	Bifocal, monocular	15.5
E0422	Binocular	5.0	E0522	Binocular	26.0
E0426	Cataract, multi-focal, monocular	3.7	E0526	Flexible, monocular	10.2
E0427	Binocular	7.5	E0527	Binocular	17.0
E0428	Cataract, temporary, monocular or binocular	3.0	E0531	Aphakic, monocular	10.8
E0431	Prism, single vision, monocular	1.6	E0532	Binocular	18.1
E0432	Binocular	3.2	+++++		
E0436	Prism, multi-focal, monocular	2.1	III PROVIDE CONTACT LENSES: TO PREVIOUS WEARER, as above.		
E0437	Binocular	4.2	E0551	Spherical, monocular	6.7
E0441	Low-vision, cataract, aspherics and special multi-focals, monocular	2.8	E0552	Binocular	11.2
E0442	Binocular	5.6	E0556	Toric/Keratoconus, monocular	7.1
E0446	Low-vision, microscopic, monocular	3.6	E0557	Binocular	11.8
E0447	Binocular	7.2	E0561	Bifocal, monocular	10.6
E0451	Low-vision, telescopic, monocular	3.6	E0562	Binocular	17.7
E0452	Binocular	7.2	E0566	Flexible, monocular	6.9
E0456	Aniseikonic, all	By Report	E0567	Binocular	11.5
			E0571	Aphakic, monocular	7.3
			E0572	Binocular	12.3
			E0600	Duplicate lenses, per lens	3.2
			+++++		

Demography of Optometrists

Optometric licensing

Optometrists don't need to be reminded that each state regulates the requirements for optometric licensure, or that a board or committee oversees the licensing. But few professions can boast of such wide diversity in licensing requirements from state to state.

Here's a brief compilation of licensing requirements from state to state.

License suspension and revocation.—The optometry boards in 45 states have the power to revoke or to suspend the licenses of optometrists who breach professional standards.

Lay board membership.—Thirteen states have set aside spots on their optometry boards for lay members. In all, there are 18 spots out of 236 for consumer members.

Continuing education.—Some 45 states now require continuing education for license renewal.

Reciprocity.—Licenses in 38 states can be obtained through reciprocity or endorsement of equivalent credentials.

Foreign applicants.—Two states, Arizona and California, have special provisions for licensing foreign-trained applicants.

National boards.—In lieu of a written examination, 19 states now accept the National Board exams.

Exams for licensure.—In all, 22 states supplement a written exam with oral exams and 32 states require practical exams.

Drugs.—Optometrists in 12 states are now permitted to employ drugs in the diagnosis of patients. Those states are California, Delaware, Kansas, Louisiana, Maine, Montana, New Mexico, Oregon, Pennsylvania, Rhode Island, Tennessee and Wyoming.

In six other states, favorable attorney general opinions and state board-rulings permit O.D.'s to use drugs for diagnosis. Those states are Florida,

Idaho, Indiana, Minnesota, Nevada, New Jersey.

Two other states, North Carolina and West Virginia, permit optometrists to use drugs for diagnosis and treatment.

DISTRIBUTION OF LICENSED OPTOMETRISTS

(Source: Health Resources Administration)

Region	Per cent of resident population	Per cent of licensed optometrists
Northeast	24	25
North central	27	30
South	32	24
West	18	21

MEDIAN AGE OF OPTOMETRISTS BY TYPE OF PRACTICE AND REGION

(Source: Health Resources Administration, 1976)

Type of practice	Total U.S.	Northeast	North Central	South	West
All forms	49.4	50.3	50.5	48.0	47.1
Solo	51.1	51.5	51.8	49.4	48.9
Partnership	46.2	47.9	45.8	46.3	45.5
Group	47.4	45.2	48.2	48.2	46.2
Employee	42.9	42.5	47.1	39.8	39.1

AGE OF ACTIVE OPTOMETRISTS

(Source: Health Resources Administration)

