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ALTERNATIVE REIMBURSEMENT APPROACHES FOR EYEGLASSES AND IMPLICATIONS FOR MEDICAID POLICY

Medical Services Administration
Social and Rehabilitation Service
U.S. Department of Health, Education
and Welfare

600 E Street, N.W., • Suite 100 • Washington, D.C. 20004

NATIONAL INSTITUTE FOR ADVANCED STUDIES
600 E Street, N.W., Suite 100
Washington, D.C. 20004
(202) 347-1700

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(SRS 500-76-0526)

1. *SUMMARY OF CONCLUSIONS AND RECOMMENDATIONS*

This study examines the eyeglass reimbursement policies of five Medicaid programs--California, Connecticut, Michigan, New Jersey, and Washington. The study also reviews various other programs reimbursing for eyeglasses, including the Veterans Administration and Blue Cross/Blue Shield. Complete information on all these programs may be found in Section 3. In addition, this paper also outlines the structure and relationships of the ophthalmic industry. This was done to define the environment in which Medicaid eyeglass reimbursement takes place. The information on the industry may be found in Section 2.

Based on the review both of the several methods of reimbursement and the ophthalmic industry, the following was found:

- Because of the structure of the ophthalmic industry, the prices for corrective lenses and frames are substantially more expensive at both the retail and wholesale level than at the manufacturing level.
- Maximum allowable cost limits in Medicaid accept wholesale costs and do not take advantage of lower costs available from manufacturers.
- Dispensing fees in some programs are not fixed, allowing providers to supply very low cost, poor quality equipment and charge higher fees to reach the maximum allowed for eyeware and fees.
- Fee schedules for ophthalmologists and optometrists are set in numerous ways and are not substantiated as valid reflections of services rendered.

Given this situation the following recommendations are suggested for Medicaid reimbursement of eyeglasses:

- Volume purchase arrangements such as that used by the Washington and several other Medicaid programs and the VA should be considered for all Medicaid programs. This arrangement saves considerable money by taking advantage of lower costs available through direct purchases from manufacturers. It also guarantees the quality of eyeware purchased.
- There should be a single, fixed dispensing fee for corrective lenses and frames to eliminate any overcharges by providers.
- Further study is required to determine equitable fees for professional services.

A complete explanation of these conclusions and recommendations may be found in Section 4.

2. *INDUSTRY BACKGROUND*

2.1 *Expenditures for Corrective Lenses*

Before proceeding, it is first useful to define exactly what corrective lenses are:

> According to the Better Vision Institute, Inc., corrective lenses include eyeglasses and contact lenses. The term applies to visual aids worn to correct or improve vision and excludes sunglasses, goggles, magnifying glasses, and other such devices. However, if sunglasses or safety glasses also include prescription for vision correction, they are included under corrective lenses.

There are two fundamental kinds of expenditures for corrective lenses and frames. The first is for lenses and frames themselves. However, because corrective lenses generally cannot be obtained without a prescription, a second major expenditure is for diagnostic examinations provided by ophthalmologists and optometrists.

In 1975, a total of $4.135 billion was spent on obtaining corrective lenses. Of this amount, $2.315 billion (56% of the total) was spent on 47 million corrective lenses and $1.110 billion (27%) was spent for 49.5 million diagnostic examinations. In addition, some $640 million (15%) was spent for optometric therapy and medical treatment. Finally, $60 million (1.5%) was expended for miscellaneous services, such as tints, coatings, cleaning kits, cases, and other accessories.

Of the amount for corrective lenses alone, $1.935 billion (83%) was spent on 44.5 million eyeglass lenses and frames, while $380 million (17%) was spent on 2.5 million pairs of contact lenses. These statistics are summarized in Table 1.

Over 95% of all monies spent on corrective lenses were paid for privately either by commercial insurance companies or out-of-pocket expenses. The remaining 5% were public expenditures and were divided among federal, state, and local programs.

