

# **Optometrists Employed in Health Services United States-1968**

Statistics are presented for both active and inactive optometrists by demographic characteristics, education and training, and general exposition of professional activities. Data are based on information obtained from the National Vision and Eye Care Manpower Surveys conducted in 1968 and 1969 and from a mail survey of all optometrists conducted between September and December 1968.

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Under the legislation establishing the National Health Survey, the Public Health Service is authorized to use, insofar as possible, the services or facilities of other Federal, State, or private agencies.

In accordance with specifications established by the National Center for Health Statistics, the Bureau of the Census, under a contractual arrangement, participated in planning the survey and collecting the data.

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### SYMBOLS

|   |     |
|---|-----|
| Data not available-----   | --- |
| Category not applicable-----  | ... |
| Quantity zero-----  | -   |
| Quantity more than 0 but less than 0.05----                         | 0.0 |
| Figure does not meet standards of<br>reliability or precision-----  | *   |
| Data suppressed to comply with<br>confidentiality requirements----- | #   |

# OPTOMETRISTS EMPLOYED IN HEALTH SERVICES

Henry S. Mount, M.A., and Bettie L. Hudson, B.A.,  
*Division of Health Resources Statistics*

## INTRODUCTION

This is the fourth report in the series designed to present statistics based on data collected from the National Vision and Eye Care Manpower Surveys conducted in 1968-69. The data were collected by the U.S. Bureau of the Census under contract to the Division of Health Resources Statistics of the National Center for Health Statistics. The earlier reports in this series provide statistical data on opticians and ophthalmologists. The present report contains statistics about optometrists derived from data collected through a mail survey of all optometrists conducted between September and December 1968.

Data obtained from the Vision and Eye Care Surveys were intended to serve two purposes: first, to obtain needed information about the personnel providing health care to persons with vision and eye care problems; and second, to obtain information concerning the characteristics of persons in three health manpower occupations—ophthalmologists, optometrists, and dispensing opticians.

Information supplied in this report is designed to present statistics about the demographic characteristics of optometrists, the education and training they have received, and a general exposition of their professional activities. Statistics are presented for both active and inactive optometrists. Most of the questionnaire was concerned with the professional activities of practicing optometrists, termed "active" optometrists. Only a limited set of questions was applicable to inactive persons. The report therefore presents

information primarily about the active optometrists.

Future reports, based on data obtained from optometrists, will examine in greater detail the kinds and amounts of their professional activities and the numbers and types of support personnel that assist them.

Findings from the survey are discussed in the text. The bulk of the statistical data is contained in the detailed tables 1-16. Technical information about the methodology employed in the survey is found in appendix I. Demographic and optometric terms used in the report are defined in appendix II, and the optometrist questionnaire used in the survey is reproduced in appendix III.

## ACTIVITY STATUS

In 1968 there were 20,301 civilian optometrists in the United States. Active optometrists numbered 18,427, or 91 percent of the total. Inactive optometrists were almost evenly divided between those who were neither active nor retired (termed "inactive but not retired"), and those who were retired. The respective numbers were 951 and 922 for the inactive but not retired and the retired.

Primarily, it is men who practice optometry. Women represented only 3 percent of all optometrists in the United States (table A). In terms of the active optometrists, they represented only 2 percent. The decrease in the percentage was due

Table A. Number and percent distribution of optometrists by sex, age at time of survey, and age at graduation, according to activity status: United States, 1968

| Sex, age at time of survey, and age at graduation | Total  | Activity status |                          |         |
|---|--------|-----------------|--------------------------|---------|
|   |        | Active          | Inactive but not retired | Retired |
| Number of optometrists                            |        |                 |                          |         |
| Total . . . . .                                   | 20,301 | 18,427          | 951                      | 922     |
| Percent distribution                              |        |                 |                          |         |
| Total, both sexes . . . . .                       | 100.0  | 100.0           | 100.0                    | 100.0   |
| Male . . . . .                                    | 97.1   | 97.9            | 86.2                     | 93.0    |
| Female . . . . .                                  | 2.9    | 2.1             | 13.8                     | 7.0     |
| Total, all ages at time of survey . . . . .       | 100.0  | 100.0           | 100.0                    | 100.0   |
| Under 25 years . . . . .                          | 0.4    | 0.4             | 0.6                      | 0.2     |
| 25-34 years . . . . .                             | 10.2   | 11.0            | 4.5                      | 0.1     |
| 35-44 years . . . . .                             | 27.8   | 29.5            | 22.3                     | 0.6     |
| 45-54 years . . . . .                             | 34.4   | 36.2            | 31.1                     | 2.9     |
| 55-64 years . . . . .                             | 14.1   | 14.2            | 15.6                     | 9.8     |
| 65-74 years . . . . .                             | 8.8    | 6.6             | 14.9                     | 46.1    |
| 75 years and over . . . . .                       | 4.4    | 2.2             | 11.1                     | 40.3    |
| Total, all ages at graduation . . . . .           | 100.0  | 100.0           | 100.0                    | 100.0   |
| Under 23 years . . . . .                          | 18.0   | 17.2            | 28.6                     | 24.2    |
| 23-24 years . . . . .                             | 24.4   | 24.7            | 24.3                     | 18.0    |
| 25-26 years . . . . .                             | 19.3   | 19.7            | 13.2                     | 16.8    |
| 27-29 years . . . . .                             | 19.5   | 20.0            | 12.7                     | 16.6    |
| 30-34 years . . . . .                             | 12.8   | 12.7            | 12.4                     | 14.4    |
| 35 years and over . . . . .                       | 6.1    | 5.8             | 8.8                      | 10.1    |

to the fact that 33 percent of all female optometrists were either retired members of the profession or inactive but not retired.

Females, while representing only 3 percent of all optometrists, represented 14 percent of the inactive but not retired and 7 percent of the retired. It is not difficult to explain the large percentage of inactive but not retired females. They well may have removed themselves—tem-

porarily or permanently—from active participation in the profession in favor of full-time participation in family activities. What is not as easy to explain, however, is the large percentage of retired females. Some of these women may have classified themselves as “retired” instead of as “inactive but not retired.” They may have done this because they do not plan to become active in optometry.

As would be expected, the vast majority of retired optometrists was 65 years of age or over—86.4 percent in 1968 (table A). An additional 9.8 percent were between the ages of 55 and 64.

The age distributions of the active and inactive optometrists were different in several significant details (table A). Active optometrists were more concentrated in the younger groups (under 55 years of age). This is as would be expected.

There was a large concentration of inactive optometrists among persons 65 years of age and over. At least some of these could be classifying themselves as “inactive but not retired” when in fact they should be classifying themselves as “retired.” Twenty-six percent of the inactive but not retired group were 65 years of age or over. We do not know precisely why members of this group identified themselves as “inactive but not retired” instead of as “retired.” It will require a special study to determine if they failed to identify themselves as retired for significant reasons.

There also appears to be a heavier concentration of inactive but not retired optometrists among persons graduating at the earlier ages, compared with active or retired optometrists (table A). Among both the retired and active groups, 42 percent graduated before age 25. Among the inactive but not retired group, 53

percent graduated before age 25. A part of this difference is undoubtedly due to persons who, having completed at least part of their training, decided that they were in the wrong profession. Unfortunately, this survey was not designed to elicit the depth of information about the inactive but not retired group that would permit a more thorough examination or a detailed explanation of the reasons for the differences. Perhaps future studies will provide such information.

## GEOGRAPHIC DISTRIBUTION

Optometrists are unequally distributed geographically. In general, the distribution of optometrists is related to the distribution of the population. Several distinctions exist, however, between the two distributions.

The largest difference between the distribution of the population and that of optometrists occurs in the South Region. Only 22.4 percent of active optometrists practice in this region (table B).

Comparing the percentages of the population with the percentages of optometrists in each region leads to a single conclusion. Except for the South, the rest of the United States has larger percentages of the optometrist population

Table B. Percent distribution of the 1968 population and of optometrists by geographic region, according to activity status: United States, 1968

| Geographic region       | 1968<br>civilian<br>population | Optometrists |        |                                |         |
|-------------------------|--------------------------------|--------------|--------|--------------------------------|---------|
|                         |                                | Total        | Active | Inactive<br>but not<br>retired | Retired |
| Percent distribution    |                                |              |        |                                |         |
| All regions . . . . .   | 100.0                          | 100.0        | 100.0  | 100.0                          | 100.0   |
| Northeast . . . . .     | 24.4                           | 26.0         | 25.8   | 30.9                           | 25.2    |
| North Central . . . . . | 28.0                           | 32.3         | 31.9   | 36.2                           | 36.6    |
| South . . . . .         | 31.0                           | 21.8         | 22.4   | 16.0                           | 15.8    |
| West . . . . .          | 16.6                           | 19.9         | 19.9   | 16.9                           | 22.5    |



than it does of the civilian population (table B). The effect is that the South has a much smaller ratio of optometrists to the population than do the other three regions. In fact the distribution is skewed to such an extent that the South has the only regional ratio below the national ratio of 10.3 optometrists per 100,000 population. The respective ratios for the four regions were Northeast 11.0; North Central, 11.8; West, 12.3; and South, 7.2 per 100,000 population.

Precise reasons for this maldistribution will have to be sought by others. One possible explanation may be associated with the geographic distribution of schools of optometry. Only two schools of optometry are located in the South.

Maldistribution of optometrists also occurs on the divisional and State levels.

The Middle Atlantic, East North Central, and Pacific Divisions accounted for 58 percent of all optometrists, yet these areas accounted for only 51 percent of the population. Perhaps even more significant is the fact that these three divisions accounted for 68 percent of all inactive but not retired optometrists. It is possible that the large percentage of inactive but not retired optometrists is related to a surplus of optometrists in these three divisions.

Thirty percent of the population is concentrated in four States—California, Illinois, New York, and Pennsylvania. These four States contain 37 percent of all optometrists and 36 percent of active optometrists, but they have a concentration of 56 percent of the inactive but not retired group.

This heavy concentration of inactive but not retired optometrists certainly suggests the need for future study of the reasons for the inactivity of these trained professionals. Their inactive status may be the result of factors related to maldistribution. If such is the case, then dissemination of knowledge about geographic areas in need of optometrists might equalize the distribution and make use of the talents of this particular group.

Figures 1 and 2 provide pictorial information on the State by State distribution of optometrists and the ratio of optometrists to the population. Of the States with the largest concentrations of optometrists—California, Illinois, Ohio, Pennsylvania, and New York (figure 1)—only

one, Illinois, is among the States with the highest ratio of optometrists to the population (figure 2). The fact that schools in Illinois have produced a large percentage of all trained optometrists may be a contributing factor in the magnitude of the ratio for the State of Illinois.

Some indication of the changes that have taken place in both the numbers of optometrists and the ratios to the population since 1960 can be obtained from a comparison with data obtained from the decennial census. Because of differences in the methods and definitions, comparability is not exact and should be examined with caution.

In 1960, there were 16,044 employed optometrists in the United States.<sup>1</sup> According to the survey in 1968 there were 18,427 active optometrists. This would indicate an increase of 2,383 active optometrists in 8 years. Likewise, in 1960, the number of employed optometrists per 100,000 population was 8.9.<sup>2</sup> In 1968 there were 9.3 active optometrists per 100,000 population. Despite the difficulties of comparing the two sets of figures, it seems that an increase, both in the absolute number and ratio of optometrists to the population, has taken place. However, because of the differences previously mentioned, it is not possible to speculate how much of an increase has, in fact, taken place.

## DEMOGRAPHIC AND PROFESSIONAL CHARACTERISTICS OF ACTIVE OPTOMETRISTS

The current age distribution of optometrists has certain implications for the future number of optometrists that will be available to provide care to persons with vision and eye care problems in the years to come.

At the time of the survey, the median age of all active optometrists was 47.5 years. This median will change, over time, because of the current age distribution of active optometrists.

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<sup>1</sup>Division of Public Health Methods: *Health Manpower Source Book, Section 17, Industry and Occupation Data From the 1960 Census, by State*, by R. A. Prindle and M. Y. Pennell. PHS Pub. No. 263, sec. 17. Public Health Service. Washington. U.S. Government Printing Office, 1963. p. 43.

<sup>2</sup>*Ibid.*

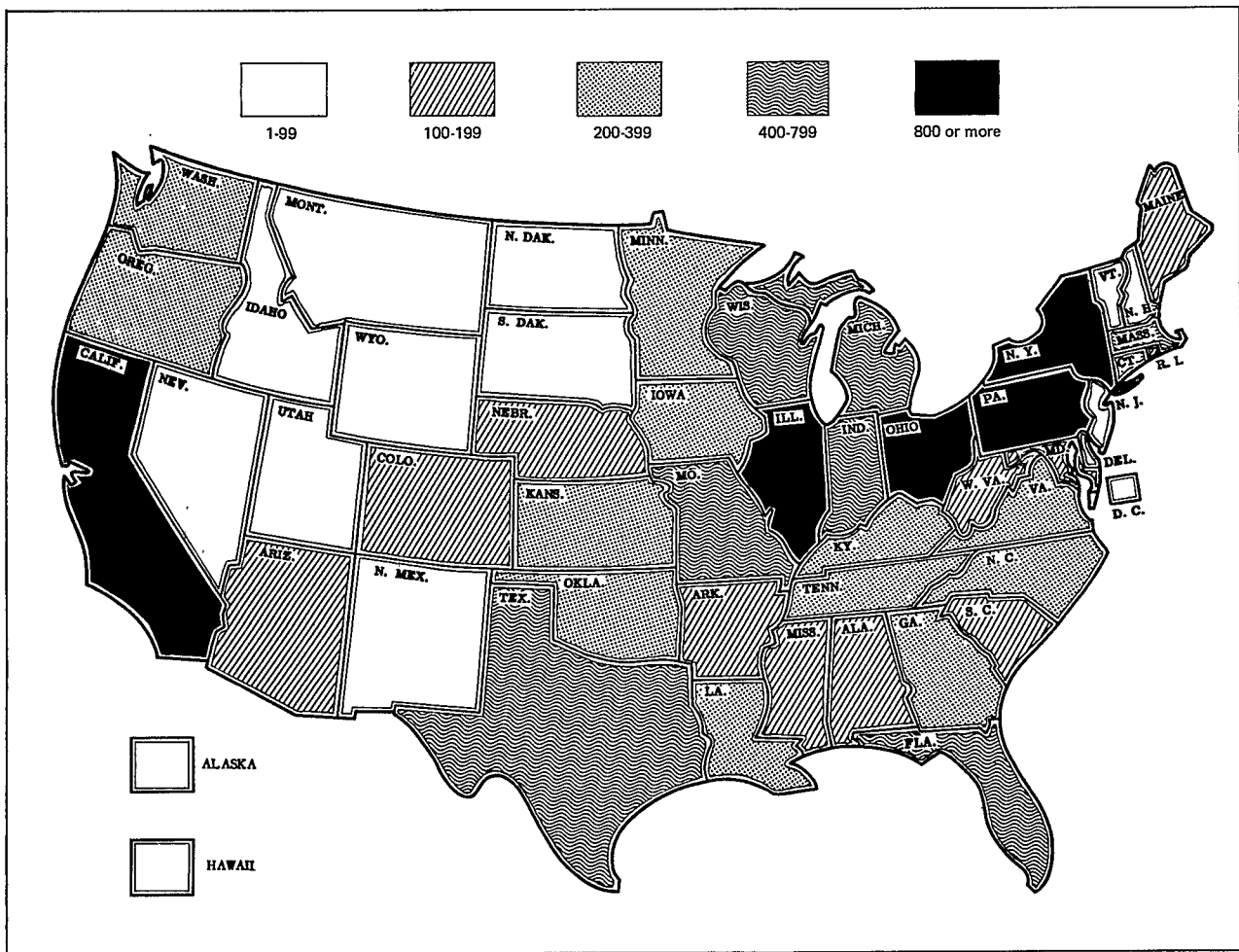


Figure 1. Number of active optometrists by State: United States, 1968.

Optometrists under 40 years of age comprised only 22 percent of all active optometrists. At the same time, those between the ages of 40 and 54 comprised 55 percent of the active optometrists. In terms of numbers, the two groups were composed of 4,037 of the former, and 10,152 of the latter. (The age distribution of active optometrists is shown in figure 3.) In effect, the younger group represents only 40 percent of the older group.

Because of the large concentration of active optometrists in the 15-year age group—40-54—the median age of active optometrists will probably rise over the next decade and then begin to decline. This is based on the assumption that the number of optometrists that will re-

place the current 40-to-54-year group are not numerically large enough to offset the rate of attrition that will take place in the older group because of retirement or death.

Without some increase in the rate of entry of new professionals (or an influx at the older ages), it is also to be expected that the total number of active optometrists will begin to decline as soon as those currently 40-54 years of age reach retirement age. Another factor in the expected decline is that the group under 40 years of age is too small to replace the older group as the older group becomes inactive.

The geographic distribution of optometrists is also related to their ages. Data presented in table C attest to such a relationship. It is particularly

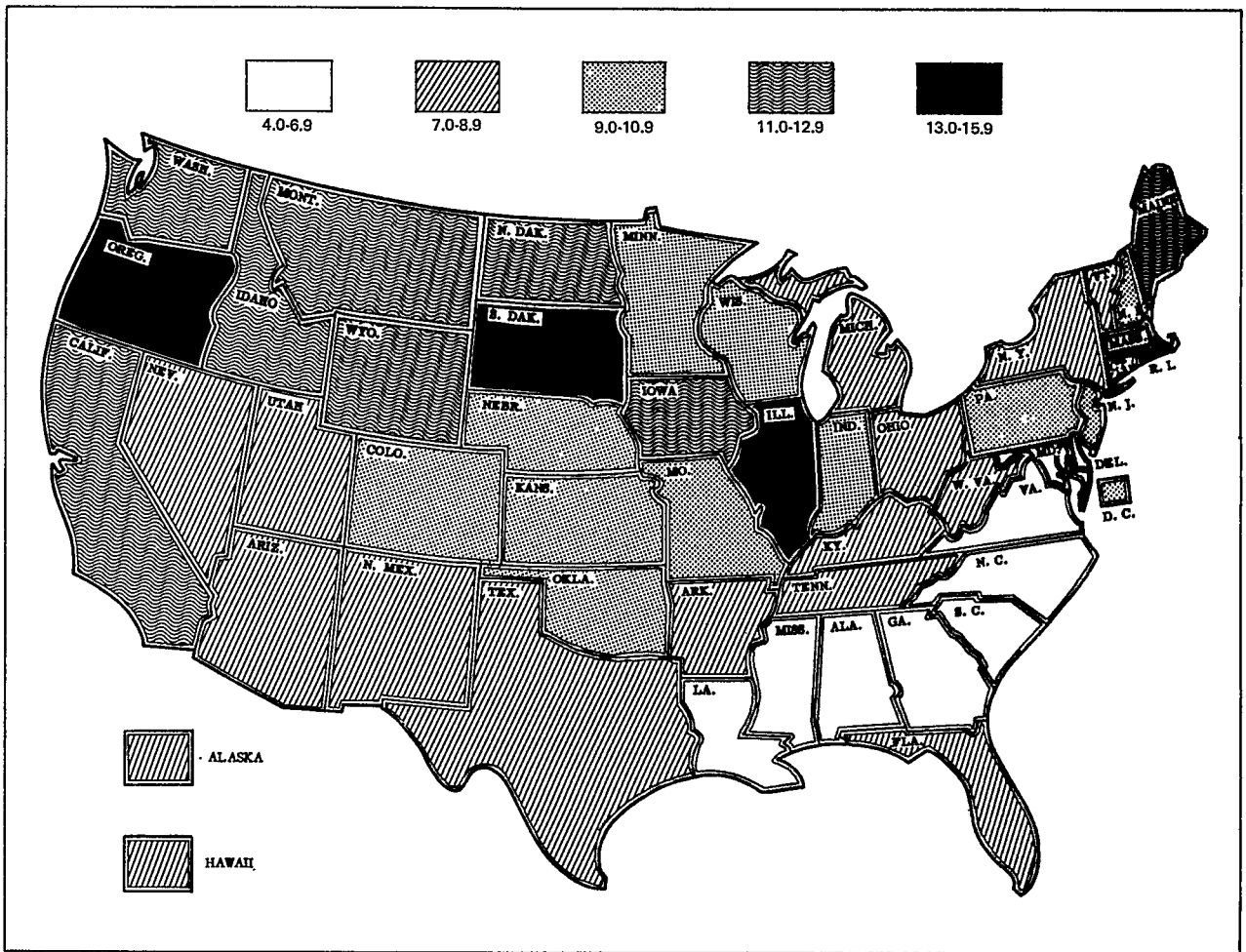


Figure 2. Number of active optometrists per 100,000 population: United States, 1968.

evident in the West Region. Active optometrists in the West Region represented a smaller percentage of the active optometrists in each age group as the ages of the optometrists rose.