Under age 30	9%
Age 30 to 39	16%
Age 40 to 49	28%
Age 50 to 59	32%
Age 60 to 69	11%
Age 70+	4%

ACTIVITY STATUS AND LOCATION OF LICENSED OPTOMETRISTS

(Source: Health Resources Administration, 1976)

Area	Total	Active	Inactive	Retired	Not Retired
Total United States	21,697	19,265	2,432	1,217	1,215
Northeast	5,431	4,774	657	302	355
North Central	6,580	5,916	664	358	306
South	5,119	4,586	533	271	262
West	4,567	3,989	578	286	292

OPTOMETRY, COMPARED TO OTHER HEALTH PROFESSIONS

(Source: Synopsis of Education for the Health Professions)

	Optometry	Medicine	Dentistry	Osteopathy	Pharmacy
Number of practitioners	19,265	330,000	112,020	15,000	130,000
General practitioners	95%	33%	89%	75%	73%
Number of schools	15*	114	59	9	72
Number of 1975 graduates	906	11,613	4,969	695	6,712
Where recent grads go . . .					
Specialty training	limited	95%	10%	25%	---
Internship	limited	100%	11%	97%	---
Private practice	85%	---	52%	---	---
Military service	10%	---	24%	10%	---
Other	5%	---	3%	---	---
Entering students with college degrees	59%	88%	87%	95%	---

*Includes two Canadian schools of optometry

More O.D.'s needed

The nation's population is growing faster than its supply of optometrists to provide adequate vision care.

In 1968, a study by the National Center for Health Statistics shows, there were 9.3 active civilian optometrists for every 100,000 people. By 1973, a similar and comparable study by the Health Resources Administration shows, that number had fallen to 9.1.

The decline in the ratio of optometrists to the population was country-wide, affecting the Northeast, the South, the North Central and West. In all, 37 states experienced a decline in the five-year period. Some states, such as those in the South, have a critical shortage of optometrists.

The shortage began to appear after optometry schools cut back their enrollments in the mid-1950's. Only after the passage of the Health Professions Education Assistance Act in 1963 did the enrollments in optometry school begin to increase.

Cost: a good deal

Compared to other health-care costs, today's vision care consumer believes, vision care is a good deal. In fact, more than a third of 225 vision care consumers whom Chilton Research Services spoke to by phone last year say that they're getting greater value in vision care than in any other health care service.

Well over half of the people Chilton interviewed purchased their eyewear from their eye doctor. But wherever they purchased their eyewear, eyeglass and contact lens wearers agree that material costs are also reasonable.

More style and money

By and large, today's consumer is willing to pay for what he gets. Vision care consumers aren't any different.

More than half of 225 eyeglass and contact lens wearers will pay more money to get more stylish eyewear, according to a recent study by Chilton Research Services.

What do consumers consider stylish? Consumers are equally attracted to metal and plastic frame designs. About 43 per cent of the eyeglass wearers Chilton surveyed prefer metal; 47 per cent prefer plastic.

CONSUMER SPENDING FOR VISION CARE, 1975

(Source: Gordon Trapnell, 1976)

Type of expenditure	Expenditures in millions				Total
	In optometrists' offices	In physicians offices	In optical dispensaries	Other	
Diagnostic examinations	\$525	\$510	\$ 25	\$ 60	\$1,120
Medical treatment	40	500		100	640
Dispensing fees for lenses	865	180	830	60	1,935
Dispensing fee for contact lenses	285	60	35		380
Other	30		30		60
Total	\$1,745	\$1,250	\$ 920	\$220	\$4,135

PREFERENCE IN EYE CARE PRACTITIONER

(Source: Chilton Research Services, 1976)

	People who prefer to see			
	Optometrist	Ophthalmologist	Other	Don't Know
Total:	44%	37%	2%	17%
Income:				
Less than \$7,500	39	26	2	33
\$7,500 to \$10,000	53	29	—	18
\$10,000 to \$15,000	56	26	2	16
\$15,000 to \$20,000	53	39	—	8
Over \$20,000	36	58	3	3
Education:				
High school graduate or less	46	29	2	23
Some college	49	38	—	13
College graduate or more	36	56	4	4