TABLE 1

CIVILIAN EXPENDITURES
FOR VISION CARE SERVICES
(1975)

SERVICES	NO. (in millions)	AMOUNT ($)	% OF TOTAL
Diagnostic examinations	49.5	$1,110	27%
Corrective Lenses*	47.0	$2,315	56%
Optometric Therapy and Medical Treatment	----	$ 640	15%
Miscellany (tints, cases)	----	$ 60	1.5%
Total	96.5	$4,135	100%
*Corrective Lenses			
Eyeglasses	44.5	$1,935	83%
Contact Lenses	2.5	$ 380	17%

Source: "The Impact of National Health Insurance on the Use and Spending for Sight Correction Services," Gordon P. Trapnell, Consulting Actuaries (Trapnell Report).

A sizable amount of public expenditures for corrective lenses comes from Workmen's Compensation, Veterans Administration, Vocational Rehabilitation, and Maternal and Child Health Care Programs. Table 2 shows the amount of money spent by these programs in 1975.

TABLE 2

PUBLIC EXPENDITURES FOR
EYEGLASSES BY VARIOUS
FEDERAL AND/OR STATE PROGRAMS
(1975)

PROGRAM	TOTAL	FEDERAL	STATE & LOCAL
		(amounts in millions)	
Workmen's Compensation	$31.2	$ 0.9	$30.3
Veteran's Administration	26.1	26.1	0.0
Vocational Rehabilitation	15.3	12.7	2.6
Maternal & Child Health	13.7	8.8	4.9
Other	0.6	0.0	0.6
Total	$86.9	$48.5	$38.4

Source: "National Health Expenditures, Fiscal Year 1975", Social Security Bulletin, February, 1976. p. 8, Table 5. Also based on estimate of American Optometric Association that 85 percent of eyeglasses and other appliances were for eyeglasses alone.

The money spent by Medicaid for eyeglasses and related services is not available because the reporting data combines eyeglasses with several other services. A total amount expended can, however, be estimated by the following method. The first step is to determine the number of eyeglasses dispensed per capita in the U.S. per year. This can be obtained by dividing the total number of people by the number of

eyeglasses sold in the country, that is 47 million eyeglasses divided by 215 million people. This calculation yields .22 pairs of eyeglasses per person a year. Next the number of Medicaid recipients with coverage for eyeglasses is established. By adding together all those recipients in states which cover eyeglasses and adding in EPSDT recipients in states otherwise without eyeglass coverage, this number comes to 7.65 million people. Multiplying the per capita number of eyeglasses, .22, by the 7.65 million recipients, a total of 1.68 million eyeglasses was purchased by Medicaid. The cost of these purchases is calculated by multiplying the 1.68 million eyeglasses by the average cost of a pair of eyeglasses, including professional services which is $66.28. This average cost is derived from Table 8. Thus, the total Medicaid eye care expenditure is estimated to be about $111.3 million.

It should be stressed that this is an approximation and assumes that the Medicaid population is stable over time. Nonetheless, the $86.9 million in expenditures from Table 2, plus the $111.3 million from these Medicaid calculations total the approximately 5% of expenditures for eyeglasses ascribed to the public sector.

Medicare does not cover regular vision care services. The program does cover cataract surgery and will pay for the contact lenses used to replace the natural cornea.

Compared with other health care services and products, corrective lenses are a relatively minor item, accounting for about 2% of all personal health care expenditures. Table 3 shows these expenditures in rank order. (It should be noted that diagnostic services are not counted in the total given for eyeglasses in Table 3.)