Data in table C indicate that a dichotomy exists in the geographic distribution of active optometrists. Older optometrists are concentrated in the Northeast and North Central Regions. Younger ones are concentrated in the South and West. The fact that urbanization has been established to a greater extent in the Northeast and North Central Regions, for a longer period of time, may account for the greater concentration of older optometrists in these regions.

Sex and age are also related. A larger percentage of males than females are in the younger age groups; conversely there is a greater percentage

of females in the older age groups of active optometrists. Among the males, 41 percent were under age 45 as compared with only 31 percent of the females. The male-female percentages were 23 and 32, respectively, for those 55 years of age and over.

The number of States in which each active optometrist was licensed to practice was another relationship found to be associated with the ages of the optometrists. The median number of States for all active optometrists was 1.66. The median number for those in specific age groups varied inversely with the ages of the groups. Among the youngest (under 35 years of age), the median number of States was 1.80, while among those 75 years of age or more, the median was down to 1.54. The implications are

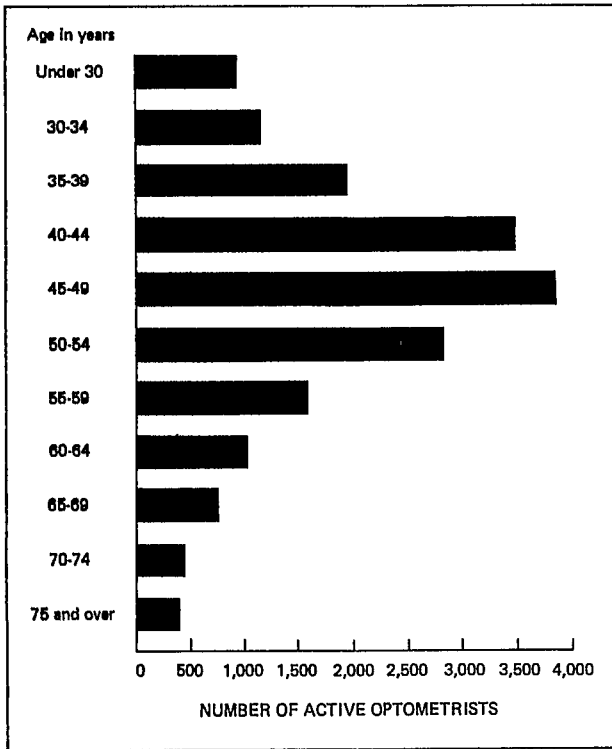


Figure 3. Number of active optometrists by age: United States, 1968.

as follows: Younger optometrists are acquiring licenses in more States than their older counterparts; older optometrists are relinquishing licenses previously held; or a combination of the two types of actions. Regardless of the reasons, it is evident that younger, active optometrists are licensed to practice in more States than are older members of the profession.

To be licensed in 1968, optometrists must have completed varying periods of training depending on the State(s) in which they were licensed. Thirteen States and the District of Columbia required optometrists to have a minimum of 6 years of preoptometry and professional optometry training; 26 States required at least 5 years; the remaining 11 States required 3 or 4 years of training in such programs.<sup>3</sup>

Training for optometry took place in the schools of optometry scattered throughout the

country. (At the time of the survey, there were 10 accredited colleges of optometry in the United States.)<sup>4</sup> However, the majority of optometrists currently active obtained their training in a limited number of such schools. About sixty-three percent of all active optometrists were trained in the following five schools:

| Place of training                                | Percent of all active optometrists |
|--|------------------------------------|
| Total .....                                      | 63.4                               |
| Northern Illinois College,<br>Chicago, Ill. .... | 21.9                               |
| Southern College, Memphis, Tenn. ....            | 12.8                               |
| Pennsylvania College, Philadelphia, Pa. ....     | 12.2                               |
| Illinois College, Chicago, Ill. ....             | 8.4                                |
| Los Angeles College, Los Angeles,<br>Calif. .... | 8.1                                |

Earlier it was pointed out that Illinois was among those States with both the largest number of optometrists and the highest ratio of optometrists to the population. Two of the schools of optometry listed above are located in Illinois. Between them they trained almost one-third of all active optometrists. In all probability the concentration of optometrists in Illinois is related to the large percentage trained by schools within that State.

A limited relationship was found to exist between the ages of the optometrists and the age at graduation from schools of optometry. Specifically, a direct relationship was found to exist between each group of optometrists of differing ages and the percentages of each group graduating before age 23 (table D). Only 4 percent of the optometrists under 35 years of age graduated before age 23. In contrast, 32 percent of those 65 years of age and over graduated before age 23.

Given this relationship and the fact that 89 percent of all active optometrists graduating before age 23 obtained doctor of optometry (O.D.) degrees, it would appear that future recipients of the O.D. degree will almost all have

<sup>3</sup>National Center for Health Statistics: *State Licensing of Health Occupations*. PHS Pub. No. 1758. Public Health Service. Washington. U.S. Government Printing Office, 1968. p. 86.

<sup>4</sup>National Center for Health Statistics: *Health Manpower and Health Facilities, 1968. Health Resources Statistics*. PHS Pub. No. 1509. Public Health Service. Washington. U.S. Government Printing Office, 1968. p. 202.

Table C. Number and percent distribution of active optometrists by geographic region, according to age: United States, 1968

| Geographic region                 | All ages | Age            |             |             |             |                   |
|-----------------------------------|----------|----------------|-------------|-------------|-------------|-------------------|
|                                   |          | Under 35 years | 35-44 years | 45-54 years | 55-64 years | 65 years and over |
| Number of active optometrists     |          |                |             |             |             |                   |
| All active optometrists . . . . . | 18,427   | 2,087          | 5,433       | 6,669       | 2,617       | 1,622             |
| Percent distribution              |          |                |             |             |             |                   |
| All regions . . . . .             | 100.0    | 100.0          | 100.0       | 100.0       | 100.0       | 100.0             |
| Northeast . . . . .               | 25.8     | 19.4           | 25.2        | 24.9        | 31.5        | 30.5              |
| North Central . . . . .           | 31.9     | 29.4           | 29.5        | 33.2        | 34.1        | 34.1              |
| South . . . . .                   | 22.4     | 24.2           | 24.0        | 23.3        | 17.6        | 19.1              |
| West . . . . .                    | 19.9     | 27.1           | 21.2        | 18.6        | 16.9        | 16.3              |

Table D. Number and percent distribution of active optometrists by age at graduation, according to age at time of survey: United States, 1968

| Age at graduation                 | All ages | Age at time of survey |             |             |             |                   |
|-----------------------------------|----------|-----------------------|-------------|-------------|-------------|-------------------|
|                                   |          | Under 35 years        | 35-44 years | 45-54 years | 55-64 years | 65 years and over |
| Number of active optometrists     |          |                       |             |             |             |                   |
| All active optometrists . . . . . | 18,427   | 2,087                 | 5,433       | 6,669       | 2,617       | 1,622             |
| Percent distribution              |          |                       |             |             |             |                   |
| All ages . . . . .                | 100.0    | 100.0                 | 100.0       | 100.0       | 100.0       | 100.0             |
| Under 23 years . . . . .          | 17.2     | 3.6                   | 11.4        | 19.9        | 24.1        | 32.0              |
| 23-24 years . . . . .             | 24.7     | 46.9                  | 32.9        | 14.7        | 18.6        | 19.3              |
| 25-26 years . . . . .             | 19.7     | 29.1                  | 26.6        | 14.3        | 14.5        | 15.0              |
| 27-29 years . . . . .             | 19.9     | 16.6                  | 19.2        | 25.6        | 13.7        | 13.7              |
| 30-34 years . . . . .             | 12.7     | 3.8                   | 8.4         | 20.7        | 10.7        | 8.9               |
| 35 years and over . . . . .       | 5.8      | -                     | 1.5         | 4.8         | 18.4        | 11.2              |

passed their 23d birthday before obtaining their degree.

Three of the nine geographic divisions contained 51 percent of the population—Middle Atlantic, East North Central, and Pacific. These divisions accounted for 57 percent of the active optometrists. However, the percentages of opto-

metrists who practiced in these three divisions, varied with the kind of degrees held. Of active optometrists with O.D. degrees, 54 percent practiced in these three divisions. The percentages for optometrists with Ph.D., M.A., and B.A. degrees were 73, 88, and 84, respectively, for these three divisions.

## TYPE OF EMPLOYMENT AND PRIMARY ACTIVITIES OF ACTIVE OPTOMETRISTS

Self-employment was the predominant form of employment among active optometrists in 1968. Eighty-eight percent so classified themselves on the questionnaires. The remainder were composed of 11 percent who were salaried and 1 percent who were self-classified as "other" (donated services, unpaid family workers, and so forth).

The percentages of males and females in different forms of employment were sufficiently different to warrant some discussion.

The first difference was in the percentages of each sex that were self-employed. Of all active males, 88 percent were self-employed as compared with 80 percent of the active females. For both sexes, the vast majority was self-employed; however, 20.3 percent of all active female optometrists were salaried, opposed to 11.6 percent of all active male optometrists.

The second difference concerns the percentages of each sex in the various categories of self-employment, particularly the solo and partnership practice categories. The majority of both sexes practices as solo practitioners; however, the percentages of each sex differ considerably. Among self-employed males, 84 percent were solo practitioners. Among the self-employed females, only 65 percent were solo practitioners. In effect, almost 20 percent more of the males who were self-employed than of females in the same category were solo practitioners.

As opposed to 16 percent of self-employed males who were in partnership or group practice, 35 percent of female optometrists who were self-employed were in partnership or group practice. In effect, approximately 20 percent more of the self-employed females were in partnership practice than were self-employed males. The respective percentages of the two sexes in partnership practice were 32 percent of the self-employed females and only 13 percent of the self-employed males; this leaves about 3 percent of each in group practice.

The median age for salaried optometrists was 1.4 years less than that for self-employed optometrists (table E). The distributions of percentages for the two groups by age indicate that the difference in the medians was due

Table E. Number and percent distribution of active optometrists by age, according to type of employment, with median age: United States, 1968

| Age                           | Total  | Type of employment |                    |
|-------------------------------|--------|--------------------|--------------------|
|                               |        | Self-employed      | Salaried and other |
| Number of active optometrists |        |                    |                    |
| All active optometrists . . . | 18,427 | 16,256             | 2,172              |
| Percent distribution          |        |                    |                    |
| All ages . . . . .            | 100.0  | 100.0              | 100.0              |
| Under 35 years . . . . .      | 11.3   | 10.3               | 19.1               |
| 35-44 years . . . . .         | 29.5   | 29.8               | 26.7               |
| 45-54 years . . . . .         | 36.2   | 36.9               | 30.7               |
| 55-64 years . . . . .         | 14.2   | 14.3               | 13.7               |
| 65 years or more . . . . .    | 8.8    | 8.7                | 9.7                |
| Median age . . . . .          | 47.5   | 47.7               | 46.3               |

entirely to the larger concentration of optometrists under 35 years of age among the salaried group. Only 10.3 percent of the self-employed optometrists were under 35 years of age. In contrast, 19.1 percent of those salaried were concentrated in this age group.

Concentration of a larger percentage of the youngest optometrists in the salaried group is to be expected. Not all of the new members of the profession are able to go into business for themselves. Undoubtedly, some of those entering the profession as salaried become self-employed at a later time.

The median numbers of States in which active optometrists were licensed to practice were also calculated for optometrists in the various forms of employment. The results are indicated in figure 4. One group stands out from all others: those employed by nonprofitmaking organizations.

Why should optometrists employed by nonprofitmaking organizations be licensed to practice in a larger number of States than those in other types of employment? The median number of States for those employed by nonprofit firms was from .05 to .11 percent greater than the median for optometrists in all remaining forms of employment. Can it be that

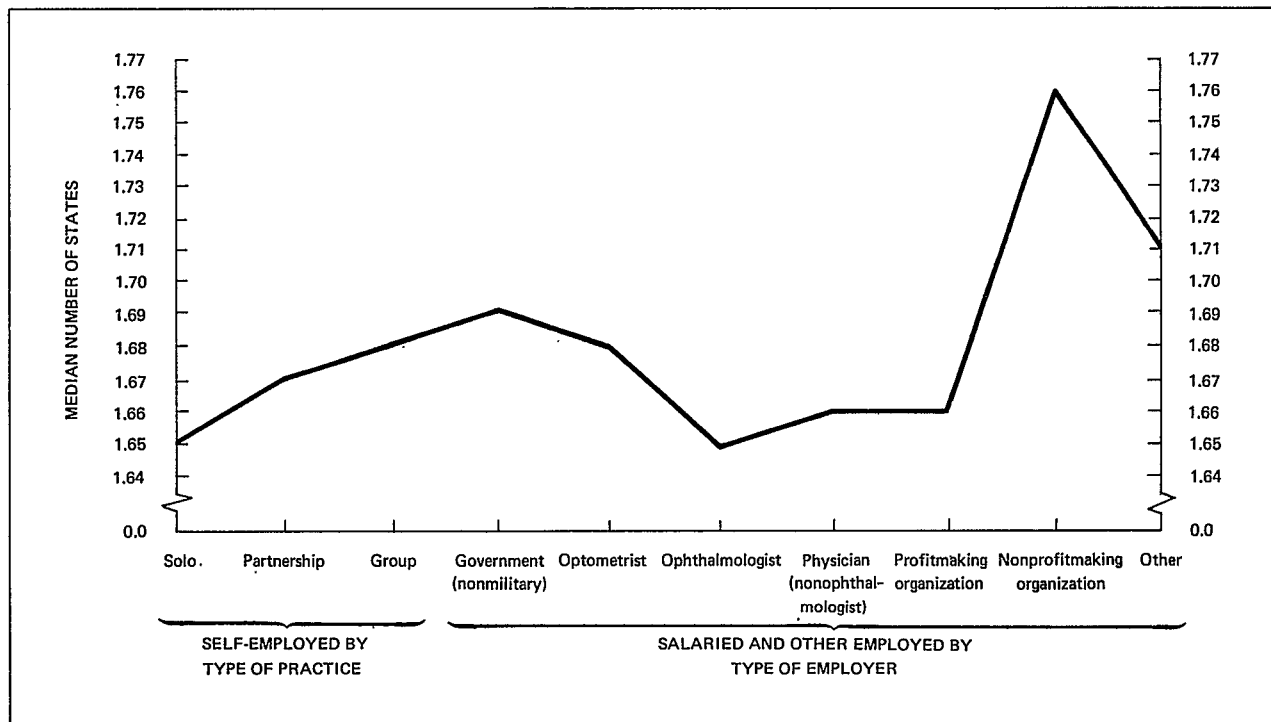


Figure 4. Median number of States in which active optometrists were licensed to practice by type and form of employment: United States, 1968.

optometrists employed by nonprofitmaking organizations plan to remain for a shorter period of time than those employed by others or working for themselves? Such plans could then also include maintaining more licenses to permit a greater number of options when they do leave. Future research is needed to determine answers to these questions outside the province of this study.

The primary activity of optometrists, unlike some of the other health professionals, is restricted almost exclusively to general practice. Specialization, for all practical purposes, is almost nonexistent. Among active optometrists 95.8 percent listed general practice as their primary activity. An additional 2 percent listed contact-lens fitting as their primary activity.

Contact-lens fitting may take on increasing significance with the passage of time. An inverse relationship was found between contact-lens fitting, as a primary and secondary activity, and the ages of active optometrists. Larger percentages of each of the younger groups of optometrists, when compared with the older groups,

listed contact-lens fitting either as their primary or secondary activity. If such a condition continues, as new members enter the profession, the number of specialists in contact-lens fitting should grow and become increasingly important. In 1968, more than one-half of all active optometrists listed contact-lens fitting as their secondary activity. It is probable that this percentage will increase in the future.

The types and numbers of services active optometrists rendered their patients were found to be related to at least two of the previously discussed variables. These variables were age and form of employment.

Of the 14 specific services each active optometrist had the opportunity to check as one of those he rendered to patients, a relationship was found to exist between almost all of the types of services provided and the ages of the optometrists. (For the list of services see the copy of the questionnaire in appendix III.) Except for "aniseikonic" and "dispensing and adjusting" services, the number of active optometrists providing the services was found to be inversely

related to the ages of the optometrists. No relationship was found between the ages of the optometrists and the two exceptions.

In addition to examining the relationship between the individual types of services rendered and the ages of the optometrists, the number of different services rendered was also examined to determine its relationship to the ages of the optometrists. This was accomplished by calculating the median number of different services rendered by active optometrists in the various 5-year age groups. The results are listed below:

| Age               | Median number of different services rendered |
|-------------------|--|
| Under 30 years    | 10.52  |
| 30-34 years       | 10.06  |
| 35-39 years       | 9.75   |
| 40-44 years       | 9.02   |
| 45-49 years       | 8.90   |
| 50-54 years       | 8.34   |
| 55-59 years       | 8.04   |
| 60-64 years       | 7.44   |
| 65-69 years       | 6.59   |
| 70-74 years       | 5.91   |
| 75 years and over | 5.22   |

As indicated by the table, there was an unbroken inverse relationship between the median number of different services rendered and the ages of the optometrists.