N = 225

CONSUMER PREFERENCES IN EYEGLOSS MATERIALS

(Source: Chilton Research Services, 1976)

	Lens material preferred:				Frame material preferred:			
	Glass	Plastic	No preference	Don't know	Plastic	Metal	No preference	Don't know
Total	48%	26%	6%	20%	47%	43%	7%	3%
Sex:								
Men	56	24	5	15	33	56	8	3
Women	45	27	6	22	54	37	6	3
Age:								
18-24	50	40	—	10	34	60	3	3
25-34	49	34	5	12	39	56	—	5
35-49	48	30	4	18	52	37	7	4
50-64	46	17	9	28	55	35	8	2
65 and over	52	10	10	28	48	38	113	

N = 225

Choosing a doctor

Vision care consumers pick their eye doctors very nonchalantly. In fact, one person out of every seven wearers of eyeglasses can't say what kind of doctor—optometrist or ophthalmolo-

gist—examined his eyes.

A telephone survey of 225 corrective lens wearers conducted by Chilton Research Services in mid-1976 revealed that optometrists' patients are more uninformed than patients of ophthalmologists in making their de-

cision which doctor to see. Nearly half of the patients seeing optometrists, for example, couldn't explain why they chose him.

On the other hand, ophthalmologists' patients, who generally have higher incomes and better educations than patients of optometrists, tend to pick their eye doctor more selectively. While it's true that many people who see ophthalmologists need specialized medical service, a fourth of the people interviewed by phone chose an ophthalmologist because they think "he's a better doctor."

Whether they visit an optometrist or an ophthalmologist, however, today's vision care consumer is satisfied that he's getting a thorough exam and satisfactory visual improvement. In all, 97 per cent of the eyeglass and contact lens wearers Chilton interviewed were satisfied with their most recent exam and the visual improvement their new prescriptions provided.

U.S. POPULATION—1975-1985

(Source: U.S. Bureau of the Census)

Age group	Estimated 1975 population (in millions)			Projected 1985 population (in millions)		
	Men	Women	Total	Men	Women	Total
0-14 years	27.3	26.3	53.6	24.7- 31.2*	23.3- 29.7*	48.0- 60.9*
15-19 years	10.7	10.4	21.1	9.1	8.9	18.0
20-24 years	9.7	9.6	19.3	10.3	10.2	20.5
25-34 years	15.3	15.6	30.9	19.8	20.0	39.8
35-49 years	16.9	17.8	34.7	21.0	21.9	42.9
50-64 years	15.1	16.6	31.7	15.5	16.9	32.4
65-74 years	6.0	7.8	13.8	7.0	9.3	16.3
75+ years	3.2	5.4	8.6	3.6	6.6	10.2
Total	104.2	109.5	213.7	111.0- 117.5*	117.1- 123.5*	228.1- 241.0*

In the population projections for 1985, two figures are shown for the 0-14 age group and for the total. This range allows for possible variations in birth rates during coming years and, thus, for variations in the number of children under 10.

WEARERS OF CORRECTIVE LENSES, 1975

(Source: Center for National Health Statistics)

Age	Total Population (in millions)	Corrective lens wearers	
		Number (in millions)	Per Cent
All ages	201.1	111.7	51
0-12	48.8	4.7	10
13-17	21.3	7.1	34
18-44	83.8	38.7	46
45-64	44.5	39.8	89
65+	22.6	21.2	94

FREQUENCY OF EYE EXAMINATIONS AMONG WEARERS OF CORRECTIVE LENSES

(Source: Chilton Research Services)

Frequency	Among people who see optometrists	Among people who see ophthalmologists	Among all people
Two or three times a year	7%	15%	10%
Once a year	40	41	41
Every two to three years	38	37	37
Less than every three years	10	6	8
Don't know	5	1	3