Expenditures for corrective lenses have risen at an annual rate of slightly over 5% since 1972. At this rate, spending for corrective lenses will reach $2.7 billion by 1980. When professional services are added, the figure could be more than $4 billion by the beginning of the next decade. This compares with 1975 expenditures of $2.3 billion for corrective lenses and a total of $3.4 billion if diagnostic

TABLE 3

PERSONAL HEALTH CARE
EXPENDITURES BY TYPE OF SERVICE
(1975)

SERVICE	AMOUNT (billions)
Hospital	$ 46.6
Physician	$ 22.1
Drugs	$ 10.6
Nursing Homes	$ 9.0
Dentists	$ 7.5
Other Health Services	$ 3.0
Other Professional Services	$ 2.1
Eyeglasses	$ 1.9
Other Appliances	$ .4
Total	$103.2

Source: "National Health Expenditures, Fiscal Year 1975", Social Security Bulletin, February 1976, p. 12, Table 4. Eyeglasses amount based on AOA estimate that 85% of eyeglasses and other category is eyeglasses alone.

examinations are included.

Forecasts for spending on corrective lenses would be remiss if national health insurance were not included. Accordingly, Table 4 presents the effect of NHI proposals on use and spending for sight correction services. Note that the plans range from present law to the Ford Administration plan to the "all ages" proposal sponsored by Senator Edward M. Kennedy and former Congressman Wilbur Mills. The Ford proposal would have little effect on utilization of services and spending. At the other end of the spectrum, however, the Kennedy-Mills "all ages" projection would almost double the number of diagnostic examina-

TABLE 4

SUMMARY OF EFFECT OF SELECTED NATIONAL HEALTH INSURANCE PROPOSALS ON CIVILIAN USE AND SPENDING FOR SIGHT CORRECTION SERVICES[1]

(Millions of Units or Dollars in 1975)

Covered by National Health Insurance	Present Law	Ford Administration Proposal	Kennedy-Mills Proposal	Kennedy-Mills[2] All Children (Ages 1-17)	Kennedy-Mills[2] Aged, Disabled & Children	Kennedy-Mills[2] All Ages
Number of Services Covered						
Diagnostic Examinations[3]	---	8.7	32.7	46.3	55.1	69.1
Corrective Lenses Dispensed	---	2.0	3.2	6.8	13.5	25.0
Paid for Through Programs[4]						
Diagnostic Examinations[3]	---	$77	$354	$512	$ 696	$ 984
Corrective Lenses	---	22	65	138	428	779
Total Spent		$99	$419	$650	$1,124	$1,763
National Use and Spending						
Number of Services						
Diagnostic Examination[3]	49.5	53.2	78.0	88.2	90.4	95.0
Corrective Lenses Dispensed	47.0	47.4	47.8	48.7	50.6	53.6
Spending[4]						
Diagnostic Examinations[3]	$1,120	$1,152	$1,383	$1,482	$1,530	$1,630
Corrective Lenses & Frames	2,315	2,324	2,332	2,350	2,432	2,515
Total Spent	$3,435	$3,476	$3,715	$3,823	$3,962	$4,145

1. Assumes in each case that the proposal has been in effect for several years. Due to the deductibles (which vary by income) only part of the cost of services covered is actually reimbursed by the program.
2. See test for eligibility and benefits assumed in making estimates.
3. Includes only examinations by (or under the direct supervision of) optometrists and ophthalmologists.
4. Excludes third party payment expense.

tions, but would raise the number of corrective lenses dispensed only about 12%. Spending follows a similar pattern. The costs of diagnostic exams would increase by a third, but the cost of corrective lenses would rise only slightly.

2.2 Process of Obtaining Vision Care

Almost all corrective lenses are obtained by prescriptions written by an ophthalmologist or optometrist, and dispensed by both, or by an optician. The differences among these three types of vision care practitioners are discussed later in this section.

Normally, most recipients of corrective lenses are self-referred either because of injury or perceptively faulty vision. However, vision screening programs--such as Medicaid's Early and Periodic Screening Diagnostic and Treatment (EPSDT) program--also identify and refer clients with previously undetected vision problems.

Dispensers of corrective lenses purchase their supply from optical wholesalers or laboratories who in turn receive lenses from manufacturers.

The roles and relationships of consumers and the ophthalmic industry are discussed below including prescribers, dispensers, wholesalers, and manufacturers.