It is not surprising to find that when optometrists are older, they provide fewer services. As they become older, they can afford to become more selective and more specialized.

Self-employed optometrists generally provided a larger number of different services than did salaried optometrists (figure 5). The median numbers of different services provided by self-employed optometrists ranged between 8.8 and 9.8. The range for salaried optometrists was 5.7 to 7.6 services.

Also worthy of note are the differences in the median numbers of services provided by optometrists in the three forms of self-employed practices. Optometrists in solo practice provided a median number of 8.8 services. Both optometrists in partnership and group practice provided about one more service according to their median numbers which were 9.6 and 9.8 serv-

ices, respectively. Optometrists in partnerships and group practices may have been able to render more services simply because there were more optometrists available to provide the added services within the practice. Within given practices, there may be complementary specialties offered by the different members of the partnership or group. Solo practitioners, however, must rely on themselves for all of the types of services rendered.

Another factor that may be associated with the numbers and types of services provided is the presence or absence of support personnel. It was found that the presence of support personnel is associated with younger optometrists. For example, among active optometrists 25-34 years of age, 86 percent employed support personnel, whereas, only 46 percent of those 75 years of age and over employed them.

The previous finding of an inverse relationship between the age of the optometrist and the number of services rendered may be interrelated with the percentages employing support personnel. The implications of the presence of support personnel will be examined in subsequent reports based on the data from this survey.

## ALLOCATION OF PROFESSIONAL TIME

The number of hours per week and weeks per year optometrists worked were also associated with at least three characteristics of the active optometrists or their employment. The three characteristics were sex, age, and form of employment.

Larger percentages of male optometrists were found to have worked both greater numbers of weeks per year and greater numbers of hours per week than did their female counterparts (table F).

To facilitate the discussion and to increase the clarity of the presentation, the following conventions are adopted for the discussion that follows: 1-47 weeks per year worked will be referred to as a "short year," while 48-52 weeks worked will be referred to as a "full year." Likewise, when the number of hours per week worked was less than 35, it will be referred to as "part time" and when 35 or more hours were worked, it will be referred to as "full time."



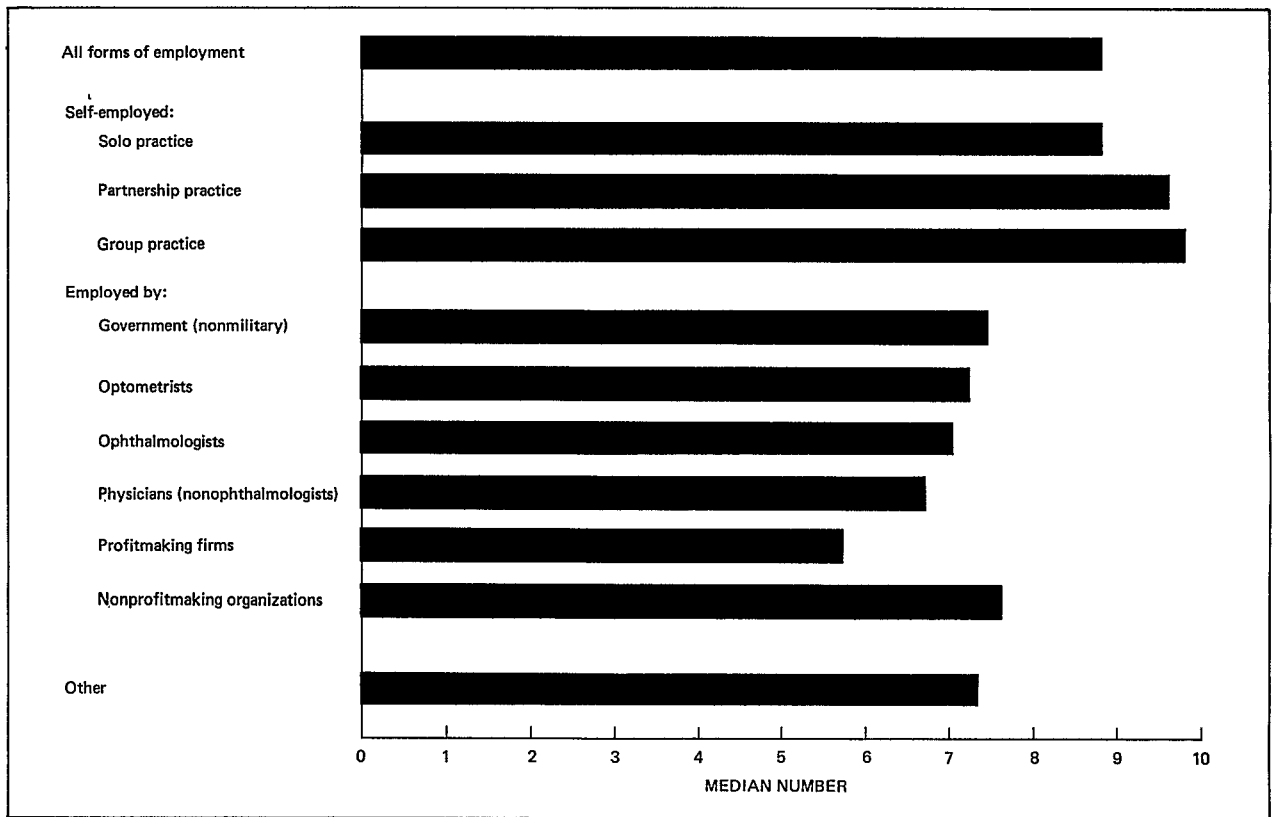


Figure 5. Median number of different services rendered to patients by active optometrists by type and form of employment: United States, 1968.

Female optometrists represented 4.4 percent of all optometrists working a short year but only 2.0 percent of those working a full year (table F). While the percentages are small, they do indicate that female optometrists represented a larger percentage of the optometrists working a short year compared with those working a full year. In a similar manner, data presented in table F also indicate that female optometrists were more heavily represented among part-time as opposed to full-time optometrists regardless of whether they were working a short year or full year. In effect, it appears that female optometrists are inclined to work fewer hours per week and fewer weeks per year than male optometrists.

The number of hours per week and weeks per year worked were likewise related to the ages

of the optometrists. Older optometrists tended to work part time and a short year, while the younger optometrists tended to work full time and a full year (table F).

Similarly, the amount of time optometrists spent working was also found to be related to their form of employment. This was particularly true among the self-employed optometrists (table G). Self-employed, solo practitioners were found to be most heavily represented among optometrists working part time during the full year. In contrast, those in partnerships and group practices were most heavily represented among the groups working full time and during a short year.

At first glance this might appear to be somewhat of a contradiction; however, it may be merely the interactive effect of other variables

Table F. Number and percent distribution of active optometrists by sex and age, according to weeks per year and hours per week worked: United States, 1968

| Sex and age                       | All active optometrists | 1-47 weeks per year |                |            | 48-52 weeks per year |                |       |       |            |
|-----------------------------------|-------------------------|---------------------|----------------|------------|----------------------|----------------|-------|-------|------------|
|                                   |                         | Total               | Hours per week |            | Total                | Hours per week |       |       |            |
|                                   |                         |                     | 1-34           | 35 or more |                      | 1-34           | 35-40 | 41-48 | 49 or more |
| Number of active optometrists     |                         |                     |                |            |                      |                |       |       |            |
| All active optometrists . . . . . | 18,427                  | 1,403               | 583            | 820        | 17,024               | 1,589          | 6,655 | 5,596 | 3,183      |
| Percent distribution              |                         |                     |                |            |                      |                |       |       |            |
| Total . . . . .                   | 100.0                   | 100.0               | 100.0          | 100.0      | 100.0                | 100.0          | 100.0 | 100.0 | 100.0      |
| Sex:                              |                         |                     |                |            |                      |                |       |       |            |
| Male . . . . .                    | 97.9                    | 95.6                | 91.9           | 98.3       | 98.0                 | 93.5           | 98.1  | 98.8  | 98.9       |
| Female . . . . .                  | 2.1                     | 4.4                 | 8.1            | 1.7        | 2.0                  | 6.5            | 1.9   | 1.2   | 1.1        |
| Age:                              |                         |                     |                |            |                      |                |       |       |            |
| Under 35 years . . . . .          | 11.3                    | 5.8                 | 2.2            | 8.4        | 11.8                 | 7.7            | 11.9  | 11.9  | 13.4       |
| 35-44 years . . . . .             | 29.5                    | 20.7                | 13.2           | 26.0       | 30.2                 | 20.5           | 30.0  | 31.6  | 33.0       |
| 45-54 years . . . . .             | 36.2                    | 28.2                | 20.9           | 33.3       | 36.9                 | 28.5           | 36.0  | 38.4  | 40.2       |
| 55-64 years . . . . .             | 14.2                    | 18.7                | 18.7           | 18.8       | 13.8                 | 18.6           | 14.7  | 12.9  | 11.3       |
| 65-74 years . . . . .             | 6.6                     | 19.9                | 33.0           | 10.5       | 5.5                  | 15.9           | 5.9   | 4.2   | 1.9        |
| 75 years or more . . . . .        | 2.2                     | 6.8                 | 12.0           | 3.1        | 1.8                  | 8.9            | 1.5   | 1.1   | 0.3        |

such as the ages of the optometrists and the number of optometrists available to serve patients that is responsible for this pattern. In solo practices, the optometrists may have to be available for a greater number of weeks per year since there is no other optometrist available to take care of the patients. However, these same optometrists may be working fewer hours. As was previously pointed out, older optometrists are more heavily represented among the solo practitioners, and being older, they tend to work fewer hours.

Not all of the other characteristics of optometrists or their activities were found to be associated with the number of hours per week optometrists worked. The highest academic degree held and the number of different services provided were not found to be related to the number of hours worked.

No association was found between the hours per week worked and whether an optometrist held as his or her highest degree an O.D., M.A., or B.A. degree. Similarly, no association was found between the median number of different

services provided and the number of hours per week worked by the optometrists.

The highest degree held by an optometrist was found to be related to the percentage of time spent in optometric practice activities (as opposed to teaching, research, administration, and other activities). Of the optometrists holding different levels of degrees, the percentages spending 100 percent of their time in optometric practice were as follows: O.D., 79; Ph.D., 51; M.A., 72; and B.A., 80.

On the basis of this finding one might assume that optometrists with Ph.D. degrees (but not O.D. degrees) were probably devoting their time, more exclusively, to teaching and research. Such, however, was not the case. Not a single optometrist with the Ph.D. as the highest degree devoted 100 percent of his time to either research or teaching. Some did, however, devote some of their time to these activities, but in all cases it was less than 100 percent.

Form of employment was found to be associated with the percentages of time spent by

Table G. Number and percent distribution of active optometrists by type and form of employment, according to weeks per year and hours per week worked: United States, 1968

| Type and form of employment       | All active optometrists | 1-47 weeks per year |                |            | 48-52 weeks per year |                |       |       |            |
|-----------------------------------|-------------------------|---------------------|----------------|------------|----------------------|----------------|-------|-------|------------|
|                                   |                         | Total               | Hours per week |            | Total                | Hours per week |       |       |            |
|                                   |                         |                     | 1-34           | 35 or more |                      | 1-34           | 35-40 | 41-48 | 49 or more |
| Number of active optometrists     |                         |                     |                |            |                      |                |       |       |            |
| All forms of employment . . . . . | 18,427                  | 1,403               | 583            | 820        | 17,024               | 1,589          | 6,655 | 5,596 | 3,183      |
| Percent distribution              |                         |                     |                |            |                      |                |       |       |            |
| Total . . . . .                   | 100.0                   | 100.0               | 100.0          | 100.0      | 100.0                | 100.0          | 100.0 | 100.0 | 100.0      |
| Self-employed . . . . .           | 88.2                    | 86.7                | 83.9           | 88.8       | 88.3                 | 88.6           | 87.9  | 87.0  | 91.5       |
| Salaried and other . . . . .      | 11.8                    | 13.3                | 16.1           | 11.2       | 11.7                 | 11.4           | 12.1  | 13.0  | 8.5        |
| Number of active optometrists     |                         |                     |                |            |                      |                |       |       |            |
| Total, self-employed . . . . .    | 16,256                  | 1,217               | 489            | 728        | 15,039               | 1,408          | 5,849 | 4,868 | 2,913      |
| Percent distribution              |                         |                     |                |            |                      |                |       |       |            |
| Total . . . . .                   | 100.0                   | 100.0               | 100.0          | 100.0      | 100.0                | 100.0          | 100.0 | 100.0 | 100.0      |
| Type of practice:                 |                         |                     |                |            |                      |                |       |       |            |
| Solo . . . . .                    | 83.2                    | 77.3                | 79.3           | 75.9       | 83.8                 | 88.6           | 84.4  | 82.7  | 81.9       |
| Partnership . . . . .             | 13.5                    | 18.4                | 17.0           | 19.4       | 13.0                 | 9.5            | 12.9  | 14.1  | 13.4       |
| Group . . . . .                   | 3.3                     | 4.3                 | 3.7            | 4.7        | 3.2                  | 1.9            | 2.7   | 3.2   | 4.7        |

active optometrists in optometric practice activities. Among the self-employed, 80 percent of the solo practitioners, and 73 and 69 percent, respectively, of those in partnerships and group practices spent 100 percent of their time in optometric practice activities. Among optometrists employed by others, those working for nonprofitmaking organizations had the smallest percentage (41) and those working for other optometrists had the largest percentage (90) of their respective groups spending 100 percent of their time in optometric activities.

The activities of optometrists working for nonprofitmaking organizations differed from those in other forms of employment in at least one major aspect. More than one-fourth (27.9 percent) of all optometrists working for nonprofitmaking organizations spent no time whatever in optometric practice activities. This was at least five times greater than the percentages found for optometrists in any other form of

employment. Additional investigation determined that larger percentages of those working for nonprofitmaking organizations were spending their time in teaching and/or research. It would appear that this group represents the academically oriented interests of the profession.

Ages of the optometrists have been shown to be related to a number of other characteristics associated with optometrists and their activities. Specifically, age was related to the number of hours per week worked. Therefore, it is not surprising to have found that the number of patients seen during a typical week by active optometrists were also related to the ages of the optometrists.

In general, the number of patients seen weekly increased with the ages of the optometrists until it reached a peak when the optometrists were between the ages of 35 and 44 years. It then declines steadily. This can be observed

Table H. Number and percent distribution of active optometrists by number of patients seen weekly, according to age, with median age of optometrists and median number of patients seen: United States, 1968

| Number of patients seen weekly           | All ages | Years of age |       |       |       |             | Median ages of optometrists |
|--|----------|--------------|-------|-------|-------|-------------|-----------------------------|
|  |          | Under 35     | 35-44 | 45-54 | 55-64 | 65 and over |                             |
| Number of active optometrists            |          |              |       |       |       |             |                             |
| All active optometrists . . . . .        | 18,427   | 2,087        | 5,433 | 6,669 | 2,617 | 1,622       | 47.5                        |
| Percent distribution                     |          |              |       |       |       |             |                             |
| Total . . . . .                          | 100.0    | 100.0        | 100.0 | 100.0 | 100.0 | 100.0       |                             |
| No patients . . . . .                    | 0.7      | 1.0          | 0.6   | 0.5   | 0.6   | 1.3         | 47.9                        |
| Under 25 patients . . . . .              | 22.2     | 21.5         | 16.2  | 18.5  | 26.8  | 50.6        | 50.7                        |
| 25-49 patients . . . . .                 | 37.4     | 36.2         | 37.3  | 38.8  | 39.7  | 29.5        | 47.5                        |
| 50-74 patients . . . . .                 | 20.2     | 20.7         | 22.9  | 21.0  | 18.0  | 10.6        | 46.3                        |
| 75-99 patients . . . . .                 | 9.4      | 10.3         | 11.0  | 9.9   | 7.3   | 3.7         | 45.7                        |
| 100 patients or more . . . . .           | 10.2     | 10.3         | 12.1  | 11.1  | 7.6   | 4.3         | 45.9                        |
| Median number of patients seen . . . . . | 43.2     | 44.0         | 47.3  | 44.5  | 39.2  | 24.1        |                             |

from the median numbers of patients seen weekly presented at the bottom of table H. The medians in table H indicate—at least for optometrists who saw between 1 and 99 patients weekly—that the younger the optometrist, the larger the numbers of patients seen per week.

In summary, we find, as one would most probably expect, that the activities of optometrists reach a peak, insofar as patient care is

concerned, in the middle years of life and then decline as the optometrist grows older. Undoubtedly, other relationships between the ages of the optometrists and their activities will emerge when subsequent reports based on data from this survey are produced. Future reports will treat in greater detail the clinical or optometric practice activities of optometrists and their support personnel.