CONSUMER PREFERENCES IN EYEWEAR

(Source: Chilton Research Services, 1976)

	Eye-glasses	Contact lens
Total	91%	9%
Men	95	5
Women	89	11
Age:		
18-24	83	17
25-34	84	16
35-49	89	11
50-64	97	3
65 and over	100	—
Income:		
Less than \$7,500	98	2
\$7,500 to \$10,000	82	18
\$10,000 to \$15,000	98	2
\$15,000 to \$20,000	83	17
Over \$20,000	85	15

WHERE CONSUMERS PURCHASE EYEWEAR

(Source: Chilton Research Services, 1976)

Dispenser	All Consumers	Among those who see	
		Optometrist	Ophthalmologist
Eye doctor	54%	65%	37%
Optician	30	26	41
Other	13	8	18
Don't Know	3	1	4

Shifting practices

More and more optometrists are forsaking solo practice for other kinds of practice, especially practice as employees.

A comparison of statistics gathered by the National Center for Health Statistics in 1968 and those gathered five years later by the Health Resources Administration shows that there was a decrease in the number of self-employed optometrists in active practice.

At the same time, there was a 64 per cent rise in those years in salaried forms of employment. Most of the increase, however, was in salaried employment at non-profit institutions, not in commercial practice. In fact, there was a 33 per cent decline in the number of optometrists employed by profit-making firms.

HOW OPTOMETRISTS PRACTICE

(Source: Health Resources Administration)

Type of practice	Number	Per cent
All	19,265	100
Self-employed	14,896	77.3
Solo	11,895	61.7
Partnership	2,514	13.1
Group	487	2.5
Employed	3,565	18.5
Professional Corp.	798	4.1
Optometrist	1,064	5.5
All other	1,703	8.9

LOCATION OF OPTOMETRIC OFFICES

(Source: National Panel, Doctors of Optometry)

Professional building	28%
Commercial building	10%
Street level/leased space	30%
Own building	23%
Home	6%
Shopping Center	3%
Other	2%

OPTOMETRISTS' PAYMENT POLICIES

(Source: National Panel, Doctors of Optometry)

Cash	100%
Checks	92%
Medicaid	70%
Other third party plans	64%
Will bill	62%
Credit card	51%

General practice

Of the three major health professions—medicine, dentistry and optometry—optometry ranks first in the percentage of general or primary care practitioners.

Today, according to a synopsis compiled by the Association for Academic Health Centers, 85 per cent of the graduates from the nation's optometry schools go directly into private practice, and 95 per cent of all optometrists are delivering general care. There are about 20,000 practicing optometrists.

By way of comparison, only 33 per cent of the nation's 330,000 physicians are general practitioners, and 95 per cent of today's graduates from medical schools go into specialty training.

Only dentistry has a comparable percentage of practitioners in general practice. In all, the Association for Academic Health Centers says, 89 per cent of the nation's 112,000 dentists are general practitioners.

OPTOMETRIC PATIENT LOAD: VISUAL EXAMINATIONS

(Source: National Panel, Doctors of Optometry)

Patients/week	Per cent of optometrists
0 to 10	5
11 to 20	19
21 to 30	31
31 to 40	21
41 to 50	12
51 +	8
Don't know	4
Median	30 patients
Mean	33 patients

OPTOMETRIC PATIENT LOAD: OTHER PROFESSIONAL SERVICES

(Source: National Panel, Doctors of Optometry)

Patients per week	Per cent of optometrists
0 to 20	20
21 to 40	35
41 to 60	19
61 to 80	5
81 to 100	7
101 +	12
Don't know	2

Rising fees

Customary fees for visual examinations among doctors on our National Panel of Doctors of Optometry rose from the \$16 to \$20 range in 1974 to the \$21 to \$25 range in 1977.