2.2.1 Consumers: Vision Problems and Corrective Lenses

According to Better Vision Institute, Inc., one half of the people in the United States, 112 million, wear corrective lenses. The percentage of persons wearing corrective lenses increases steadily with advancing age, so that persons age 45-64 years account for about four of every ten corrective lenses worn.

According to the American Optometric Association, visual problems are endemic in American society. Nearly all persons aged 65 and over suffer from some form of faulty vision. In the employable age group, 17-64 years old, approximately 60 percent have a vision problem in need of correction. Of those individuals under 20 years of age, almost 25 percent have a visual disorder. In fact, over half of all

noninstitutionalized persons over age three have some problem with their vision. Finally, the National Eye Institute ranks visual impairment third among chronic diseases, behind heart disease and arthritis.

Poor vision adversely affects the leisure time of elderly persons, the productivity and safety of workers, and the learning of our children. For example, it has been estimated that 80% of learning involves vision. Children with poor vision then can become poor students, dropouts, and potential behavioral problems. Also, almost 57% of the labor force is comprised of persons age 45-64, 86% of whom typically require vision correction. Table 5 shows the number of persons and percent of population in each of five age groups, along with corresponding information on the use of corrective lenses. Note that lens wearers represented less than 50 percent of the population in 1971.

TABLE 5

NUMBER AND PERCENT OF POPULATION WITH CORRECTIVE LENSES BY AGE (1971) (Millions)

AGE GROUP	PERSONS	TOTAL	NO. WEARING CORRECTIVE LENSES	PERCENT OF TOTAL POPULATION WEARING CORRECTIVE LENSES
3-16	55.8	29%	9.2	10%
17-24	27.3	14%	11.1	12%
25-44	47.4	25%	20.0	21%
45-64	41.8	22%	36.1	38%
65 & over	19.3	10%	17.8	19%
Total	191.6	100%	94.2	100%

Source: Trapnell Report.

Table 6 contains a more detailed breakdown of lens wearers, in which incomes within age groups are also presented. Note, that with the exception of persons aged 65 and over, the number of persons using corrective lenses increases directly with income. In fact, for all age groups (excluding 65 and over), the average use of corrective lenses for persons earning $17,500 or more is approximately seven and one half times more than for those earning $3,500 or less per year, although there is no less need for such services in the lower income group.

2.2.2 Ophthalmic Industry

The ophthalmic industry is composed of those who examine vision, those who dispense corrective lenses, and those who wholesale and manufacture lenses. There is not a clear delineation of functions among these various groupings in the industry. In some cases, one group performs more than one service or holds a financial interest in another function. Each of these functional areas is discussed below, along with their interrelationships:

- Vision Examination and Corrective Lens Dispensing

  There are three kinds of vision care practitioners who dispense corrective lenses: ophthalmologists, optometrists, and opticians. Ophthalmologists and optometrists both can examine vision and write prescriptions for corrective lenses. A more detailed discussion of these three follows:

  - Ophthalmologist - An ophthalmologist is a physician who can perform surgery, diagnose, and treat the eye with drugs, as well as refract for and dispense corrective lenses. In short, an ophthalmologist can perform all services relating to eye care. An ophthalmologist has received four years of training at an accredited medical school or college. In addition, to be certified by the Board of Ophthalmology and Otolaryngology, this physician must have completed at least two years of residency training in ophthalmology. In 1975, there were 11,000 active ophthalmologists in the U.S.

TABLE 6: Projected U.S Population in 1975 of Persons Using Corrective Lenses

(Thousands of Persons)