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Table 1. Number and percent distribution of optometrists by activity status, according to area: United States and each State, 1968

| Area                           | Total                  | Activity status |                          |         | Total                | Activity status |                          |         |
|--------------------------------|------------------------|-----------------|--------------------------|---------|----------------------|-----------------|--------------------------|---------|
|                                |                        | Active          | Inactive but not retired | Retired |                      | Active          | Inactive but not retired | Retired |
|                                | Number of optometrists |                 |                          |         | Percent distribution |                 |                          |         |
| United States . . . . .        | 20,301                 | 18,427          | 951                      | 922     | 100.0                | 90.8            | 4.7                      | 4.5     |
| Alabama . . . . .              | 192                    | 180             | 5                        | 8       | 100.0                | 93.5            | 2.4                      | 4.1     |
| Alaska . . . . .               | 18                     | 17              | #                        | #       | 100.0                | 94.1            | #                        | #       |
| Arizona . . . . .              | 130                    | 127             | -                        | 3       | 100.0                | 97.5            | -                        | 2.5     |
| Arkansas . . . . .             | 154                    | 151             | #                        | #       | 100.0                | 97.8            | #                        | #       |
| California . . . . .           | 2,492                  | 2,242           | 125                      | 124     | 100.0                | 90.0            | 5.0                      | 5.0     |
| Colorado . . . . .             | 199                    | 188             | #                        | #       | 100.0                | 94.6            | #                        | #       |
| Connecticut . . . . .          | 267                    | 260             | 4                        | 3       | 100.0                | 97.3            | 1.5                      | 1.2     |
| Delaware . . . . .             | 39                     | 35              | #                        | #       | 100.0                | 90.9            | #                        | #       |
| District of Columbia . . . . . | 86                     | 71              | 4                        | 11      | 100.0                | 83.1            | 4.2                      | 12.7    |
| Florida . . . . .              | 533                    | 493             | 22                       | 18      | 100.0                | 92.4            | 4.2                      | 3.4     |
| Georgia . . . . .              | 278                    | 263             | 8                        | 7       | 100.0                | 94.3            | 3.0                      | 2.6     |
| Hawaii . . . . .               | 68                     | 64              | #                        | #       | 100.0                | 93.8            | #                        | #       |
| Idaho . . . . .                | 92                     | 86              | #                        | #       | 100.0                | 93.9            | #                        | #       |
| Illinois . . . . .             | 1,920                  | 1,616           | 202                      | 102     | 100.0                | 84.2            | 10.5                     | 5.3     |
| Indiana . . . . .              | 539                    | 510             | 9                        | 21      | 100.0                | 94.6            | 1.6                      | 3.8     |
| Iowa . . . . .                 | 360                    | 336             | 10                       | 14      | 100.0                | 93.4            | 2.7                      | 3.9     |
| Kansas . . . . .               | 250                    | 229             | 5                        | 16      | 100.0                | 91.5            | 2.1                      | 6.4     |
| Kentucky . . . . .             | 238                    | 229             | 5                        | 3       | 100.0                | 96.4            | 2.3                      | 1.4     |
| Louisiana . . . . .            | 240                    | 223             | 8                        | 9       | 100.0                | 93.0            | 3.3                      | 3.7     |
| Maine . . . . .                | 125                    | 116             | #                        | #       | 100.0                | 92.4            | #                        | #       |
| Maryland . . . . .             | 194                    | 175             | 9                        | 10      | 100.0                | 90.5            | 4.5                      | 5.1     |
| Massachusetts . . . . .        | 814                    | 719             | 61                       | 34      | 100.0                | 88.4            | 7.5                      | 4.2     |
| Michigan . . . . .             | 772                    | 708             | 30                       | 33      | 100.0                | 91.7            | 3.9                      | 4.3     |
| Minnesota . . . . .            | 400                    | 354             | 20                       | 26      | 100.0                | 88.5            | 5.1                      | 6.4     |
| Mississippi . . . . .          | 129                    | 121             | 4                        | 4       | 100.0                | 93.5            | 3.3                      | 3.3     |
| Missouri . . . . .             | 481                    | 432             | 19                       | 29      | 100.0                | 89.9            | 4.0                      | 6.1     |
| Montana . . . . .              | 95                     | 89              | 3                        | 3       | 100.0                | 93.2            | 3.4                      | 3.4     |
| Nebraska . . . . .             | 172                    | 155             | 3                        | 14      | 100.0                | 90.1            | 1.9                      | 8.0     |
| Nevada . . . . .               | 38                     | 36              | #                        | #       | 100.0                | 94.3            | #                        | #       |
| New Hampshire . . . . .        | 71                     | 70              | #                        | #       | 100.0                | 98.5            | #                        | #       |
| New Jersey . . . . .           | 705                    | 675             | 13                       | 17      | 100.0                | 95.7            | 1.9                      | 2.4     |
| New Mexico . . . . .           | 73                     | 71              | #                        | #       | 100.0                | 97.2            | #                        | #       |
| New York . . . . .             | 1,801                  | 1,598           | 101                      | 101     | 100.0                | 88.7            | 5.6                      | 5.6     |
| North Carolina . . . . .       | 342                    | 322             | 17                       | 3       | 100.0                | 94.0            | 5.0                      | 0.9     |
| North Dakota . . . . .         | 77                     | 72              | -                        | 5       | 100.0                | 94.0            | -                        | 6.0     |
| Ohio . . . . .                 | 1,034                  | 942             | 35                       | 57      | 100.0                | 91.1            | 3.4                      | 5.5     |
| Oklahoma . . . . .             | 260                    | 247             | 6                        | 6       | 100.0                | 95.1            | 2.5                      | 2.5     |
| Oregon . . . . .               | 302                    | 273             | 7                        | 21      | 100.0                | 90.5            | 2.5                      | 7.0     |
| Pennsylvania . . . . .         | 1,313                  | 1,145           | 105                      | 63      | 100.0                | 87.2            | 8.0                      | 4.8     |
| Rhode Island . . . . .         | 143                    | 132             | 6                        | 6       | 100.0                | 92.2            | 3.9                      | 3.9     |
| South Carolina . . . . .       | 162                    | 155             | #                        | #       | 100.0                | 96.0            | #                        | #       |
| South Dakota . . . . .         | 102                    | 94              | 4                        | 3       | 100.0                | 92.6            | 4.2                      | 3.2     |
| Tennessee . . . . .            | 324                    | 296             | 13                       | 16      | 100.0                | 91.2            | 3.9                      | 4.9     |
| Texas . . . . .                | 820                    | 752             | 31                       | 37      | 100.0                | 91.8            | 3.7                      | 4.5     |
| Utah . . . . .                 | 86                     | 74              | 5                        | 7       | 100.0                | 86.3            | 5.5                      | 8.2     |
| Vermont . . . . .              | 39                     | 38              | #                        | #       | 100.0                | 97.2            | #                        | #       |
| Virginia . . . . .             | 284                    | 274             | 3                        | 7       | 100.0                | 96.5            | 1.2                      | 2.3     |
| Washington . . . . .           | 396                    | 356             | 14                       | 26      | 100.0                | 89.9            | 3.5                      | 6.5     |
| West Virginia . . . . .        | 158                    | 147             | #                        | #       | 100.0                | 93.3            | #                        | #       |
| Wisconsin . . . . .            | 453                    | 429             | 5                        | 18      | 100.0                | 94.7            | 1.2                      | 4.1     |
| Wyoming . . . . .              | 43                     | 41              | #                        | #       | 100.0                | 94.7            | #                        | #       |

# Data suppressed to comply with confidentiality requirements.

Table 2. Number and percent distribution of optometrists by activity status, according to age, sex, age at graduation, highest degree achieved, and school of graduation: United States, 1968

| Characteristic                                 | Total  | Activity status        |                          |         | Total | Activity status      |                          |         |
|--|--------|------------------------|--------------------------|---------|-------|----------------------|--------------------------|---------|
|  |        | Active                 | Inactive but not retired | Retired |       | Active               | Inactive but not retired | Retired |
|  |        | Number of optometrists |                          |         |       | Percent distribution |                          |         |
| All optometrists . . . . .                     | 20,301 | 18,427                 | 951                      | 922     | 100.0 | 90.8                 | 4.7                      | 4.5     |
| Age:   |        |                        |                          |         |       |                      |                          |         |
| Under 35 years . . . . .                       | 2,138  | 2,087                  | 48                       | 3       | 100.0 | 97.6                 | 2.3                      | 0.0     |
| 35-44 years . . . . .                          | 5,650  | 5,433                  | 212                      | 6       | 100.0 | 96.1                 | 3.8                      | 0.1     |
| 45-54 years . . . . .                          | 6,991  | 6,669                  | 296                      | 26      | 100.0 | 95.4                 | 4.2                      | 0.4     |
| 55-64 years . . . . .                          | 2,856  | 2,617                  | 148                      | 90      | 100.0 | 91.7                 | 5.2                      | 3.2     |
| 65-74 years . . . . .                          | 1,783  | 1,215                  | 142                      | 425     | 100.0 | 68.2                 | 8.0                      | 23.9    |
| 75 years and over . . . . .                    | 883    | 406                    | 105                      | 372     | 100.0 | 46.0                 | 11.9                     | 42.1    |
| Sex:   |        |                        |                          |         |       |                      |                          |         |
| Male . . . . .                                 | 19,711 | 18,034                 | 820                      | 857     | 100.0 | 91.5                 | 4.2                      | 4.3     |
| Female . . . . .                               | 590    | 394                    | 131                      | 65      | 100.0 | 66.8                 | 22.2                     | 11.0    |
| Age at graduation:                             |        |                        |                          |         |       |                      |                          |         |
| Under 23 years . . . . .                       | 3,664  | 3,169                  | 272                      | 223     | 100.0 | 86.5                 | 7.4                      | 6.1     |
| 23-24 years . . . . .                          | 4,946  | 4,549                  | 231                      | 166     | 100.0 | 92.0                 | 4.7                      | 3.3     |
| 25-26 years . . . . .                          | 3,910  | 3,630                  | 126                      | 154     | 100.0 | 92.8                 | 3.2                      | 4.0     |
| 27-29 years . . . . .                          | 3,949  | 3,676                  | 121                      | 153     | 100.0 | 93.1                 | 3.1                      | 3.9     |
| 30-34 years . . . . .                          | 2,589  | 2,338                  | 118                      | 133     | 100.0 | 90.3                 | 4.6                      | 5.1     |
| 35 years and over . . . . .                    | 1,243  | 1,067                  | 83                       | 93      | 100.0 | 85.8                 | 6.7                      | 7.5     |
| Highest degree achieved:                       |        |                        |                          |         |       |                      |                          |         |
| Doctor of optometry . . . . .                  | 18,258 | 16,543                 | 840                      | 876     | 100.0 | 90.6                 | 4.6                      | 4.8     |
| Doctor's degree . . . . .                      | 52     | 41                     | 8                        | 3       | 100.0 | 78.6                 | 15.1                     | 6.3     |
| Master's degree . . . . .                      | 450    | 417                    | 31                       | 2       | 100.0 | 92.6                 | 6.9                      | 0.5     |
| Bachelor's degree . . . . .                    | 1,370  | 1,288                  | 61                       | 22      | 100.0 | 94.0                 | 4.4                      | 1.6     |
| Other . . . . .                                | 171    | 139                    | 12                       | 19      | 100.0 | 81.7                 | 7.2                      | 11.2    |
| School of graduation:                          |        |                        |                          |         |       |                      |                          |         |
| Illinois College (Ill.) . . . . .              | 1,619  | 1,554                  | 46                       | 19      | 100.0 | 96.0                 | 2.9                      | 1.2     |
| Indiana University (Ind.) . . . . .            | 198    | 194                    | 4                        | -       | 100.0 | 97.8                 | 2.1                      | -       |
| Los Angeles College (Calif.) . . . . .         | 1,671  | 1,491                  | 73                       | 107     | 100.0 | 89.2                 | 4.4                      | 6.4     |
| Massachusetts College (Mass.) . . . . .        | 1,201  | 1,115                  | 60                       | 26      | 100.0 | 92.8                 | 5.0                      | 2.2     |
| Ohio State University College (Ohio) . . . . . | 882    | 836                    | 31                       | 15      | 100.0 | 94.7                 | 3.6                      | 1.7     |
| Pacific University (Oreg.) . . . . .           | 794    | 772                    | 17                       | 4       | 100.0 | 97.3                 | 2.2                      | 0.6     |
| Pennsylvania College (Pa.) . . . . .           | 2,439  | 2,249                  | 132                      | 58      | 100.0 | 92.2                 | 5.4                      | 2.4     |
| Southern College (Tenn.) . . . . .             | 2,414  | 2,365                  | 43                       | 6       | 100.0 | 98.0                 | 1.8                      | 0.3     |
| University of California (Calif.) . . . . .    | 863    | 793                    | 48                       | 22      | 100.0 | 91.9                 | 5.5                      | 2.5     |
| University of Houston (Tex.) . . . . .         | 215    | 212                    | 3                        | -       | 100.0 | 98.5                 | 1.5                      | -       |
| University of Montreal (Canada) . . . . .      | 1,104  | 982                    | 68                       | 54      | 100.0 | 88.9                 | 6.2                      | 4.9     |
| Monroe College (Ill.) . . . . .                | 494    | 424                    | 64                       | 7       | 100.0 | 85.7                 | 12.9                     | 1.4     |
| Chicago College (Ill.) . . . . .               | 567    | 529                    | 32                       | 6       | 100.0 | 93.4                 | 5.6                      | 1.0     |
| Northern Illinois College (Ill.) . . . . .     | 4,454  | 4,031                  | 214                      | 208     | 100.0 | 90.5                 | 4.8                      | 4.7     |
| University of Rochester (N.Y.) . . . . .       | 211    | 180                    | 8                        | 24      | 100.0 | 85.0                 | 3.8                      | 11.3    |
| Needles Institute (Ill.) . . . . .             | 253    | 148                    | 23                       | 82      | 100.0 | 58.7                 | 9.1                      | 32.3    |
| All other . . . . .                            | 922    | 551                    | 86                       | 284     | 100.0 | 59.8                 | 9.3                      | 30.8    |



Table 3. Number of optometrists per 100,000 population, by activity status and geographic location: United States, each region, division, and State, 1968

| Geographic location                           | Total | Activity status |                          |         |
|---|-------|-----------------|--------------------------|---------|
|   |       | Active          | Inactive but not retired | Retired |
| Number of optometrists per 100,000 population |       |                 |                          |         |
| United States . . . . .                       | 10.3  | 9.3             | 0.5                      | 0.5     |
| <b>Geographic region:</b>                     |       |                 |                          |         |
| Northeast . . . . .                           | 11.0  | 9.9             | 0.6                      | 0.5     |
| North Central . . . . .                       | 11.8  | 10.6            | 0.6                      | 0.6     |
| South . . . . .                               | 7.2   | 6.8             | 0.2                      | 0.2     |
| West . . . . .                                | 12.3  | 11.2            | 0.5                      | 0.6     |
| <b>Geographic division:</b>                   |       |                 |                          |         |
| New England . . . . .                         | 12.9  | 11.8            | 0.7                      | 0.5     |
| Middle Atlantic . . . . .                     | 10.4  | 9.3             | 0.6                      | 0.5     |
| East North Central . . . . .                  | 12.0  | 10.7            | 0.7                      | 0.6     |
| West North Central . . . . .                  | 11.5  | 10.5            | 0.4                      | 0.7     |
| South Atlantic . . . . .                      | 7.1   | 6.6             | 0.3                      | 0.2     |
| East South Central . . . . .                  | 6.8   | 6.4             | 0.2                      | 0.2     |
| West South Central . . . . .                  | 7.8   | 7.2             | 0.2                      | 0.3     |
| Mountain . . . . .                            | 9.7   | 9.1             | 0.2                      | 0.4     |
| Pacific . . . . .                             | 13.1  | 11.8            | 0.6                      | 0.7     |
| <b>State:</b>                                 |       |                 |                          |         |
| Alabama . . . . .                             | 5.5   | 5.2             | 0.1                      | 0.2     |
| Alaska . . . . .                              | 7.4   | 7.0             | -                        | 0.4     |
| Arizona . . . . .                             | 8.0   | 7.8             | -                        | 0.2     |
| Arkansas . . . . .                            | 7.8   | 7.7             | 0.1                      | 0.1     |
| California . . . . .                          | 13.3  | 11.9            | 0.7                      | 0.7     |
| Colorado . . . . .                            | 9.9   | 9.4             | 0.1                      | 0.4     |
| Connecticut . . . . .                         | 9.1   | 8.8             | 0.1                      | 0.1     |
| Delaware . . . . .                            | 7.4   | 6.7             | 0.4                      | 0.2     |
| District of Columbia . . . . .                | 10.9  | 9.0             | 0.5                      | 1.4     |
| Florida . . . . .                             | 8.7   | 8.1             | 0.4                      | 0.3     |
| Georgia . . . . .                             | 6.2   | 5.9             | 0.2                      | 0.2     |
| Hawaii . . . . .                              | 9.5   | 8.9             | 0.1                      | 0.4     |
| Idaho . . . . .                               | 13.0  | 12.2            | 0.1                      | 0.6     |
| Illinois . . . . .                            | 17.6  | 14.8            | 1.9                      | 0.9     |
| Indiana . . . . .                             | 10.7  | 10.1            | 0.2                      | 0.4     |
| Iowa . . . . .                                | 13.0  | 12.1            | 0.4                      | 0.5     |
| Kansas . . . . .                              | 11.1  | 10.1            | 0.2                      | 0.7     |
| Kentucky . . . . .                            | 7.5   | 7.2             | 0.2                      | 0.1     |
| Louisiana . . . . .                           | 6.6   | 6.1             | 0.2                      | 0.2     |
| Maine . . . . .                               | 13.0  | 12.0            | 0.2                      | 0.7     |
| Maryland . . . . .                            | 5.3   | 4.8             | 0.2                      | 0.3     |
| Massachusetts . . . . .                       | 15.1  | 13.3            | 1.1                      | 0.6     |
| Michigan . . . . .                            | 8.9   | 8.2             | 0.3                      | 0.4     |
| Minnesota . . . . .                           | 10.9  | 9.7             | 0.5                      | 0.7     |
| Mississippi . . . . .                         | 5.6   | 5.2             | 0.2                      | 0.2     |
| Missouri . . . . .                            | 10.5  | 9.5             | 0.4                      | 0.6     |
| Montana . . . . .                             | 13.8  | 12.9            | 0.4                      | 0.4     |
| Nebraska . . . . .                            | 12.0  | 10.8            | 0.2                      | 1.0     |
| Nevada . . . . .                              | 8.7   | 8.2             | 0.2                      | 0.2     |
| New Hampshire . . . . .                       | 10.1  | 10.0            | 0.1                      | -       |
| New Jersey . . . . .                          | 10.1  | 9.6             | 0.2                      | 0.2     |
| New Mexico . . . . .                          | 7.5   | 7.3             | 0.1                      | 0.1     |
| New York . . . . .                            | 9.9   | 8.8             | 0.6                      | 0.6     |
| North Carolina . . . . .                      | 6.8   | 6.4             | 0.3                      | 0.1     |
| North Dakota . . . . .                        | 12.6  | 11.8            | -                        | 0.8     |
| Ohio . . . . .                                | 9.8   | 8.9             | 0.3                      | 0.5     |
| Oklahoma . . . . .                            | 10.4  | 9.9             | 0.2                      | 0.2     |
| Oregon . . . . .                              | 15.1  | 13.7            | 0.4                      | 1.1     |
| Pennsylvania . . . . .                        | 11.2  | 9.8             | 0.9                      | 0.5     |
| Rhode Island . . . . .                        | 16.2  | 15.0            | 0.7                      | 0.7     |
| South Carolina . . . . .                      | 6.3   | 6.0             | 0.2                      | -       |
| South Dakota . . . . .                        | 15.5  | 14.2            | 0.6                      | 0.5     |
| Tennessee . . . . .                           | 8.3   | 7.6             | 0.3                      | 0.4     |
| Texas . . . . .                               | 7.6   | 7.0             | 0.3                      | 0.3     |
| Utah . . . . .                                | 8.4   | 7.2             | 0.5                      | 0.7     |
| Vermont . . . . .                             | 9.1   | 8.9             | -                        | 0.2     |
| Virginia . . . . .                            | 6.4   | 6.2             | 0.1                      | 0.2     |
| Washington . . . . .                          | 12.3  | 11.1            | 0.4                      | 0.8     |
| West Virginia . . . . .                       | 8.7   | 8.1             | 0.4                      | 0.1     |
| Wisconsin . . . . .                           | 10.8  | 10.2            | 0.1                      | 0.4     |
| Wyoming . . . . .                             | 13.5  | 12.9            | -                        | 0.6     |

SOURCE: U.S. Bureau of the Census: *Current Population Reports*, Series P25, No. 436, January 1970.