Fees are rising faster in some parts of the country, although many parts of the country still lag the customary median fees. For example, 74 per cent of the optometrists on our National Panel who practice in the Midwest raised their fees during the past year, while only 49 per cent of those who practice in the East raised theirs. Yet customary fees in the Midwest still hover in the \$16 to \$20 range, below the national average of \$21 to \$25.

HOW OPTOMETRISTS INVEST

(Source: National Panel, Doctors of Optometry)

Investment	Per cent of optometrists
No investments	12
Real estate	43
Tax-free bonds	18
Bonds	19
Insurance	49
Stocks	64
Other investments	2

EXPENSES

(Source: National Panel, Doctors of Optometry)

Expense	Per cent of gross income spent
Rent	6%
Laboratory costs	33%
Payroll	12%
Instruments	4%
Furnishings	3%
Conventions and dues	2%
Office supplies	4%

OPTOMETRIC NET INCOME, AFTER TAXES—1975

(Source: National Panel, Doctors of Optometry)

Income (in thousands) of dollars	Per cent of optometrists
10 to 15	13
15 to 20	11
20 to 25	17
25 to 30	19
30 to 35	11
35 to 40	9
40 to 45	8
45 to 50	4
50 to 75	5
75+	3

Soft lens growth

U.S. sales of hydrophilic contact lenses and accessories will triple in the next five years. That, anyway, is the prediction of Arthur D. Little, Inc., an investment counseling firm located in Cambridge, Massachusetts.

The firm also predicts that an annual growth rate of 23 to 30 per cent will drive today's estimated annual sales of soft lenses from \$99 million to about \$370 million in 1982.

A spokesman for Arthur D. Little

said that intensified competition will lead to a market shift, but that "Bausch & Lomb will maintain its dominant position."

Disinfecting soft lenses

Optometrists who fit soft contact lenses prefer that their patients use heat systems rather than chemical systems to disinfect their lenses.

In a survey of 243 contact lens fitters, the *Review of Optometry* found that 78 per cent of the doctors responding tell their patients to use heat disinfection rather than chemical disinfection systems.

One soft lens fitter in 12 finds ei-

ther disinfection system acceptable, so patient requests play a somewhat important part in his recommendation.

Hard lens solutions

Two optometrists out of three prefer that their patients use single-function solutions for their PMMA lenses because they are more efficacious.

On the other hand, doctors who select dual-function solutions and multipurpose solutions for their hard lens patients want to keep lens care as simple as possible.

OPTOMETRIC VISION CORRECTION OF CHOICE

(Source: National Panel, Doctors of Optometry)

Spectacles	36%
Hard contact lenses	13%
Soft contact lenses	13%
No preference	37%
Don't know	2%

CONTACT LENSES PRESCRIBED BY OPTOMETRISTS

(Source: National Panel, Doctors of Optometry)

PMMA	94%
HEMA	84%
CAB or other gas permeable	31%
Other kinds	5%
Don't fit contact lenses	5%

PROFILE OF OPTOMETRISTS' CONTACT LENS PRACTICE

(Source: National Panel, Doctors of Optometry)

Per cent of patients wearing contacts	Per cent of optometrists
Less than 5%	23%
5-10%	36%
11-15%	7%
16-20%	10%
21-25%	2%
26-35%	5%
36% or more	5%

Patient education

The doctor is the most important part of contact lens patient education.

A poll of the *Review of Optometry's* National Panel of Doctors of Optometry reveals that 83 per cent of the soft lens fitters explain soft lens hygiene to patients.

Literature, audio-visual aids and instruction by skilled aides are also important ways to get the contact lens care message to new lens wearers. In all, 63 per cent of the doctors give patients literature; 50 per cent use audio-visual aids, and 54 per cent ask their assistants to give contact lens instructions.