Age	All Incomes	0 - $3,500	$3,500 - $6,000	$6,000 - $8,000	$8,000 - $11,700	$11,700 - $17,500	$17,500 over
		Income in 1975 Dollars					
0 - 12	4,765	206	350	455	733	1,442	1,579
13 - 17	7,163	320	431	561	944	2,050	2,857
18 - 44	38,751	2,280	2,508	3,766	6,122	11,423	12,652
45 - 64	39,846	2,669	3,447	4,144	5,983	10,250	13,353
65 and over	21,258	5,667	5,370	3,550	2,410	2,196	2,065
All Ages	111,783	11,142	12,106	12,476	16,192	27,361	32,506
Percentage of Population in Cell							
Age							
0 - 12	10%	8%	9%	9%	10%	10%	12%
13 - 17	34%	25%	27%	28%	31%	35%	38%
18 - 44	46%	40%	41%	42%	44%	47%	51%
45 - 64	89%	81%	87%	87%	89%	91%	92%
65 and over	94%	92%	93%	95%	95%	96%	96%
All Ages	51%	23%	56%	51%	48%	47%	52%

Source: Trapnell Report

- Optometrist - An optometrist is a non-medical practitioner concerned with vision problems. Optometrists examine the eyes and related structures to determine the presence of any abnormality and prescribe and adapt lenses and other optical aids. In addition, they are licensed to detect eye and other systemic diseases, as well as (in 17 States)[1] to examine the eyes with the use of drugs. However, optometrists do not prescribe drugs, make definitive diagnoses of or treat eye diseases, nor perform surgery. An optometrist is licensed to practice (in all U.S. states and jurisdictions), after completing four years of training at an accredited school or college of optometry, at which time a Doctor of Optometry (O.D.) is awarded. At least two years of college level course work is required for admission to an optometry school. In 1975, there were 18,000 active optometrists.
- Optician - An optician is a health care worker who fits, supplies, and adjusts corrective lenses according to prescriptions written by ophthalmologists or optometrists, to correct ocular or muscular vision defects. In some states, opticians also fit contact lenses. They do not examine eyes or prescribe treatment or perform any of the services exclusive to ophthalmologists. Currently, opticians are licensed in 19 states.[2] In 1975, there were about 15,000 opticans in the U.S. Over 11,000 were dispensing opticians and 4,000 were ophthalmic technicians working in laboratories.

With respect to corrective lenses, both ophthalmologists and optometrists (but not opticians) examine and refract the eyes. An estimated 40% of ophthalmologists and 75% of optometrists dispense corrective lenses. In addition,

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1. The states which permit optometrists to use "diagnostic pharmaceutical agents" to examine eyes are: Alabama, California, Delaware, Florida, Idaho, Indiana, Kansas, Louisiana, Maine, Minnesota, New Jersey, Oregon, Pennsylvania, Rhode Island, Tennessee, and West Virginia (which also permits the use of "therapeutic pharmaceutical agents").
2. The 19 states which license opticians are Alaska, Arizona, California, Connecticut, Florida, Georgia, Hawaii, Kentucky, Massachusetts, Nevada, New Jersey New York, North Carolina, Rhode Island, South Carolina, Tennessee, Vermont, Virginia, and Washington.

36% of all prescriptions are written, and 15% of all corrective lenses are dispensed by ophthalmologists, while optometrists account for 60% in both categories. Opticians account for 25% of the eye lenses dispensed in a year.

The average retail outlet serves about 3,000 clients and handles about 1,150 pairs of eyeglasses per year, or about 22 per week. (Between 20-25 eyeglasses per week is considered good business.) Referrals from two ophthalmologists can support one optican.

Table 7 summarizes the selected characteristics of the three groups discussed above. Table 8 presents the distribution of ophthalmologists, optometrists, and opticians by state.

A total of 49.5 million diagnostic eye examinations costing $1.12 billion were performed by optometrists and ophthalmologists in 1975, either in their own offices or other facilities. These examinations result in the dispensing of 47.0 million corrective lenses, costing $2.315 billion. Table 9 shows how these services and costs were distributed among four different types of vision care providers.