Table 4. Number and percent distribution of inactive but not retired and retired optometrists by age, according to geographic location: United States, each region and division, 1968

| Geographic location          | All inactive optometrists | Total, inactive but not retired | Under 45 years | 45-64 years | 65 years and over | Total, retired | Under 65 years | 65-74 years | 75 years and over |
|------------------------------|---------------------------|---------------------------------|----------------|-------------|-------------------|----------------|----------------|-------------|-------------------|
| Number of optometrists       |                           |                                 |                |             |                   |                |                |             |                   |
| United States . . . . .      | 1,873                     | 951                             | 260            | 444         | 247               | 922            | 125            | 425         | 371               |
| Geographic region:           |                           |                                 |                |             |                   |                |                |             |                   |
| Northeast . . . . .          | 526                       | 294                             | 76             | 131         | 86                | 232            | 34             | 112         | 85                |
| North Central . . . . .      | 681                       | 344                             | 93             | 169         | 82                | 338            | 36             | 148         | 154               |
| South . . . . .              | 299                       | 152                             | 40             | 70          | 42                | 146            | 18             | 67          | 61                |
| West . . . . .               | 368                       | 161                             | 51             | 74          | 37                | 207            | 37             | 98          | 71                |
| Geographic division:         |                           |                                 |                |             |                   |                |                |             |                   |
| New England . . . . .        | 125                       | 74                              | 19             | 41          | 14                | 51             | 12             | 25          | 14                |
| Middle Atlantic . . . . .    | 401                       | 220                             | 58             | 90          | 72                | 181            | 23             | 87          | 71                |
| East North Central . . . . . | 513                       | 281                             | 80             | 153         | 48                | 231            | 27             | 101         | 103               |
| West North Central . . . . . | 169                       | 62                              | 13             | 16          | 33                | 106            | 9              | 47          | 50                |
| South Atlantic . . . . .     | 140                       | 80                              | 22             | 35          | 23                | 60             | 10             | 29          | 22                |
| East South Central . . . . . | 58                        | 27                              | 9              | 11          | 8                 | 31             | 4              | 15          | 12                |
| West South Central . . . . . | 101                       | 46                              | 10             | 24          | 12                | 55             | 4              | 23          | 27                |
| Mountain . . . . .           | 44                        | 13                              | 2              | 7           | 4                 | 31             | 8              | 11          | 12                |
| Pacific . . . . .            | 323                       | 148                             | 49             | 67          | 32                | 176            | 29             | 87          | 59                |
| Percent distribution         |                           |                                 |                |             |                   |                |                |             |                   |
| United States . . . . .      | 100.0                     | 50.8                            | 13.9           | 23.7        | 13.2              | 49.2           | 6.7            | 22.7        | 19.8              |
| Geographic region:           |                           |                                 |                |             |                   |                |                |             |                   |
| Northeast . . . . .          | 100.0                     | 55.9                            | 14.4           | 24.9        | 16.3              | 44.1           | 6.5            | 21.3        | 16.2              |
| North Central . . . . .      | 100.0                     | 50.5                            | 13.7           | 24.8        | 12.0              | 49.6           | 5.3            | 22.2        | 22.0              |
| South . . . . .              | 100.0                     | 50.8                            | 13.4           | 23.4        | 14.0              | 48.8           | 6.0            | 22.4        | 20.4              |
| West . . . . .               | 100.0                     | 43.8                            | 13.9           | 20.1        | 10.1              | 56.3           | 10.1           | 26.6        | 19.3              |
| Geographic division:         |                           |                                 |                |             |                   |                |                |             |                   |
| New England . . . . .        | 100.0                     | 59.2                            | 15.2           | 32.8        | 11.2              | 40.8           | 9.6            | 20.0        | 11.2              |
| Middle Atlantic . . . . .    | 100.0                     | 54.9                            | 14.5           | 22.4        | 18.0              | 45.1           | 5.7            | 21.7        | 17.7              |
| East North Central . . . . . | 100.0                     | 54.8                            | 15.6           | 29.8        | 9.4               | 45.0           | 5.3            | 19.7        | 20.1              |
| West North Central . . . . . | 100.0                     | 36.7                            | 7.7            | 9.5         | 19.5              | 62.7           | 5.3            | 27.8        | 29.6              |
| South Atlantic . . . . .     | 100.0                     | 57.1                            | 15.7           | 25.0        | 16.4              | 42.9           | 7.1            | 20.7        | 15.7              |
| East South Central . . . . . | 100.0                     | 46.6                            | 13.8           | 19.0        | 13.7              | 53.4           | 6.9            | 25.9        | 20.7              |
| West South Central . . . . . | 100.0                     | 45.5                            | 9.9            | 23.8        | 11.9              | 54.5           | 4.0            | 22.8        | 26.7              |
| Mountain . . . . .           | 100.0                     | 29.5                            | 4.6            | 15.9        | 9.0               | 70.5           | 18.1           | 25.0        | 27.3              |
| Pacific . . . . .            | 100.0                     | 45.8                            | 15.2           | 20.7        | 9.9               | 54.5           | 9.0            | 26.9        | 18.3              |

Table 5. Number and percent distribution of active optometrists by age, according to area: United States and each State, 1968

| Area                 | All ages                      | Under 35 years | 35-44 years | 45-54 years | 55-64 years | 65 years and over |
|----------------------|-------------------------------|----------------|-------------|-------------|-------------|-------------------|
|                      | Number of active optometrists |                |             |             |             |                   |
| United States        | 18,427                        | 2,087          | 5,433       | 6,669       | 2,617       | 1,621             |
| Alabama              | 180                           | 10             | 60          | 77          | 20          | 12                |
| Alaska               | 17                            | 5              | 8           | #           | #           | -                 |
| Arizona              | 127                           | 21             | 41          | 37          | #           | #                 |
| Arkansas             | 151                           | 32             | 33          | 49          | 17          | 20                |
| California           | 2,242                         | 340            | 698         | 771         | 256         | 177               |
| Colorado             | 188                           | 35             | 57          | 59          | 16          | 21                |
| Connecticut          | 260                           | 21             | 76          | 90          | 54          | 20                |
| Delaware             | 35                            | 6              | 11          | 14          | #           | #                 |
| District of Columbia | 71                            | 6              | 22          | 31          | 5           | 7                 |
| Florida              | 493                           | 82             | 181         | 158         | 48          | 24                |
| Georgia              | 263                           | 28             | 90          | 97          | 37          | 11                |
| Hawaii               | 64                            | 8              | 26          | 16          | 9           | 4                 |
| Idaho                | 86                            | 17             | 27          | 28          | 10          | 4                 |
| Illinois             | 1,616                         | 89             | 393         | 687         | 312         | 135               |
| Indiana              | 510                           | 84             | 133         | 180         | 76          | 37                |
| Iowa                 | 336                           | 36             | 108         | 124         | 43          | 25                |
| Kansas               | 229                           | 46             | 70          | 66          | 18          | 30                |
| Kentucky             | 229                           | 19             | 74          | 89          | 26          | 21                |
| Louisiana            | 223                           | 25             | 69          | 80          | 26          | 24                |
| Maine                | 116                           | 12             | 28          | 41          | 25          | 10                |
| Maryland             | 175                           | 24             | 56          | 65          | 15          | 15                |
| Massachusetts        | 719                           | 69             | 201         | 276         | 114         | 60                |
| Michigan             | 708                           | 73             | 202         | 265         | 123         | 45                |
| Minnesota            | 354                           | 27             | 124         | 131         | 29          | 44                |
| Mississippi          | 121                           | 9              | 39          | 53          | 14          | 6                 |
| Missouri             | 432                           | 38             | 97          | 164         | 53          | 80                |
| Montana              | 89                            | 14             | 35          | 27          | 9           | 4                 |
| Nebraska             | 155                           | 19             | 51          | 52          | 17          | 16                |
| Nevada               | 36                            | 7              | 13          | 11          | -           | 5                 |
| New Hampshire        | 70                            | 6              | 20          | 23          | 15          | 5                 |
| New Jersey           | 675                           | 38             | 194         | 270         | 119         | 54                |
| New Mexico           | 71                            | 12             | 23          | 30          | #           | #                 |
| New York             | 1,598                         | 146            | 440         | 491         | 306         | 215               |
| North Carolina       | 322                           | 41             | 111         | 117         | 32          | 21                |
| North Dakota         | 72                            | 15             | 30          | 21          | #           | #                 |
| Ohio                 | 942                           | 132            | 236         | 319         | 156         | 98                |
| Oklahoma             | 247                           | 29             | 77          | 96          | 26          | 19                |
| Oregon               | 273                           | 38             | 81          | 99          | 40          | 16                |
| Pennsylvania         | 1,145                         | 97             | 364         | 400         | 164         | 120               |
| Rhode Island         | 132                           | 10             | 37          | 56          | 22          | 8                 |
| South Carolina       | 155                           | 17             | 56          | 59          | 12          | 12                |
| South Dakota         | 94                            | 14             | 25          | 37          | 9           | 10                |
| Tennessee            | 296                           | 35             | 100         | 102         | 35          | 24                |
| Texas                | 752                           | 96             | 192         | 307         | 101         | 56                |
| Utah                 | 74                            | 9              | 25          | 27          | 8           | 5                 |
| Vermont              | 38                            | 6              | 9           | 15          | #           | #                 |
| Virginia             | 274                           | 30             | 88          | 114         | 22          | 20                |
| Washington           | 356                           | 49             | 107         | 120         | 56          | 25                |
| West Virginia        | 147                           | 15             | 48          | 48          | 21          | 16                |
| Wisconsin            | 429                           | 41             | 136         | 167         | 51          | 33                |
| Wyoming              | 41                            | 9              | 14          | #           | 5           | #                 |

# Data suppressed to comply with confidentiality requirements.

Table 5. Number and percent distribution of active optometrists by age, according to area: United States and each State, 1968—Con.

| Area                 | All ages | Under 35 years | 35-44 years | 45-54 years | 55-64 years | 65 years and over |
|----------------------|----------|----------------|-------------|-------------|-------------|-------------------|
|                      |          |                |             |             |             |                   |
| United States        | 100.0    | 11.3           | 29.5        | 36.2        | 14.2        | 8.8               |
| Alabama              | 100.0    | 5.7            | 33.3        | 42.8        | 11.3        | 6.9               |
| Alaska               | 100.0    | 31.3           | 50.0        | #           | #           | -                 |
| Arizona              | 100.0    | 16.5           | 32.2        | 29.6        | #           | #                 |
| Arkansas             | 100.0    | 21.3           | 22.1        | 32.4        | 11.0        | 13.2              |
| California           | 100.0    | 15.2           | 31.1        | 34.4        | 11.4        | 7.9               |
| Colorado             | 100.0    | 18.4           | 30.5        | 31.6        | 8.6         | 10.9              |
| Connecticut          | 100.0    | 7.9            | 29.4        | 34.5        | 20.6        | 7.5               |
| Delaware             | 100.0    | 16.7           | 30.0        | 40.0        | #           | #                 |
| District of Columbia | 100.0    | 8.5            | 30.5        | 44.1        | 6.8         | 10.2              |
| Florida              | 100.0    | 16.6           | 36.8        | 32.0        | 9.7         | 4.9               |
| Georgia              | 100.0    | 10.8           | 34.4        | 36.8        | 14.0        | 4.0               |
| Hawaii               | 100.0    | 13.1           | 41.0        | 24.6        | 14.8        | 6.6               |
| Idaho                | 100.0    | 19.5           | 31.2        | 32.5        | 11.7        | 5.2               |
| Illinois             | 100.0    | 5.5            | 24.3        | 42.5        | 19.3        | 8.3               |
| Indiana              | 100.0    | 16.5           | 26.1        | 35.4        | 14.8        | 7.2               |
| Iowa                 | 100.0    | 10.6           | 32.2        | 37.0        | 12.9        | 7.4               |
| Kansas               | 100.0    | 19.9           | 30.6        | 28.7        | 7.9         | 13.0              |
| Kentucky             | 100.0    | 8.4            | 32.2        | 38.8        | 11.2        | 9.3               |
| Louisiana            | 100.0    | 11.1           | 31.2        | 35.7        | 11.6        | 10.6              |
| Maine                | 100.0    | 10.1           | 23.9        | 35.8        | 22.0        | 8.3               |
| Maryland             | 100.0    | 13.7           | 31.7        | 37.3        | 8.7         | 8.7               |
| Massachusetts        | 100.0    | 9.5            | 27.9        | 38.3        | 15.9        | 8.3               |
| Michigan             | 100.0    | 10.4           | 28.5        | 37.3        | 17.4        | 6.4               |
| Minnesota            | 100.0    | 7.6            | 35.0        | 36.9        | 8.2         | 12.4              |
| Mississippi          | 100.0    | 7.8            | 32.2        | 43.5        | 11.3        | 5.2               |
| Missouri             | 100.0    | 8.8            | 22.5        | 38.0        | 12.3        | 18.5              |
| Montana              | 100.0    | 15.9           | 39.0        | 30.5        | 9.8         | 4.9               |
| Nebraska             | 100.0    | 12.3           | 32.9        | 33.6        | 11.0        | 10.3              |
| Nevada               | 100.0    | 18.2           | 36.4        | 30.3        | -           | 15.2              |
| New Hampshire        | 100.0    | 9.1            | 28.8        | 33.3        | 21.2        | 7.6               |
| New Jersey           | 100.0    | 5.6            | 28.8        | 40.0        | 17.6        | 8.1               |
| New Mexico           | 100.0    | 17.4           | 31.9        | 42.0        | #           | #                 |
| New York             | 100.0    | 9.1            | 27.5        | 30.7        | 19.1        | 13.5              |
| North Carolina       | 100.0    | 12.8           | 34.6        | 36.2        | 10.1        | 6.4               |
| North Dakota         | 100.0    | 20.6           | 41.3        | 28.6        | #           | #                 |
| Ohio                 | 100.0    | 14.0           | 25.1        | 33.9        | 16.6        | 10.5              |
| Oklahoma             | 100.0    | 11.7           | 31.2        | 39.0        | 10.4        | 7.8               |
| Oregon               | 100.0    | 14.0           | 29.5        | 36.0        | 14.7        | 5.8               |
| Pennsylvania         | 100.0    | 8.5            | 31.8        | 34.9        | 14.3        | 10.5              |
| Rhode Island         | 100.0    | 7.6            | 27.7        | 42.0        | 16.8        | 5.9               |
| South Carolina       | 100.0    | 11.0           | 35.9        | 37.9        | 7.6         | 7.6               |
| South Dakota         | 100.0    | 14.8           | 26.1        | 39.8        | 9.1         | 10.2              |
| Tennessee            | 100.0    | 11.8           | 33.7        | 34.4        | 11.8        | 8.2               |
| Texas                | 100.0    | 12.8           | 25.5        | 40.9        | 13.5        | 7.4               |
| Utah                 | 100.0    | 12.7           | 33.3        | 36.5        | 11.1        | 6.3               |
| Vermont              | 100.0    | 17.1           | 22.9        | 40.0        | #           | #                 |
| Virginia             | 100.0    | 10.8           | 32.1        | 41.8        | 8.0         | 7.2               |
| Washington           | 100.0    | 13.6           | 30.0        | 33.6        | 15.8        | 7.0               |
| West Virginia        | 100.0    | 10.1           | 32.4        | 32.4        | 14.4        | 10.8              |
| Wisconsin            | 100.0    | 9.6            | 31.7        | 39.0        | 11.8        | 7.8               |
| Wyoming              | 100.0    | 22.2           | 33.3        | #           | 11.1        | #                 |

# Data suppressed to comply with confidentiality requirements.

Table 6. Number and percent distribution of active optometrists by age, according to sex, principal form of employment, highest degree achieved, age at graduation, and weeks per year and hours per week worked: United States, 1968

| Characteristic                                       | All ages | Under 35 years | 35-44 years | 45-54 years | 55-64 years | 65-74 years | 75 years and over |
|--|----------|----------------|-------------|-------------|-------------|-------------|-------------------|
| Number of active optometrists                        |          |                |             |             |             |             |                   |
| All active optometrists . . . . .                    | 18,427   | 2,087          | 5,433       | 6,669       | 2,617       | 1,215       | 406               |
| Sex:   |          |                |             |             |             |             |                   |
| Male . . . . .                                       | 18,034   | 2,051          | 5,347       | 6,522       | 2,545       | 1,180       | 389               |
| Female . . . . .                                     | 394      | 36             | 85          | 146         | 73          | 36          | 17                |
| Principal form of employment:                        |          |                |             |             |             |             |                   |
| Self-employed . . . . .                              | 16,256   | 1,672          | 4,852       | 6,003       | 2,319       | 1,037       | 373               |
| Solo practice . . . . .                              | 13,538   | 1,206          | 4,014       | 5,137       | 1,964       | 891         | 326               |
| Partnership practice . . . . .                       | 2,186    | 387            | 672         | 680         | 288         | 122         | 37                |
| Group practice . . . . .                             | 531      | 79             | 165         | 185         | 67          | 24          | 11                |
| Salaried . . . . .                                   | 2,172    | 415            | 581         | 666         | 298         | 179         | 33                |
| Employed by:   |          |                |             |             |             |             |                   |
| Government . . . . .                                 | 45       | 6              | 9           | 22          | 7           | 2           | -                 |
| Optometrist(s) . . . . .                             | 952      | 234            | 238         | 271         | 111         | 78          | 21                |
| Ophthalmologist(s) . . . . .                         | 135      | 33             | 44          | 48          | 7           | 3           | -                 |
| Physician(s) other than ophthalmologist(s) . . . . . | 36       | 9              | 15          | 9           | 2           | 1           | -                 |
| Profitmaking organization(s) . . . . .               | 646      | 53             | 182         | 211         | 121         | 71          | 9                 |
| Nonprofitmaking organization(s) . . . . .            | 194      | 52             | 50          | 56          | 26          | 10          | -                 |
| Other . . . . .                                      | 163      | 28             | 44          | 50          | 24          | 13          | 3                 |
| Highest degree achieved:                             |          |                |             |             |             |             |                   |
| Doctor of optometry . . . . .                        | 16,543   | 1,810          | 4,916       | 6,013       | 2,302       | 1,110       | 391               |
| Doctor's degree . . . . .                            | 41       | 3              | 9           | 15          | 9           | 5           | -                 |
| Master's degree . . . . .                            | 417      | 113            | 209         | 71          | 20          | 3           | 1                 |
| Bachelor's degree . . . . .                          | 1,288    | 157            | 286         | 548         | 238         | 50          | 9                 |
| Other . . . . .                                      | 139      | 3              | 13          | 22          | 48          | 47          | 6                 |
| Age at graduation:                                   |          |                |             |             |             |             |                   |
| Under 23 years . . . . .                             | 3,169    | 75             | 621         | 1,324       | 631         | 440         | 78                |
| 23-24 years . . . . .                                | 4,549    | 979            | 1,786       | 983         | 487         | 261         | 53                |
| 25-26 years . . . . .                                | 3,630    | 607            | 1,446       | 954         | 380         | 190         | 52                |
| 27-29 years . . . . .                                | 3,676    | 346            | 1,043       | 1,707       | 357         | 144         | 78                |
| 30-34 years . . . . .                                | 2,338    | 80             | 455         | 1,378       | 281         | 77          | 67                |
| 35 years and over . . . . .                          | 1,067    | -              | 82          | 322         | 481         | 103         | 79                |
| Weeks per year and hours per week worked:            |          |                |             |             |             |             |                   |
| 1-47 weeks . . . . .                                 | 1,403    | 82             | 290         | 395         | 263         | 279         | 95                |
| 1-34 hours . . . . .                                 | 583      | 13             | 77          | 122         | 109         | 193         | 70                |
| 35 hours or more . . . . .                           | 820      | 69             | 213         | 273         | 154         | 86          | 25                |
| 48-52 weeks . . . . .                                | 17,024   | 2,005          | 5,143       | 6,274       | 2,355       | 937         | 311               |
| 1-34 hours . . . . .                                 | 1,589    | 121            | 326         | 453         | 295         | 253         | 141               |
| 35-39 hours . . . . .                                | 2,641    | 311            | 768         | 949         | 394         | 175         | 45                |
| 40 hours . . . . .                                   | 4,014    | 481            | 1,230       | 1,445       | 588         | 215         | 54                |
| 41-44 hours . . . . .                                | 2,244    | 260            | 699         | 870         | 297         | 96          | 23                |
| 45-48 hours . . . . .                                | 3,352    | 405            | 1,070       | 1,279       | 423         | 139         | 37                |
| 49 hours or more . . . . .                           | 3,183    | 426            | 1,050       | 1,278       | 359         | 59          | 11                |