COMPARISON OF CUSTOMARY FEES FOR FITTING CONTACT LENSES, 1974-1977

(Source: National Panel, Doctors of Optometry)

Fee	1974		1975		1976		1977	
	Hard	Soft	Hard	Soft	Hard	Soft	Hard	Soft
\$150	8.4%		8.0%		6.0%		4.4%	
\$150-175	30.0		25.2		20.4		20.8	
\$176-200	30.0	2.0	36.4	2.0	35.6	2.0	36.8	1.6%
\$201-225	10.0	4.4	8.8	3.6	13.6	3.2	14.4	2.8
\$226-250	4.4	13.6	7.2	12.8	8.8	8.8	10.0	8.0
\$251-275	12.	10.0	2.0	16.4	3.2	18.0	3.2	18.0
\$276-300	.8	20.4	1.2	24.4	1.2	27.2	1.6	29.2
\$301-325	.4	4.4	.4	5.2	.4	10.4	.4	11.2
\$326-350		4.4		5.2		5.6		6.8
\$351-375		.4		.8		2.8		2.4
\$376-400		.8		.8		.8		.8
over \$400								
Don't know	14.8	39.6	10.8	28.8	10.8	21.2	8.0	19.2

Fees for fitting contact lenses have, in general, risen more slowly than other fees. In 1974, for example, 68 per cent of the O.D.'s on our National Panel charged \$200 or less for fitting hard lenses. Today, in 1977, 61 per cent still charge the same amount.

CONTACT LENS OF CHOICE*

(Source: National Panel, Doctors of Optometry)

PMMA	35%
HEMA	23%
CAB or other gas permeable	6%
Whatever patient requests	12%
Depends on the patient	9%
Depends on visual correction	7%
No preference	9%
Don't know	3%

*Includes multiple mentions

SOFT LENS OF CHOICE

(Source: National Panel, Doctors of Optometry)

Bausch & Lomb Soflens	73%
Hydrocurve Soft Lenses	19%
Milton Roy Naturevue	2%
UCO Optics Aquaflex	1%
Other	8%
No preference	1%
Don't know	1%

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TESTIMONY ON AB 580
March 28, 1979

Chairman Jeffrey and distinguished members of the Assembly Commerce Committee, I appreciate this opportunity to appear before you on behalf of Nevada physicians.

The Nevada State Medical Association is opposed to the use of legend drugs for the diagnosis and treatment of medical conditions by anyone other than trained physicians. We believe that anything to the contrary is not in the best interest of the citizens of our state.

When medications are used by those not skilled in drug applications, serious damage may be done to a patient by virtue of an untoward drug reaction, and one must also be skilled in life-saving treatment of those reactions. Equally important is the possible delay of critical medical diagnosis and treatment by an intermediate nonmedical procedure for patients.

Nevada is fortunate to have many excellent optometrists and ophthalmologists working together to provide the finest quality eye care for our residents and visitors. Both professions work within the framework of their respective practices act, and at the present time, only ophthalmologists by virtue of their extensive medical education and training are authorized to use drugs in diagnosis, therapy and treatment of drug-related complications.

We believe there would be significant danger to the public if the Optometric Practices Act were modified to allow optometrists to expand the scope of their practice when it is apparent that schools of optometry are not, and have not been, providing adequate training for such expanded usage of drugs.

Medical skills and training cannot be achieved by legislation. A.B. 580 intends through proposed statute change to effect what must be accomplished through educational and professional curriculum changes.

The Nevada State Medical Association urges a DO NOT PASS on A.B. 580.
Thank you very much.

Neil Swissman, M.D., President

NS:d

EXHIBIT "S"

MISLEADING STATEMENT:

"Optometrists need the drugs requested to help diagnose eye disease so that proper referrals can be made."

REBUTTAL:

1. Optometrists are not trained - or required - to "diagnose" eye diseases. Diagnosis is a medical function.

2. Drugs are not needed to detect the usual reasons for referral, namely:

- poor uncorrectable vision
- a painful or inflamed eye
- glaucoma or high eye pressure

3. It is unnecessary to allow optometrists to use drugs to "open" the eye so they can look for what they are not trained to recognize.

MISLEADING STATEMENT:

"Optometrists have been using drugs in this state for years without harm or death to anyone."