Manufacturers

There are about 46 major domestic manufacturers of opthalmic goods (lenses, frames, accessories). Six account for about 85% of recent annual domestic manufacturer sales of $550 million. Two firms--American Optical (30%) and Bausch and Lomb (20%)--together account for half of this market. Another 30-50 smaller firms manufacture small quantities of goods but are not significant factors in the industry. The six major optical manufacturers and their share of the market are shown below:

Optical Manufacturer	Share (%) of Market
American Optical	30
Bausch and Lomb	20
Shuron Continental	15
Univis	10
Titmus	6
Vision Ease	4
Total	85%

Source: Arthur D. Little, Inc. estimates (1974)

Essentially, there are four basic stages in the manufacturing of eyeglasses:

1. Raw Material
2. Glass or Plastic Blanks
3. Semi-Finished Lenses
4. Finished Lenses

Lenses may be shipped to optical wholesalers as finished lenses or in semi-finished form, depending on the capability of the wholesaler. This option is discussed more fully under Wholesalers.

An important point ought to be made about frames. The Arthur D. Little, Inc. study of the eyeglass industry pointed out that high-fashion frames are marked up by the manufacturer three to six times over actual manufacturing costs, while standard frames are marked-up only two times.

. Wholesalers

There are over 800 optical wholesalers with a total of about 1,500 locations. These wholesalers are of two types: suppliers, who merely store finished lenses and distribute them on order to retailers; or, fabricators, who receive semi-finished lense blanks from manufacturers and perform all necessary tasks

TABLE 7

OPHTHALMIC PRACTITIONERS
BY SELECTED CHARACTERISTICS

Characteristic	Ophthalmologist	Optometrist	Optician
Active Number	11,000	18,000	15,000
Education or Training	4 years medical school & 2 years residency in Ophthalmology	4 years optometry after 2 years college	Apprenticeship or 1-2 years training (no higher ed. req.)
Services			
Surgery	Yes	No	No
Use of Drugs to:			
Treat	Yes	West Virginia Only	No
Test	Yes	17 States	No
Refract	Yes	Yes	No
Dispense	Yes (40%)	Yes (75%)	Yes (75%)
Percentage of Total			
Prescriptions	36%	60%	0%
Dispensing	15%	60%	25%

TABLE 8

NUMBER OF OPHTHALMOLOGISTS, OPTOMETRISTS, AND OPTICIANS BY STATE

State	(1972) Ophthalmologists (M.D)	(12/71) Optometrists	(1969) Opticians
Totals	9,869	20,736[1]	10,963
Alabama	104	176	163
Alaska	8	14	14
Arizona	91	151	109
Arkansas	85	176	33
California	2,272	2,702	732
Colorado	236	206	256
Connecticut	360	286	199
Delaware	58	41	48
District of Colombia	209	68	138
Florida	663	591	434
Georgia	414	299	254
Guam	*	---	---
Hawaii	42	76	55
Idaho	32	98	21
Illinois	455	1,741	426
Indiana	189	568	212
Iowa	118	350	170
Kansas	81	262	99
Kentucky	117	253	159
Louisiana	178	241	152
Maine	42	129	10
Maryland	220	220	316
Massachusetts	344	788	473
Michigan	347	835	366
Minnesota	179	408	283
Mississippi	63	133	64
Missouri	231	466	277
Montana	37	102	53
Nebraska	56	162	113
Nevada	22	39	23
New Hampshire	30	83	30
New Jersey	352	714	337
New Mexico	43	74	48
New York	1,192	1,798	1,357
North Carolina	185	354	165
North Dakota	17	76	20
Ohio	410	1,056	566
Oklahoma	96	272	130
Oregon	140	318	106
Pennsylvania	624	1,287	698
Puerto Rico	*	---	---
Rhode Island	33	144	66
South Carolina	82	178	57
South Dakota	16	96	37
Tennessee	163	338	167
Texas	461	850	667
Utah	55	86	118
Vermont	20	48	8
Virgin Islands	*	---	---
Virginia	372	298	254
Washington	273	429	179
West Virginia	91	151	62
Wisconsin	290	463	235
Wyoming	15	42	8

--- Not Available

* Guam, Virgin Islands, & other outlying areas = 83

1. An estimated 18,300 of these optometrists are active in the profession.
   Source: The Blue Book of Optometrists. Chicago, Professional Press, Inc. 1972.