Table 6. Number and percent distribution of active optometrists by age, according to sex, principal form of employment, highest degree achieved, age at graduation, and weeks per year and hours per week worked: United States, 1968—Con.

| Characteristic                                       | All ages | Percent distribution |             |             |             |             |                   |
|--|----------|----------------------|-------------|-------------|-------------|-------------|-------------------|
|  |          | Under 35 years       | 35-44 years | 45-54 years | 55-64 years | 65-74 years | 75 years and over |
| All active optometrists . . . . .                    | 100.0    | 11.3                 | 29.5        | 36.2        | 14.2        | 6.6         | 2.2               |
| <b>Sex:</b>  |          |                      |             |             |             |             |                   |
| Male . . . . .                                       | 100.0    | 11.4                 | 29.7        | 36.2        | 14.1        | 6.5         | 2.2               |
| Female . . . . .                                     | 100.0    | 9.2                  | 21.6        | 37.2        | 18.5        | 9.1         | 4.4               |
| <b>Principal form of employment:</b>                 |          |                      |             |             |             |             |                   |
| Self-employed . . . . .                              | 100.0    | 10.3                 | 29.8        | 36.9        | 14.3        | 6.4         | 2.3               |
| Solo practice . . . . .                              | 100.0    | 8.9                  | 29.7        | 37.9        | 14.5        | 6.6         | 2.4               |
| Partnership practice . . . . .                       | 100.0    | 17.7                 | 30.8        | 31.1        | 13.2        | 5.6         | 1.7               |
| Group practice . . . . .                             | 100.0    | 14.9                 | 31.1        | 34.8        | 12.6        | 4.5         | 2.1               |
| Salaried . . . . .                                   | 100.0    | 19.1                 | 26.7        | 30.7        | 13.7        | 8.2         | 1.5               |
| Employed by:   |          |                      |             |             |             |             |                   |
| Government . . . . .                                 | 100.0    | 12.2                 | 19.3        | 49.0        | 14.7        | 4.8         | -                 |
| Optometrist(s) . . . . .                             | 100.0    | 24.6                 | 25.0        | 28.4        | 11.7        | 8.2         | 2.2               |
| Ophthalmologist(s) . . . . .                         | 100.0    | 24.6                 | 32.5        | 35.5        | 5.0         | 2.4         | -                 |
| Physician(s) other than ophthalmologist(s) . . . . . | 100.0    | 24.1                 | 42.3        | 24.3        | 6.3         | 3.0         | -                 |
| Profitmaking organization(s) . . . . .               | 100.0    | 8.3                  | 28.1        | 32.6        | 18.7        | 11.0        | 1.4               |
| Nonprofitmaking organization(s) . . . . .            | 100.0    | 26.6                 | 25.7        | 29.0        | 13.6        | 5.1         | -                 |
| Other . . . . .                                      | 100.0    | 17.4                 | 27.0        | 30.5        | 15.0        | 8.1         | 2.0               |
| <b>Highest degree achieved:</b>                      |          |                      |             |             |             |             |                   |
| Doctor of optometry . . . . .                        | 100.0    | 10.9                 | 29.7        | 36.3        | 13.9        | 6.7         | 2.4               |
| Doctor's degree . . . . .                            | 100.0    | 8.0                  | 21.8        | 37.7        | 21.3        | 11.3        | -                 |
| Master's degree . . . . .                            | 100.0    | 27.0                 | 50.2        | 17.0        | 4.8         | 0.8         | 0.2               |
| Bachelor's degree . . . . .                          | 100.0    | 12.2                 | 22.2        | 42.6        | 18.5        | 3.9         | 0.7               |
| Other . . . . .                                      | 100.0    | 2.4                  | 9.3         | 15.8        | 34.7        | 33.9        | 4.0               |
| <b>Age at graduation:</b>                            |          |                      |             |             |             |             |                   |
| Under 23 years . . . . .                             | 100.0    | 2.4                  | 19.6        | 41.8        | 19.9        | 13.9        | 2.5               |
| 23-24 years . . . . .                                | 100.0    | 21.5                 | 39.3        | 21.6        | 10.7        | 5.7         | 1.2               |
| 25-26 years . . . . .                                | 100.0    | 16.7                 | 39.8        | 26.3        | 10.5        | 5.2         | 1.4               |
| 27-29 years . . . . .                                | 100.0    | 9.4                  | 28.4        | 46.4        | 9.7         | 3.9         | 2.1               |
| 30-34 years . . . . .                                | 100.0    | 3.4                  | 19.5        | 59.0        | 12.0        | 3.3         | 2.9               |
| 35 years and over . . . . .                          | 100.0    | -                    | 7.7         | 30.2        | 45.1        | 9.7         | 7.4               |
| <b>Weeks per year and hours per week worked:</b>     |          |                      |             |             |             |             |                   |
| 1-47 weeks . . . . .                                 | 100.0    | 5.8                  | 20.7        | 28.2        | 18.7        | 19.9        | 6.8               |
| 1-34 hours . . . . .                                 | 100.0    | 2.2                  | 13.2        | 20.9        | 18.7        | 33.0        | 12.0              |
| 35 hours or more . . . . .                           | 100.0    | 8.4                  | 26.0        | 33.3        | 18.8        | 10.5        | 3.1               |
| 48-52 weeks . . . . .                                | 100.0    | 11.8                 | 30.2        | 36.9        | 13.8        | 5.5         | 1.8               |
| 1-34 hours . . . . .                                 | 100.0    | 7.6                  | 20.5        | 28.5        | 18.6        | 15.9        | 8.9               |
| 35-39 hours . . . . .                                | 100.0    | 11.8                 | 29.1        | 35.9        | 14.9        | 6.6         | 1.7               |
| 40 hours . . . . .                                   | 100.0    | 12.0                 | 30.6        | 36.0        | 14.7        | 5.4         | 1.3               |
| 41-44 hours . . . . .                                | 100.0    | 11.6                 | 31.1        | 38.8        | 13.2        | 4.3         | 1.0               |
| 45-48 hours . . . . .                                | 100.0    | 12.1                 | 31.9        | 38.2        | 12.6        | 4.1         | 1.1               |
| 49 hours or more . . . . .                           | 100.0    | 13.4                 | 33.0        | 40.2        | 11.3        | 1.9         | 0.3               |

Table 7. Number and percent distribution of active optometrists by principal form of employment, according to area: United States and each State, 1968

| Area                 | All forms of employment       | Self-employed |                      | Other forms of employment | All forms of employment | Self-employed |                      | Other forms of employment |
|----------------------|-------------------------------|---------------|----------------------|---------------------------|-------------------------|---------------|----------------------|---------------------------|
|                      |                               | Solo practice | Partnership practice |                           |                         | Solo practice | Partnership practice |                           |
|                      | Number of active optometrists |               |                      |                           | Percent distribution    |               |                      |                           |
| United States        | 18,427                        | 13,538        | 2,186                | 2,703                     | 100.0                   | 73.5          | 11.9                 | 14.7                      |
| Alabama              | 180                           | 134           | 18                   | 27                        | 100.0                   | 74.8          | 10.1                 | 15.1                      |
| Alaska               | 17                            | 12            | #                    | #                         | 100.0                   | 68.8          | #                    | #                         |
| Arizona              | 127                           | 103           | 18                   | 6                         | 100.0                   | 81.7          | 13.9                 | 4.3                       |
| Arkansas             | 151                           | 119           | 23                   | 9                         | 100.0                   | 78.7          | 15.4                 | 5.9                       |
| California           | 2,242                         | 1,605         | 235                  | 402                       | 100.0                   | 71.6          | 10.5                 | 17.9                      |
| Colorado             | 188                           | 140           | 28                   | 19                        | 100.0                   | 74.7          | 14.9                 | 10.3                      |
| Connecticut          | 260                           | 221           | 24                   | 14                        | 100.0                   | 85.3          | 9.1                  | 5.6                       |
| Delaware             | 35                            | 27            | 8                    | -                         | 100.0                   | 76.7          | 23.3                 | -                         |
| District of Columbia | 71                            | 41            | 11                   | 19                        | 100.0                   | 57.6          | 15.3                 | 27.1                      |
| Florida              | 493                           | 409           | 45                   | 39                        | 100.0                   | 83.0          | 9.0                  | 8.0                       |
| Georgia              | 263                           | 189           | 32                   | 42                        | 100.0                   | 72.0          | 12.0                 | 16.0                      |
| Hawaii               | 64                            | 49            | 9                    | 5                         | 100.0                   | 77.0          | 14.8                 | 8.2                       |
| Idaho                | 86                            | 71            | 11                   | 4                         | 100.0                   | 81.8          | 13.0                 | 5.2                       |
| Illinois             | 1,616                         | 1,028         | 188                  | 400                       | 100.0                   | 63.6          | 11.6                 | 24.8                      |
| Indiana              | 510                           | 381           | 76                   | 53                        | 100.0                   | 74.8          | 14.8                 | 10.4                      |
| Iowa                 | 336                           | 238           | 69                   | 29                        | 100.0                   | 70.7          | 20.6                 | 8.7                       |
| Kansas               | 229                           | 182           | 29                   | 18                        | 100.0                   | 79.6          | 12.5                 | 7.9                       |
| Kentucky             | 229                           | 183           | 26                   | 20                        | 100.0                   | 79.9          | 11.2                 | 8.9                       |
| Louisiana            | 223                           | 188           | 27                   | 8                         | 100.0                   | 84.4          | 12.1                 | 3.5                       |
| Maine                | 116                           | 108           | 4                    | 3                         | 100.0                   | 93.6          | 3.7                  | 2.8                       |
| Maryland             | 175                           | 99            | 26                   | 50                        | 100.0                   | 56.5          | 14.9                 | 28.6                      |
| Massachusetts        | 719                           | 623           | 41                   | 55                        | 100.0                   | 86.7          | 5.8                  | 7.6                       |
| Michigan             | 708                           | 486           | 87                   | 135                       | 100.0                   | 68.6          | 12.3                 | 19.1                      |
| Minnesota            | 354                           | 248           | 34                   | 72                        | 100.0                   | 70.1          | 9.7                  | 20.2                      |
| Mississippi          | 121                           | 97            | 20                   | 4                         | 100.0                   | 80.0          | 16.5                 | 3.5                       |
| Missouri             | 432                           | 300           | 44                   | 87                        | 100.0                   | 69.5          | 10.3                 | 20.3                      |
| Montana              | 89                            | 80            | #                    | #                         | 100.0                   | 90.2          | #                    | #                         |
| Nebraska             | 155                           | 120           | 19                   | 16                        | 100.0                   | 77.4          | 12.3                 | 10.3                      |
| Nevada               | 36                            | 34            | #                    | #                         | 100.0                   | 93.9          | #                    | #                         |
| New Hampshire        | 70                            | 55            | 10                   | 5                         | 100.0                   | 78.8          | 13.6                 | 7.6                       |
| New Jersey           | 675                           | 565           | 56                   | 54                        | 100.0                   | 83.7          | 8.2                  | 8.1                       |
| New Mexico           | 71                            | 55            | 11                   | 5                         | 100.0                   | 76.8          | 15.9                 | 7.2                       |
| New York             | 1,598                         | 1,065         | 194                  | 340                       | 100.0                   | 66.6          | 12.1                 | 21.3                      |
| North Carolina       | 322                           | 276           | 33                   | 12                        | 100.0                   | 85.9          | 10.4                 | 3.7                       |
| North Dakota         | 72                            | 52            | 13                   | 8                         | 100.0                   | 71.4          | 17.5                 | 11.1                      |
| Ohio                 | 942                           | 707           | 127                  | 107                       | 100.0                   | 75.1          | 13.5                 | 11.4                      |
| Oklahoma             | 247                           | 204           | 33                   | 10                        | 100.0                   | 82.7          | 13.4                 | 3.9                       |
| Oregon               | 273                           | 178           | 33                   | 63                        | 100.0                   | 65.1          | 12.0                 | 22.9                      |
| Pennsylvania         | 1,145                         | 939           | 106                  | 100                       | 100.0                   | 82.0          | 9.3                  | 8.7                       |
| Rhode Island         | 132                           | 111           | 14                   | 7                         | 100.0                   | 84.0          | 10.9                 | 5.0                       |
| South Carolina       | 155                           | 127           | 24                   | 4                         | 100.0                   | 82.1          | 15.2                 | 2.8                       |
| South Dakota         | 94                            | 68            | 19                   | 6                         | 100.0                   | 72.7          | 20.5                 | 6.8                       |
| Tennessee            | 296                           | 207           | 58                   | 31                        | 100.0                   | 69.9          | 19.7                 | 10.4                      |
| Texas                | 752                           | 401           | 119                  | 232                       | 100.0                   | 53.3          | 15.8                 | 30.9                      |
| Utah                 | 74                            | 42            | 13                   | 19                        | 100.0                   | 57.1          | 17.5                 | 25.4                      |
| Vermont              | 38                            | 36            | #                    | #                         | 100.0                   | 94.3          | #                    | #                         |
| Virginia             | 274                           | 220           | 28                   | 26                        | 100.0                   | 80.3          | 10.0                 | 9.6                       |
| Washington           | 356                           | 245           | 52                   | 59                        | 100.0                   | 68.8          | 14.5                 | 16.7                      |
| West Virginia        | 147                           | 128           | 15                   | 4                         | 100.0                   | 87.1          | 10.1                 | 2.9                       |
| Wisconsin            | 429                           | 308           | 55                   | 66                        | 100.0                   | 71.8          | 12.8                 | 15.4                      |
| Wyoming              | 41                            | 32            | 9                    | -                         | 100.0                   | 77.8          | 22.2                 | -                         |

# Data suppressed to comply with confidentiality requirements.

Table 8. Number and percent distribution of active optometrists by principal form of employment, according to sex, age, weeks per year and hours per week worked, percent of time spent in different activities, number of States licensed in, and highest degree achieved: United States, 1968