REBUTTAL:

1. If this is indeed the case, optometrists have willfully violated both the Medical Practices Act and the Pharmacy Act of Nevada.

2. Such use would have been illegal and surreptitious. Any injurious consequences would have been unreported and therefore unknown to public authorities.

MISLEADING STATEMENT:

"The drugs optometrists propose to use are harmless and medical opposition to such use is 'hysterical.'"

REBUTTAL:

1. This statement emphasizes the innocence or ignorance of those who make it. No drug is truly harmless, as the wise and cautious physician knows.

2. Special medical and physical conditions as well as drug allergies, drug side effects, and drug idiosyncracies all can cause unexpected drug reactions.

3. To deal with unexpected drug reactions, a physician needs in his office:

-oxygen	-vasopressors
-stethoscope	-steroids
-sphygmomanometer	-adrenalin
-stimulants	-xylocaine
-syringe and needles	-buffering agents

We submit that optometrists don't have these modalities, nor do they know how and when to use them.

EXHIBIT T-

MISLEADING STATEMENT:

"Dangers of eye damage or death from the use of diagnostic eye drugs is exaggerated. There are no reports of such occurrences."

REBUTTAL:

1. The following excerpt is from the article "Optometry Drug Laws," published in the Loyola Law Review, Loyola University Press, Vol 24/1978, p. 225:

"Physicians stress that although side effects and reactions from the drugs contemplated in the [optometric drug] statutes are rare, they can be quite severe and in fact can cause blindness and death."

2. The following summary is taken from the report of F.T. Fraunfelder, M.D., and Arnauld F. Scafidi, M.D., which was issued in consequence of a study funded by the U.S. Food and Drug Administration, Contract #223-76-3018:

"Based on case reports submitted to the National Registry of Drug-Induced Ocular Side Effects, 27 cases of adverse side effects possibly related to ocular 10% phenylephrine application are summarized. These cases include 12 myocardial infarcts, 9 of which were terminal, 6 additional cases requiring cardiopulmonary resuscitation, and the remainder primarily marked elevation of blood pressure . . . Possible guidelines for the use of 10% phenylephrine hydrochloride are suggested."

(Emphasis added)

MISLEADING STATEMENT:

"Nurses, dentists, podiatrists, and paramedics can use drugs; optometrists should be allowed to do so too."

REBUTTAL:

1. Dentists, podiatrists (and veterinarians) are healing professionals who are trained in hospitals and clinics. Optometrists are not.

2. Nurses and paramedics only administer drugs under orders or supervision of physicians.

MISLEADING COMPANION STATEMENT:

"Optometrists are allowed to use drugs in the U.S. military services."

REBUTTAL:

The following is the official policy of all three military Surgeons General on this matter:

"The optometric clinic provides optometric patient services under medical supervision. Optometrists examine the eyes and adnexa to include refraction and other procedures, prescribe lenses to correct refractive errors and improve vision. They refer patients to physicians for diagnosis and treatment of suspected disease. Optometrists use appropriate drugs to perform optometric procedures. When using these drugs, immediate medical care is available in the event of adverse reactions."

From the tri-service policy of the U.S. Department of Defense, as quoted in The Pen, Oct. 1, 1977, page 1, col. 3. (Emphasis added)

MISLEADING STATEMENT:

"Optometrists are qualified to administer some eye drugs."

REBUTTAL:

1. This statement contains a self-given accolade without a generally recognized academic basis.

2. The optometrist's training and clinical experience does not prepare him for intelligent and safe use of drugs. Further, the limited testing and examination provisions of the proposed legislation cannot create skills which simply do not exist. The proposed legislation calls for certain courses to be taken by an optometrist before he can be certified in Nevada to utilize diagnostic drugs. However, pathology and pharmacology cannot be learned from textbooks, lectures, and movies alone. Basic classroom and laboratory instruction in pharmacology are merely an introduction to principles. This knowledge must be built on a broad background of basic scientific training coupled with intensive, direct treatment of patients in hospitals and clinics. It is precisely this clinical training which the optometrist lacks.