2. Dispensing Opticians and Contact Lens Technicians state figures do not add due to rounding. Includes 351 non-dispensing opticians.
   Source: U.S. Bureau of the Census Population Estimates, Current Population Reports, Series P-25, No. 436, 1/70 and 4421, 3/70.

TABLE 9

USE AND SPENDING ON
SIGHT CORRECTION SERVICES
BY PROVIDER (1975)

PROVIDER	DIAGNOSTIC EXAMINATION (A) #	$ (millions)	= Avg. Cost	CORRECTIVE LENSES (B) #	$ (millions)	= Avg. Cost	(A)+(B)
Optometrists	25.5	$525	$20.58	22.2	$1,150	$51.80	$72.38
Ophthalmologists[1]	20.5	510	24.87	4.6	240	52.17	77.04
Opticians[2]	1.2	25	20.83	18.7	865	46.56	67.39
Institutions[3]	2.3	60	26.09	2.7	60	22.22	48.31
Total/Average	49.5	$1,120	$24.59	48.2	$2,315	43.18	$66.28

1. Includes services of Opticians and Optometrists employed by M.D.'s.

2. Includes services of Optometrist and Opticians employed by corporations.

3. Includes services provided by O.D.'s & M.D.'s & Opticians in hospitals, nursing homes and other settings for care.

Source: Based on "Trapnell Report", Table 1.

to make complete eyeglasses: grinding, edging, and assembling lenses into frames. As such, this second type act as optical laboratories.

About 300 opticians own their own laboratories. Of the other 500 optical wholesalers, 10 account for about 500 separate locations. Two manufacturers--American Optical (229) and Bausch and Lomb (149)--also operate, and alone account for, 80% of these types of wholesalers.

In addition to these, eight independent wholesalers each have five or more separate laboratory locations. However, it must be noted that, despite this concentration, no one independent firm does more than 1% of the U.S. lens grinding business.

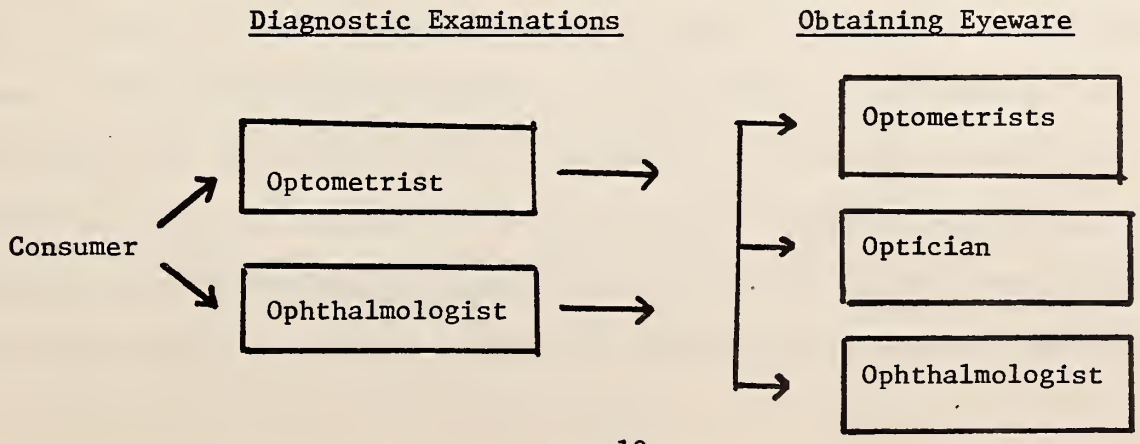
The average wholesale laboratory supplies material to about 24 retail outlets. These supplies amount to about an average of 27,850 pairs of eyeglasses per year, or about 535 pairs per week.

2.2.3 Summary

As the preceeding sections have shown, the relationships of consumers, prescribers, dispensers, wholesalers, and manufacturers in the ophthalmic industry is both complex and dynamic. The consumer has several options in receiving care, presented in Figure 1.