| Characteristic                                   | All forms of employment | Self-employed |               |                      |                | Salaried |  |                           |                    |
|--|-------------------------|---------------|---------------|----------------------|----------------|----------|--|---------------------------|--------------------|
|  |                         | Total         | Solo practice | Partnership practice | Group practice | Total    | Optometrist, ophthalmologist, or other physician | Profitmaking organization | Other <sup>1</sup> |
| Number of active optometrists                    |                         |               |               |                      |                |          |  |                           |                    |
| All active optometrists                          | 18,427                  | 16,256        | 13,538        | 2,186                | 531            | 2,172    | 1,123  | 646                       | 402                |
| <b>Sex:</b>                                      |                         |               |               |                      |                |          |  |                           |                    |
| Male   | 18,034                  | 15,942        | 13,334        | 2,086                | 522            | 2,092    | 1,075  | 636                       | 380                |
| Female   | 394                     | 314           | 204           | 101                  | 9              | 80       | 48   | 10                        | 22                 |
| <b>Age:</b>                                      |                         |               |               |                      |                |          |  |                           |                    |
| Under 25 years                                   | 65                      | 33            | 20            | 11                   | 2              | 32       | 22   | 4                         | 6                  |
| 25-29 years                                      | 840                     | 623           | 408           | 174                  | 40             | 218      | 160  | 15                        | 42                 |
| 30-34 years                                      | 1,182                   | 1,017         | 778           | 202                  | 37             | 165      | 93   | 33                        | 38                 |
| 35-39 years                                      | 1,950                   | 1,763         | 1,439         | 266                  | 58             | 187      | 98   | 53                        | 36                 |
| 40-44 years                                      | 3,483                   | 3,089         | 2,575         | 406                  | 107            | 394      | 199  | 129                       | 67                 |
| 45-49 years                                      | 3,835                   | 3,457         | 2,989         | 358                  | 111            | 378      | 192  | 116                       | 71                 |
| 50-54 years                                      | 2,834                   | 2,546         | 2,149         | 323                  | 74             | 288      | 136  | 95                        | 57                 |
| 55-59 years                                      | 1,595                   | 1,413         | 1,194         | 172                  | 47             | 182      | 67   | 80                        | 35                 |
| 60-64 years                                      | 1,022                   | 906           | 770           | 115                  | 20             | 116      | 53   | 41                        | 22                 |
| 65-69 years                                      | 749                     | 642           | 558           | 68                   | 16             | 107      | 49   | 39                        | 19                 |
| 70-74 years                                      | 467                     | 395           | 333           | 54                   | 8              | 72       | 33   | 32                        | 7                  |
| 75 years and over                                | 406                     | 373           | 326           | 37                   | 11             | 33       | 21   | 9                         | 3                  |
| <b>Weeks per year and hours per week worked:</b> |                         |               |               |                      |                |          |  |                           |                    |
| 1-47 weeks                                       | 1,403                   | 1,216         | 940           | 224                  | 52             | 187      | 72   | 34                        | 81                 |
| 1-34 hours                                       | 583                     | 489           | 387           | 83                   | 18             | 95       | 38   | 19                        | 37                 |
| 35 hours or more                                 | 820                     | 728           | 553           | 141                  | 34             | 92       | 33   | 14                        | 44                 |
| 48 weeks or more                                 | 17,024                  | 15,039        | 12,598        | 1,962                | 479            | 1,985    | 1,051  | 613                       | 321                |
| 1-34 hours                                       | 1,589                   | 1,408         | 1,247         | 134                  | 27             | 181      | 81   | 36                        | 64                 |
| 35-39 hours                                      | 2,641                   | 2,449         | 2,092         | 307                  | 50             | 193      | 120  | 38                        | 35                 |
| 40 hours   | 4,014                   | 3,401         | 2,846         | 447                  | 108            | 614      | 304  | 226                       | 84                 |
| 41-44 hours                                      | 2,244                   | 1,929         | 1,587         | 277                  | 66             | 315      | 198  | 96                        | 21                 |
| 45-48 hours                                      | 3,352                   | 2,940         | 2,441         | 408                  | 91             | 413      | 224  | 147                       | 43                 |
| 49 hours or more                                 | 3,183                   | 2,913         | 2,386         | 390                  | 138            | 270      | 124  | 71                        | 74                 |
| <b>Activities:</b>                               |                         |               |               |                      |                |          |  |                           |                    |
| <b>Optometric practice:</b>                      |                         |               |               |                      |                |          |  |                           |                    |
| No time spent                                    | 128                     | 38            | 28            | 9                    | 1              | 90       | 1  | 10                        | 79                 |
| 1-99 percent                                     | 3,702                   | 3,380         | 2,632         | 586                  | 163            | 322      | 130  | 69                        | 122                |
| 100 percent                                      | 14,597                  | 12,837        | 10,878        | 1,592                | 367            | 1,760    | 992  | 567                       | 201                |
| <b>Teaching in a school of optometry:</b>        |                         |               |               |                      |                |          |  |                           |                    |
| No time spent                                    | 18,085                  | 16,019        | 13,357        | 2,139                | 523            | 2,066    | 1,118  | 642                       | 306                |
| 1-99 percent                                     | 314                     | 232           | 177           | 47                   | 8              | 82       | 5  | 3                         | 73                 |
| 100 percent                                      | 28                      | 4             | 4             | -                    | -              | 24       | -  | 1                         | 23                 |
| <b>Optometric research:</b>                      |                         |               |               |                      |                |          |  |                           |                    |
| No time spent                                    | 17,376                  | 15,367        | 12,819        | 2,046                | 502            | 2,009    | 1,075  | 617                       | 316                |
| 1-99 percent                                     | 1,035                   | 877           | 709           | 138                  | 29             | 159      | 48   | 28                        | 82                 |
| 100 percent                                      | 16                      | 12            | 10            | 2                    | -              | 4        | -  | 1                         | 3                  |
| <b>Administration:</b>                           |                         |               |               |                      |                |          |  |                           |                    |
| No time spent                                    | 16,133                  | 14,142        | 11,940        | 1,791                | 411            | 1,991    | 1,065  | 609                       | 316                |
| 1-99 percent                                     | 2,281                   | 2,111         | 1,596         | 394                  | 120            | 171      | 58   | 34                        | 79                 |
| 100 percent                                      | 13                      | 3             | 2             | 1                    | -              | 10       | -  | 3                         | 7                  |
| <b>Other:</b>                                    |                         |               |               |                      |                |          |  |                           |                    |
| No time spent                                    | 17,237                  | 15,197        | 12,718        | 2,002                | 477            | 2,040    | 1,076  | 614                       | 350                |
| 1-99 percent                                     | 1,170                   | 1,048         | 814           | 180                  | 55             | 121      | 46   | 30                        | 45                 |
| 100 percent                                      | 21                      | 11            | 7             | 4                    | -              | 10       | 1  | 2                         | 7                  |
| <b>Number of States licensed in:</b>             |                         |               |               |                      |                |          |  |                           |                    |
| 1 State  | 20                      | 15            | 14            | 1                    | -              | 5        | 2  | -                         | 2                  |
| 2 States   | 14,011                  | 12,423        | 10,409        | 1,621                | 393            | 1,588    | 826  | 489                       | 273                |
| 3 States   | 3,377                   | 2,972         | 2,444         | 419                  | 109            | 405      | 220  | 101                       | 84                 |
| 4 States or more                                 | 1,020                   | 846           | 671           | 146                  | 29             | 174      | 74   | 56                        | 43                 |
| <b>Highest degree achieved:</b>                  |                         |               |               |                      |                |          |  |                           |                    |
| Doctor of optometry                              | 16,543                  | 14,659        | 12,253        | 1,931                | 475            | 1,885    | 992  | 552                       | 341                |
| Doctor's degree                                  | 41                      | 24            | 18            | 4                    | 2              | 16       | 2  | 4                         | 10                 |
| Master's degree                                  | 417                     | 342           | 264           | 69                   | 9              | 75       | 41   | 15                        | 18                 |
| Bachelor's degree                                | 1,288                   | 1,120         | 907           | 171                  | 42             | 168      | 75   | 61                        | 31                 |
| Other  | 139                     | 111           | 96            | 11                   | 3              | 28       | 12   | 14                        | 2                  |

See footnote at end of table.



Table 8. Number and percent distribution of active optometrists by principal form of employment, according to sex, age, weeks per year and hours per week worked, percent of time spent in different activities, number of States licensed in, and highest degree achieved: United States, 1968—Con.

| Characteristic                            | All forms of employment | Self-employed |               |                      |                | Salaried |  |                           |                    |
|---|-------------------------|---------------|---------------|----------------------|----------------|----------|--|---------------------------|--------------------|
|   |                         | Total         | Solo practice | Partnership practice | Group practice | Total    | Optometrist, ophthalmologist, or other physician | Profitmaking organization | Other <sup>1</sup> |
| Percent distribution                      |                         |               |               |                      |                |          |  |                           |                    |
| All active optometrists                   | 100.0                   | 88.2          | 73.5          | 11.9                 | 2.9            | 11.8     | 6.1  | 3.5                       | 2.2                |
| Sex:                                      |                         |               |               |                      |                |          |  |                           |                    |
| Male                                      | 100.0                   | 88.4          | 73.9          | 11.6                 | 2.9            | 11.6     | 6.0  | 3.5                       | 2.1                |
| Female                                    | 100.0                   | 79.8          | 51.9          | 25.6                 | 2.3            | 20.3     | 12.3   | 2.5                       | 5.5                |
| Age:                                      |                         |               |               |                      |                |          |  |                           |                    |
| Under 25 years                            | 100.0                   | 50.4          | 30.4          | 16.7                 | 3.3            | 49.5     | 34.0   | 6.9                       | 8.6                |
| 25-29 years                               | 100.0                   | 74.1          | 48.6          | 20.7                 | 4.8            | 26.0     | 19.1   | 1.8                       | 5.0                |
| 30-34 years                               | 100.0                   | 86.0          | 65.8          | 17.1                 | 3.1            | 13.9     | 7.9  | 2.8                       | 3.2                |
| 35-39 years                               | 100.0                   | 90.4          | 73.8          | 13.6                 | 3.0            | 9.6      | 5.0  | 2.7                       | 1.8                |
| 40-44 years                               | 100.0                   | 88.7          | 73.9          | 11.7                 | 3.1            | 11.3     | 5.7  | 3.7                       | 1.9                |
| 45-49 years                               | 100.0                   | 90.1          | 77.9          | 9.3                  | 2.9            | 9.9      | 5.0  | 3.0                       | 1.8                |
| 50-54 years                               | 100.0                   | 89.9          | 75.8          | 11.4                 | 2.6            | 8.2      | 4.8  | 3.4                       | -                  |
| 55-59 years                               | 100.0                   | 88.6          | 74.8          | 10.8                 | 3.0            | 11.4     | 4.2  | 5.0                       | 2.2                |
| 60-64 years                               | 100.0                   | 88.6          | 75.4          | 11.3                 | 1.9            | 11.4     | 5.2  | 4.0                       | 2.2                |
| 65-69 years                               | 100.0                   | 85.7          | 74.5          | 9.0                  | 2.2            | 14.3     | 6.6  | 5.2                       | 2.5                |
| 70-74 years                               | 100.0                   | 84.5          | 71.4          | 11.5                 | 1.6            | 15.4     | 7.1  | 6.9                       | 1.4                |
| 75 years and over                         | 100.0                   | 91.9          | 80.1          | 9.1                  | 2.7            | 8.1      | 5.1  | 2.2                       | 0.8                |
| Weeks per year and hours per week worked: |                         |               |               |                      |                |          |  |                           |                    |
| 1-47 weeks                                | 100.0                   | 86.7          | 67.0          | 16.0                 | 3.7            | 13.3     | 5.1  | 2.4                       | 5.8                |
| 1-34 hours                                | 100.0                   | 83.9          | 66.3          | 14.3                 | 3.2            | 16.1     | 6.5  | 3.3                       | 6.3                |
| 35 hours or more                          | 100.0                   | 88.8          | 67.4          | 17.2                 | 4.1            | 11.2     | 4.0  | 1.7                       | 5.4                |
| 48 weeks or more                          | 100.0                   | 88.3          | 74.0          | 11.5                 | 2.8            | 11.7     | 6.2  | 3.6                       | 1.9                |
| 1-34 hours                                | 100.0                   | 88.6          | 78.5          | 8.4                  | 1.7            | 11.4     | 5.1  | 2.3                       | 4.0                |
| 35-39 hours                               | 100.0                   | 92.7          | 79.2          | 11.6                 | 1.9            | 7.3      | 4.5  | 1.4                       | 1.3                |
| 40 hours                                  | 100.0                   | 84.7          | 70.9          | 11.1                 | 2.7            | 15.3     | 7.6  | 5.6                       | 2.1                |
| 41-44 hours                               | 100.0                   | 86.0          | 70.7          | 12.3                 | 2.9            | 14.0     | 8.8  | 4.3                       | 0.9                |
| 45-48 hours                               | 100.0                   | 87.7          | 72.8          | 12.2                 | 2.7            | 12.3     | 6.6  | 4.4                       | 1.3                |
| 49 hours or more                          | 100.0                   | 91.5          | 75.0          | 12.3                 | 4.3            | 8.5      | 3.9  | 2.2                       | 2.3                |
| Activities:                               |                         |               |               |                      |                |          |  |                           |                    |
| Optometric practice:                      |                         |               |               |                      |                |          |  |                           |                    |
| No time spent                             | 100.0                   | 29.7          | 21.9          | 7.0                  | 0.8            | 70.3     | 0.8  | 7.8                       | 61.7               |
| 1-99 percent                              | 100.0                   | 91.3          | 71.1          | 15.8                 | 4.4            | 8.7      | 3.5  | 1.9                       | 3.3                |
| 100 percent                               | 100.0                   | 87.9          | 74.5          | 10.9                 | 2.5            | 12.1     | 6.8  | 3.9                       | 1.4                |
| Teaching in a school of optometry:        |                         |               |               |                      |                |          |  |                           |                    |
| No time spent                             | 100.0                   | 88.6          | 73.9          | 11.8                 | 2.9            | 11.4     | 6.2  | 3.5                       | 1.7                |
| 1-99 percent                              | 100.0                   | 73.9          | 56.4          | 15.0                 | 2.5            | 26.1     | 1.6  | 1.0                       | 23.2               |
| 100 percent                               | 100.0                   | 14.3          | 14.3          | -                    | -              | 85.7     | -  | 3.6                       | 82.1               |
| Optometric research:                      |                         |               |               |                      |                |          |  |                           |                    |
| No time spent                             | 100.0                   | 88.4          | 73.8          | 11.8                 | 2.9            | 11.6     | 6.2  | 3.6                       | 1.8                |
| 1-99 percent                              | 100.0                   | 84.7          | 68.5          | 13.3                 | 2.8            | 15.4     | 4.6  | 2.7                       | 7.9                |
| 100 percent                               | 100.0                   | 75.0          | 62.5          | 12.5                 | -              | 25.0     | -  | 6.3                       | 18.8               |
| Administration:                           |                         |               |               |                      |                |          |  |                           |                    |
| No time spent                             | 100.0                   | 87.7          | 74.0          | 11.1                 | 2.5            | 12.3     | 6.6  | 3.8                       | 2.0                |
| 1-99 percent                              | 100.0                   | 92.5          | 70.0          | 17.3                 | 5.3            | 7.5      | 2.5  | 1.5                       | 3.5                |
| 100 percent                               | 100.0                   | 23.1          | 15.4          | 7.7                  | -              | 76.9     | -  | 23.1                      | 53.8               |
| Other:                                    |                         |               |               |                      |                |          |  |                           |                    |
| No time spent                             | 100.0                   | 88.2          | 73.8          | 11.6                 | 2.8            | 11.8     | 6.2  | 3.6                       | 2.0                |
| 1-99 percent                              | 100.0                   | 89.6          | 69.6          | 15.4                 | 4.7            | 10.3     | 3.9  | 2.6                       | 3.8                |
| 100 percent                               | 100.0                   | 52.4          | 33.3          | 19.0                 | -              | 47.6     | 4.8  | 9.5                       | 33.3               |
| Number of States licensed in:             |                         |               |               |                      |                |          |  |                           |                    |
| 1 State                                   | 100.0                   | 75.0          | 70.0          | 5.0                  | -              | 25.0     | 10.0   | -                         | 10.0               |
| 2 States                                  | 100.0                   | 88.7          | 74.3          | 11.6                 | 2.8            | 11.3     | 5.9  | 3.5                       | 1.9                |
| 3 States                                  | 100.0                   | 88.0          | 72.4          | 12.4                 | 3.2            | 12.0     | 6.5  | 3.0                       | 2.5                |
| 4 States or more                          | 100.0                   | 82.9          | 65.8          | 14.3                 | 2.8            | 17.1     | 7.3  | 5.5                       | 4.2                |
| Highest degree achieved:                  |                         |               |               |                      |                |          |  |                           |                    |
| Doctor of optometry                       | 100.0                   | 88.6          | 74.1          | 11.7                 | 2.9            | 11.4     | 6.0  | 3.3                       | 2.1                |
| Doctor's degree                           | 100.0                   | 58.6          | 43.9          | 9.8                  | 4.9            | 39.1     | 4.9  | 9.8                       | 24.4               |
| Master's degree                           | 100.0                   | 82.0          | 63.3          | 16.5                 | 2.2            | 18.0     | 9.8  | 3.6                       | 4.3                |
| Bachelor's degree                         | 100.0                   | 87.0          | 70.4          | 13.3                 | 3.3            | 13.0     | 5.8  | 4.7                       | 2.4                |
| Other                                     | 100.0                   | 79.9          | 69.1          | 7.9                  | 2.2            | 20.1     | 8.6  | 10.1                      | 1.4                |

<sup>1</sup> Includes government (nonmilitary) organizations, nonprofitmaking organizations or institutions, health insurance plans, health care programs, and so forth.

Table 9. Number and percent distribution of active optometrists by weeks per year and hours per week worked, according to area: United States and each State, 1968

| Area                 | All active optometrists | Under 48 weeks per year       | 48-52 weeks per year |       |       |            |
|----------------------|-------------------------|-------------------------------|----------------------|-------|-------|------------|
|                      |                         |                               | Hours per week       |       |       |            |
|                      |                         |                               | 1-34                 | 35-40 | 41-48 | 49 or more |
|                      |                         | Number of active optometrists |                      |       |       |            |
| United States        | 18,427                  | 1,403                         | 1,589                | 6,655 | 5,596 | 3,183      |
| Alabama              | 180                     | 6                             | 12                   | 70    | 64    | 27         |
| Alaska               | 17                      | #                             | #                    | 5     | 6     | 3          |
| Arizona              | 127                     | 9                             | 10                   | 43    | 43    | 22         |
| Arkansas             | 151                     | 10                            | 20                   | 68    | 37    | 17         |
| California           | 2,242                   | 184                           | 229                  | 929   | 608   | 293        |
| Colorado             | 188                     | 15                            | 8                    | 73    | 56    | 36         |
| Connecticut          | 260                     | 25                            | 25                   | 106   | 71    | 33         |
| Delaware             | 35                      | #                             | #                    | 13    | 7     | 9          |
| District of Columbia | 71                      | #                             | #                    | 19    | 29    | 15         |
| Florida              | 493                     | 23                            | 46                   | 199   | 146   | 78         |
| Georgia              | 263                     | 6                             | 13                   | 81    | 111   | 51         |
| Hawaii               | 64                      | 11                            | 9                    | 24    | 16    | 4          |
| Idaho                | 86                      | 9                             | 7                    | 36    | 16    | 19         |
| Illinois             | 1,616                   | 136                           | 161                  | 501   | 515   | 303        |
| Indiana              | 510                     | 31                            | 30                   | 213   | 134   | 102        |
| Iowa                 | 336                     | 27                            | 19                   | 149   | 96    | 44         |
| Kansas               | 229                     | 20                            | 18                   | 94    | 70    | 27         |
| Kentucky             | 229                     | 14                            | 30                   | 85    | 77    | 24         |
| Louisiana            | 223                     | 13                            | 18                   | 80    | 88    | 24         |
| Maine                | 116                     | 8                             | 22                   | 40    | 25    | 19         |
| Maryland             | 175                     | 14                            | 13                   | 51    | 51    | 46         |
| Massachusetts        | 719                     | 57                            | 72                   | 242   | 196   | 153        |
| Michigan             | 708                     | 67                            | 51                   | 287   | 206   | 97         |
| Minnesota            | 354                     | 28                            | 24                   | 120   | 133   | 50         |
| Mississippi          | 121                     | 5                             | 7                    | 54    | 37    | 18         |
| Missouri             | 432                     | 26                            | 40                   | 176   | 111   | 79         |
| Montana              | 89                      | 10                            | 8                    | 43    | 19    | 9          |
| Nebraska             | 155                     | 11                            | 8                    | 67    | 43    | 25         |
| Nevada               | 36                      | #                             | #                    | 22    | 3     | 3          |
| New Hampshire        | 70                      | 3                             | 8                    | 30    | 23    | 5          |
| New Jersey           | 675                     | 60                            | 70                   | 191   | 200   | 154        |
| New Mexico           | 71                      | 3                             | 6                    | 30    | 22    | 10         |
| New York             | 1,598                   | 171                           | 100                  | 429   | 519   | 380        |
| North Carolina       | 322                     | 12                            | 43                   | 143   | 79    | 45         |
| North Dakota         | 72                      | #                             | #                    | 37    | 17    | 8          |
| Ohio                 | 942                     | 65                            | 72                   | 343   | 288   | 173        |
| Oklahoma             | 247                     | 16                            | 20                   | 112   | 67    | 31         |
| Oregon               | 273                     | 23                            | 27                   | 117   | 73    | 34         |
| Pennsylvania         | 1,145                   | 87                            | 132                  | 345   | 309   | 271        |
| Rhode Island         | 132                     | 7                             | 12                   | 44    | 39    | 30         |
| South Carolina       | 155                     | 5                             | 17                   | 70    | 45    | 18         |
| South Dakota         | 94                      | 6                             | 7                    | 45    | 24    | 12         |
| Tennessee            | 296                     | 16                            | 20                   | 117   | 94    | 49         |
| Texas                | 752                     | 37                            | 33                   | 202   | 359   | 122        |
| Utah                 | 74                      | -                             | 9                    | 24    | 22    | 19         |
| Vermont              | 38                      | 4                             | 4                    | 9     | 13    | 8          |
| Virginia             | 274                     | 11                            | 10                   | 109   | 91    | 53         |
| Washington           | 356                     | 26                            | 30                   | 147   | 110   | 43         |
| West Virginia        | 147                     | 18                            | 18                   | 54    | 34    | 23         |
| Wisconsin            | 429                     | 41                            | 37                   | 157   | 135   | 59         |
| Wyoming              | 41                      | #                             | #                    | 14    | 16    | 7          |