MISLEADING STATEMENT:

"Optometrists want only to redefine the Optometric Practices Act."

CORRECTION:

1. In testimony before the Virginia Optometric Association on May 2, 1977, Robert M. Greenburg, O.D., stated:

"Implicit in the decision to use drugs is a major change in the scope and definition of optometric practice."

(The Pen, Oct. 1, 1977, pg. 4, col. 2)

2. The aim of the optometric profession was succinctly expressed by the President of New York's College of Optometry in the November, 1977, issue of Consumer Reports, as follows:

"Optometrists will eventually handle examinations, diagnosis, and treatment up to the point of surgery."

3. With the requested "redefinition" of the Optometric Practices Act, optometrists are actually seeking to enter the medical profession by an act of law, rather than by virtue of training which would qualify them medically.

4. The examples of West Virginia and North Carolina substantiate this argument: in these states, optometric practices acts have been redefined to include drug use for therapeutic as well as diagnostic purposes.

5. This redefinition attempt extends to recent advertisements by the American Optometric Association in national magazines and on t.v.; these promote public misunderstanding that complete medical care has been effected after an optometric examination.

MISLEADING STATEMENT:

"The optometric drug use controversy is mainly an economic issue between the medical and optometric professions."

REBUTTAL:

1. No monetary gain or loss will ensue to eye physicians if optometrists use eye drops and make proper referrals for problem cases.

2. The economic motive in this matter is optometry's ultimate aim to become the PRIMARY CLEARING HOUSE AND REFERRAL SOURCE for all people needing eye services. This would mean great economic gain to optometrists by virtue of increased patient traffic.-- with a fee being incurred for all such transactions.

MISLEADING STATEMENT:

"Optometric drug use is a national trend; more and more states are allowing it."

REBUTTAL:

1. Early approval of optometric drug use laws in 14 states was primarily the result public ignorance in the face of deceptive arguments and misinformation about the "benefits" of optometric drug use. The medical profession was caught napping and failed to alert the public and lawmakers about the dangers of such laws in time to keep them from being passed.

2. In 1978, because of more open debate and increased public awareness, 15 out of 17 states refused passage of optometric drug laws. In 13 states drug use proposals failed to pass; in 2 states (Virginia and Ohio), conscientious governors vetoed the measures.

3. Today, a rash of new optometric drug bills are being introduced around the country, and optometrists are frantically lobbying lawmakers to pass them. At the same time, however, efforts to repeal optometric drug use laws are underway in Louisiana, West Virginia, and North Carolina.

SOME BASIC DEFINITIONS

OPTOMETRY: A measuring science (from OPTO - "to see" + METER - "to measure") to test and evaluate visual functions such as visual acuity, depth and color perception, and the ability to focus and coordinate the eyes. Optometry is NOT a healing science or a medical science.

OPTOMETRIST: A licensed, non-medical practitioner educated and trained to practice optometry. He prescribes eye exercise and prescribes and sells glasses, prisms and contact lenses. His formal professional education usually includes 2 years of college and 4 years of optometric school and involves no hospital or medical clinic work. Upon graduation, he is granted a "Doctor of Optometry" degree, much as a minister is granted a "Doctor of Divinity" or a scholar is granted a "Doctor of Philosophy." An optometrist is NOT a medical doctor or eye physician: he is not trained to evaluate the eyes medically, "diagnose" eye diseases, or correlate his examination with the patient's health -- he is not qualified to make medical judgements concerning the eye or its relationship to the body.

OPHTHALMOLOGIST: A physician and surgeon (medical doctor) who specializes in the diagnosis and treatment of eye diseases, defects, and disorders. He prescribes glasses and lenses to correct visual disorders; he also prescribes and administers drugs and performs delicate eye surgery. His formal professional education usually includes 4 years of college, 4 years of medical and clinical schooling, 1-2 years of medical/surgical internship in a hospital, and 3-4 years of special "residency" training