FIGURE 1

CONSUMER OPTIONS IN OBTAINING EYE CARE



The consumers selection of how eye care is provided directly affects the costs of eye care. Summarizing Table 9, presented earlier, these costs for eyeglasses by provider are as follows:

Provider	Total Cost of Glasses
Optometrist	$72.38
Ophthalmologist	77.05
Optician	67.39
Institutions	48.30
Average	$66.28

What do these total costs entail? The constituent parts involved in these totals include:

- Professional Services
  - Medical Exam
  - Refraction/Prescription
- Product Costs
  - Lenses
  - Frames
- Dispensing Costs
  - Overhead
  - Fitting Charges, etc.

Each of these represents a discrete function within the process of obtaining eyeglasses. Dispensing ophthalmologists and optometrists have a distinct advantage in allocating costs among these functions because they prescribe as well as dispense. In this way, they can recover losses in one area by charging more in another. To complicate matters further, the ophthalmic industry itself is characterized by a mix of functions and ownership. This has been succinctly stated in an FTC report:

> The ophthalmic industry is divided into three functional subparts: (1) manufacturers of frames and lenses; (2) wholesale laboratories which purchase frames and lenses and fabricate them into completed eyeglasses on the prescription orders of retailers; and (3) retailers, either ophthalmologists, optometrists or opticians, who dispense the finished product to the ultimate consumer. Vertical integration within the industry, however, often blurs these sharp functional divisions. On one hand, large manufacturers have integrated backward into the ownership of their own laboratories.[3]

In 1973, it was estimated that optical manufacturers' sales amounted to $550 million. At the wholesale level, total sales for lenses, frames, and accessories was about $1 billion. In 1973, the total market for ophthalmic services and hardware was $2.2 billion, including both retail sales of hardware and the examination and prescribing services of ophthalmologists and optometrists. This suggests that the price increases all along the process. Manufacturers have markups to wholesalers, and wholesalers in turn have markups to retailers. Furthermore, it suggests that wholesalers appear to get the major portions of the money spent on ophthalmic goods.

Whether or not the prices charged to the public are reasonable is now under contention. This has been brought to light primarily by the debate over price advertising for eyeglasses. The FTC and consumer groups maintain that prices are inflated and that advertising, by introducing more competition in the industry, would lower prices.

To substantiate their claims of price inflation, the FTC examined manufacturers', wholesalers', and retailers' prices. Table 10 presents selected examples of prices charged to wholesalers by manufacturers for pairs of lenses, and the manufacturers' suggested resale price of these lenses.

3 Staff Report of Federal Trade Commission, "Advertising of Ophthalmic Goods and Services", Washington, January, 1976, p. 4.

TABLE 10

MANUFACTURERS PRICES

	Spheres 4.25 to 6.00		Sphere-Cylinders 4.25-6.00c, 0.25-2.00c		Semi-Finished Blanks or 63 round; 2.2mm thick		Semi-Finished Bifocals 22mm flat 63mm Round	
	W	R	W	R	W	R	W	R
Bausch & Lomb	2.30	2.98	2.84	3.60	1.22	1.78	5.48	6.14
Warner-Lambert	2.26 2.68	3.02 3.52	2.74 3.25	3.66 4.18	1.24	1.90	6.14(58mm)	6.76(58mm)
Frigitronics					1.20		5.29	
Titums	1.81	3.39	2.19	4.11	.96	1.80	4.14	6.62
Textron	2.35	2.95	2.85	3.60	1.25	1.75	5.55	6.15
Dentsply	2.15	2.75	2.65	3.35	1.15 1.36	1.65 1.70	4.00 6.75(finished)	5.60 8.45(finishe
Buckbee-Mears					1.38		5.49	
Itek	2.30	2.98	2.84	3.60			5.56	

W = Wholesale price
R = Suggested resale price

Source: FTC Staff Report, Advertising of Ophthalmic Goods and Services, p. 52.