# Data suppressed to comply with confidentiality requirements.

Table 9. Number and percent distribution of active optometrists by weeks per year and hours per week worked, according to area: United States and each State, 1968—Con.

| Area                           | All active optometrists | Under 48 weeks per year | 48-52 weeks per year |       |       |            |
|--------------------------------|-------------------------|-------------------------|----------------------|-------|-------|------------|
|                                |                         |                         | Hours per week       |       |       |            |
|                                |                         |                         | 1-34                 | 35-40 | 41-48 | 49 or more |
| Percent distribution           |                         |                         |                      |       |       |            |
| United States . . . . .        | 100.0                   | 7.6                     | 8.6                  | 36.1  | 30.4  | 17.3       |
| Alabama . . . . .              | 100.0                   | 3.3                     | 6.9                  | 39.0  | 35.7  | 15.1       |
| Alaska . . . . .               | 100.0                   | #                       | #                    | 29.4  | 35.3  | 17.6       |
| Arizona . . . . .              | 100.0                   | 7.0                     | 7.9                  | 33.9  | 33.9  | 17.3       |
| Arkansas . . . . .             | 100.0                   | 6.5                     | 13.1                 | 44.9  | 24.4  | 11.2       |
| California . . . . .           | 100.0                   | 8.2                     | 10.2                 | 41.4  | 27.1  | 13.1       |
| Colorado . . . . .             | 100.0                   | 8.0                     | 4.3                  | 38.8  | 29.8  | 19.1       |
| Connecticut . . . . .          | 100.0                   | 9.5                     | 9.6                  | 40.8  | 27.3  | 12.7       |
| Delaware . . . . .             | 100.0                   | #                       | #                    | 37.1  | 20.0  | 25.7       |
| District of Columbia . . . . . | 100.0                   | #                       | #                    | 26.8  | 40.8  | 21.1       |
| Florida . . . . .              | 100.0                   | 4.7                     | 9.3                  | 40.5  | 29.6  | 15.8       |
| Georgia . . . . .              | 100.0                   | 2.4                     | 4.9                  | 30.9  | 42.3  | 19.6       |
| Hawaii . . . . .               | 100.0                   | 17.2                    | 14.1                 | 37.5  | 25.0  | 6.3        |
| Idaho . . . . .                | 100.0                   | 10.3                    | 8.0                  | 41.4  | 18.4  | 21.8       |
| Illinois . . . . .             | 100.0                   | 8.4                     | 10.0                 | 31.0  | 31.9  | 18.8       |
| Indiana . . . . .              | 100.0                   | 6.1                     | 5.9                  | 41.8  | 26.3  | 20.0       |
| Iowa . . . . .                 | 100.0                   | 8.0                     | 5.7                  | 44.4  | 28.7  | 13.1       |
| Kansas . . . . .               | 100.0                   | 8.8                     | 7.9                  | 41.0  | 30.6  | 11.8       |
| Kentucky . . . . .             | 100.0                   | 6.0                     | 13.0                 | 37.0  | 33.5  | 10.4       |
| Louisiana . . . . .            | 100.0                   | 6.0                     | 8.1                  | 35.7  | 39.4  | 10.8       |
| Maine . . . . .                | 100.0                   | 7.0                     | 19.3                 | 35.1  | 21.9  | 16.7       |
| Maryland . . . . .             | 100.0                   | 8.1                     | 7.4                  | 29.1  | 29.1  | 26.3       |
| Massachusetts . . . . .        | 100.0                   | 7.9                     | 10.0                 | 33.6  | 27.2  | 21.3       |
| Michigan . . . . .             | 100.0                   | 9.5                     | 7.2                  | 40.5  | 29.1  | 13.7       |
| Minnesota . . . . .            | 100.0                   | 7.9                     | 6.8                  | 33.8  | 37.5  | 14.0       |
| Mississippi . . . . .          | 100.0                   | 4.3                     | 5.8                  | 44.5  | 30.6  | 14.8       |
| Missouri . . . . .             | 100.0                   | 6.0                     | 9.3                  | 40.7  | 25.7  | 18.3       |
| Montana . . . . .              | 100.0                   | 11.0                    | 9.0                  | 48.4  | 21.4  | 10.1       |
| Nebraska . . . . .             | 100.0                   | 7.1                     | 5.2                  | 43.5  | 27.9  | 16.2       |
| Nevada . . . . .               | 100.0                   | #                       | #                    | 61.1  | 8.3   | 8.3        |
| New Hampshire . . . . .        | 100.0                   | 4.3                     | 11.6                 | 43.5  | 33.3  | 7.2        |
| New Jersey . . . . .           | 100.0                   | 8.9                     | 10.4                 | 28.3  | 29.6  | 22.8       |
| New Mexico . . . . .           | 100.0                   | 4.3                     | 8.5                  | 42.2  | 31.0  | 14.1       |
| New York . . . . .             | 100.0                   | 10.7                    | 6.3                  | 26.8  | 32.5  | 23.8       |
| North Carolina . . . . .       | 100.0                   | 3.7                     | 13.4                 | 44.4  | 24.5  | 14.0       |
| North Dakota . . . . .         | 100.0                   | #                       | #                    | 51.4  | 23.6  | 11.1       |
| Ohio . . . . .                 | 100.0                   | 6.9                     | 7.6                  | 36.4  | 30.6  | 18.4       |
| Oklahoma . . . . .             | 100.0                   | 6.5                     | 8.1                  | 45.4  | 27.2  | 12.7       |
| Oregon . . . . .               | 100.0                   | 8.4                     | 9.9                  | 42.7  | 26.6  | 12.4       |
| Pennsylvania . . . . .         | 100.0                   | 7.6                     | 11.5                 | 30.1  | 27.0  | 23.7       |
| Rhode Island . . . . .         | 100.0                   | 5.3                     | 9.1                  | 33.3  | 29.5  | 22.7       |
| South Carolina . . . . .       | 100.0                   | 3.2                     | 11.0                 | 45.1  | 29.0  | 11.6       |
| South Dakota . . . . .         | 100.0                   | 6.4                     | 7.4                  | 47.9  | 25.5  | 12.8       |
| Tennessee . . . . .            | 100.0                   | 5.4                     | 6.8                  | 39.5  | 31.8  | 16.6       |
| Texas . . . . .                | 100.0                   | 4.9                     | 4.4                  | 26.9  | 47.7  | 16.2       |
| Utah . . . . .                 | 100.0                   | -                       | 12.2                 | 32.4  | 29.7  | 25.7       |
| Vermont . . . . .              | 100.0                   | 10.5                    | 10.5                 | 23.7  | 34.2  | 21.1       |
| Virginia . . . . .             | 100.0                   | 4.0                     | 3.6                  | 39.8  | 33.2  | 19.3       |
| Washington . . . . .           | 100.0                   | 7.3                     | 8.4                  | 41.3  | 30.9  | 12.1       |
| West Virginia . . . . .        | 100.0                   | 12.2                    | 12.2                 | 36.8  | 23.2  | 15.6       |
| Wisconsin . . . . .            | 100.0                   | 9.6                     | 8.6                  | 36.6  | 31.5  | 13.8       |
| Wyoming . . . . .              | 100.0                   | #                       | #                    | 34.1  | 39.0  | 17.1       |

# Data suppressed to comply with confidentiality requirements.

Table 10. Number and percent distribution of active optometrists by weeks per year and hours per week worked, according to sex, age, principal form of employment, highest degree achieved, and supplementary personnel assistance in optometric practice: United States, 1968

| Characteristic  | All active optometrists | Under 48 weeks per year |                |            | 48-52 weeks per year |                |       |       |            |
|---|-------------------------|-------------------------|----------------|------------|----------------------|----------------|-------|-------|------------|
|   |                         | Total                   | Hours per week |            | Total                | Hours per week |       |       |            |
|   |                         |                         | 1-34           | 35 or more |                      | 1-34           | 35-40 | 41-48 | 49 or more |
| Number of active optometrists                                 |                         |                         |                |            |                      |                |       |       |            |
| All active optometrists . . . . .                             | 18,427                  | 1,403                   | 583            | 820        | 17,024               | 1,589          | 6,655 | 5,596 | 3,183      |
| Sex:  |                         |                         |                |            |                      |                |       |       |            |
| Male . . . . .  | 18,034                  | 1,342                   | 536            | 805        | 16,692               | 1,486          | 6,528 | 5,530 | 3,147      |
| Female . . . . .  | 394                     | 61                      | 47             | 14         | 332                  | 103            | 127   | 66    | 36         |
| Age:  |                         |                         |                |            |                      |                |       |       |            |
| Under 25 years . . . . .                                      | 65                      | 5                       | 3              | 2          | 59                   | 7              | 28    | 22    | 3          |
| 25-34 years . . . . .   | 2,022                   | 76                      | 10             | 67         | 1,946                | 115            | 765   | 643   | 423        |
| 35-44 years . . . . .   | 5,433                   | 290                     | 77             | 213        | 5,143                | 326            | 1,998 | 1,768 | 1,050      |
| 45-54 years . . . . .   | 6,669                   | 395                     | 122            | 273        | 6,274                | 453            | 2,393 | 2,149 | 1,278      |
| 55-64 years . . . . .   | 2,617                   | 263                     | 109            | 154        | 2,355                | 295            | 981   | 720   | 359        |
| 65-74 years . . . . .   | 1,215                   | 279                     | 193            | 86         | 937                  | 253            | 390   | 234   | 59         |
| 75 years and over . . . . .                                   | 406                     | 95                      | 70             | 25         | 311                  | 141            | 99    | 60    | 11         |
| Principal form of employment:                                 |                         |                         |                |            |                      |                |       |       |            |
| Self-employed . . . . .                                       | 16,256                  | 1,217                   | 489            | 728        | 15,039               | 1,408          | 5,849 | 4,868 | 2,913      |
| Solo practice . . . . .                                       | 13,538                  | 940                     | 387            | 553        | 12,598               | 1,247          | 4,938 | 4,027 | 2,386      |
| Partnership practice . . . . .                                | 2,186                   | 224                     | 83             | 141        | 1,962                | 134            | 754   | 685   | 390        |
| Group practice . . . . .                                      | 531                     | 52                      | 18             | 34         | 479                  | 27             | 157   | 156   | 138        |
| Salaried . . . . .  | 2,172                   | 187                     | 95             | 92         | 1,985                | 181            | 806   | 728   | 270        |
| Employed by:  |                         |                         |                |            |                      |                |       |       |            |
| Government . . . . .  | 45                      | 9                       | 3              | 5          | 37                   | 16             | 9     | 4     | 8          |
| Optometrist(s) . . . . .                                      | 952                     | 54                      | 35             | 19         | 898                  | 65             | 336   | 390   | 108        |
| Ophthalmologist(s) . . . . .                                  | 135                     | 16                      | 3              | 12         | 119                  | 13             | 74    | 17    | 16         |
| Physician(s) other than<br>ophthalmologist(s) . . . . .       | 36                      | 2                       | -              | 2          | 34                   | 3              | 14    | 15    | 1          |
| Profitmaking organization . . . . .                           | 646                     | 34                      | 19             | 14         | 613                  | 36             | 263   | 242   | 71         |
| Nonprofitmaking organization(s) . . . . .                     | 194                     | 33                      | 11             | 22         | 161                  | 18             | 72    | 32    | 40         |
| Other . . . . .   | 163                     | 40                      | 23             | 17         | 123                  | 31             | 38    | 28    | 26         |
| Highest degree achieved:                                      |                         |                         |                |            |                      |                |       |       |            |
| Doctor of optometry . . . . .                                 | 16,543                  | 1,240                   | 514            | 726        | 15,303               | 1,445          | 5,976 | 5,025 | 2,857      |
| Doctor's degree . . . . .                                     | 41                      | 4                       | 1              | 3          | 36                   | 2              | 10    | 12    | 12         |
| Master's degree . . . . .                                     | 417                     | 29                      | 10             | 19         | 388                  | 27             | 157   | 132   | 71         |
| Bachelor's degree . . . . .                                   | 1,288                   | 107                     | 43             | 64         | 1,181                | 93             | 471   | 389   | 229        |
| Other . . . . .   | 139                     | 23                      | 16             | 8          | 116                  | 22             | 41    | 38    | 15         |
| Supplementary personnel assistance in<br>optometric practice: |                         |                         |                |            |                      |                |       |       |            |
| Some assistance . . . . .                                     | 14,339                  | 963                     | 317            | 647        | 13,376               | 988            | 5,295 | 4,490 | 2,603      |
| No assistance . . . . .                                       | 3,960                   | 411                     | 255            | 157        | 3,549                | 594            | 1,324 | 1,079 | 552        |
| No optometric practice . . . . .                              | 128                     | 28                      | 12             | 16         | 100                  | 8              | 37    | 27    | 28         |

Table 10. Number and percent distribution of active optometrists by weeks per year and hours per week worked, according to sex, age, principal form of employment, highest degree achieved, and supplementary personnel assistance in optometric practice: United States, 1968—Con.

| Characteristic  | All active optometrists | Under 48 weeks per year |                |            | 48-52 weeks per year |                |       |       |            |
|---|-------------------------|-------------------------|----------------|------------|----------------------|----------------|-------|-------|------------|
|   |                         | Total                   | Hours per week |            | Total                | Hours per week |       |       |            |
|   |                         |                         | 1-34           | 35 or more |                      | 1-34           | 35-40 | 41-48 | 49 or more |
| Percent distribution  |                         |                         |                |            |                      |                |       |       |            |
| All active optometrists . . . . .                             | 100.0                   | 7.6                     | 3.2            | 4.4        | 92.4                 | 8.6            | 36.1  | 30.4  | 17.3       |
| Sex:  |                         |                         |                |            |                      |                |       |       |            |
| Male . . . . .  | 100.0                   | 7.4                     | 3.0            | 4.5        | 92.6                 | 8.2            | 36.2  | 30.7  | 17.5       |
| Female . . . . .  | 100.0                   | 15.5                    | 11.9           | 3.6        | 84.3                 | 26.1           | 32.2  | 16.8  | 9.1        |
| Age:  |                         |                         |                |            |                      |                |       |       |            |
| Under 25 years . . . . .                                      | 100.0                   | 7.7                     | 4.6            | 3.1        | 92.3                 | 10.8           | 43.1  | 33.8  | 4.6        |
| 25-34 years . . . . .   | 100.0                   | 3.8                     | 0.5            | 3.3        | 96.2                 | 5.7            | 37.8  | 31.8  | 20.9       |
| 35-44 years . . . . .   | 100.0                   | 5.3                     | 1.4            | 3.9        | 94.7                 | 6.0            | 36.8  | 32.5  | 19.3       |
| 45-54 years . . . . .   | 100.0                   | 5.9                     | 1.8            | 4.1        | 94.1                 | 6.8            | 35.9  | 32.2  | 19.2       |
| 55-64 years . . . . .   | 100.0                   | 10.0                    | 4.2            | 5.9        | 90.0                 | 11.3           | 37.5  | 27.5  | 13.7       |
| 65-74 years . . . . .   | 100.0                   | 23.0                    | 15.9           | 7.1        | 77.1                 | 20.8           | 32.1  | 19.3  | 4.9        |
| 75 years and over . . . . .                                   | 100.0                   | 23.4                    | 17.2           | 6.2        | 76.6                 | 34.7           | 24.4  | 14.8  | 2.7        |
| Principal form of employment:                                 |                         |                         |                |            |                      |                |       |       |            |
| Self-employed . . . . .                                       | 100.0                   | 7.5                     | 3.0            | 4.5        | 92.5                 | 8.7            | 36.0  | 29.9  | 17.9       |
| Solo practice . . . . .                                       | 100.0                   | 6.9                     | 2.9            | 4.1        | 93.1                 | 9.2            | 36.5  | 29.7  | 17.6       |
| Partnership practice . . . . .                                | 100.0                   | 10.2                    | 3.8            | 6.5        | 89.8                 | 6.1            | 34.5  | 31.3  | 17.8       |
| Group practice . . . . .                                      | 100.0                   | 9.8                     | 3.4            | 6.4        | 90.2                 | 5.1            | 29.6  | 29.4  | 26.0       |
| Salaried . . . . .  | 100.0                   | 8.6                     | 4.4            | 4.2        | 91.4                 | 8.4            | 37.1  | 33.5  | 12.4       |
| Employed by:  |                         |                         |                |            |                      |                |       |       |            |
| Government . . . . .  | 100.0                   | 20.0                    | 6.7            | 11.1       | 82.2                 | 35.6           | 20.0  | 8.9   | 17.8       |
| Optometrist(s) . . . . .                                      | 100.0                   | 5.7                     | 3.7            | 2.0        | 94.3                 | 6.8            | 35.3  | 41.0  | 11.3       |
| Ophthalmologist(s) . . . . .                                  | 100.0                   | 11.9                    | 2.2            | 8.9        | 88.1                 | 9.6            | 54.8  | 12.6  | 11.9       |
| Physicians other than<br>ophthalmologist(s) . . . . .         | 100.0                   | 5.6                     | -              | 5.6        | 94.4                 | 8.3            | 38.9  | 41.7  | 2.8        |
| Profitmaking organization . . . . .                           | 100.0                   | 5.3                     | 2.9            | 2.2        | 94.9                 | 5.6            | 40.7  | 37.5  | 11.0       |
| Nonprofitmaking organization(s) . . . . .                     | 100.0                   | 17.0                    | 5.7            | 11.3       | 83.0                 | 9.3            | 37.1  | 16.5  | 20.6       |
| Other . . . . .   | 100.0                   | 24.5                    | 14.1           | 10.4       | 75.5                 | 19.0           | 23.3  | 17.2  | 16.0       |
| Highest degree achieved:                                      |                         |                         |                |            |                      |                |       |       |            |
| Doctor of optometry . . . . .                                 | 100.0                   | 7.5                     | 3.1            | 4.4        | 92.5                 | 8.7            | 36.1  | 30.4  | 17.3       |
| Doctor's degree . . . . .                                     | 100.0                   | 9.8                     | 2.4            | 7.3        | 87.8                 | 4.9            | 24.4  | 29.3  | 29.3       |
| Master's degree . . . . .                                     | 100.0                   | 7.0                     | 2.4            | 4.6        | 93.0                 | 6.5            | 37.6  | 31.7  | 17.0       |
| Bachelor's degree . . . . .                                   | 100.0                   | 8.3                     | 3.3            | 5.0        | 91.7                 | 7.2            | 36.6  | 30.2  | 17.8       |
| Other . . . . .   | 100.0                   | 16.5                    | 11.5           | 5.8        | 83.5                 | 15.8           | 29.5  | 27.3  | 10.8       |
| Supplementary personnel assistance in<br>optometric practice: |                         |                         |                |            |                      |                |       |       |            |
| Some assistance . . . . .                                     | 100.0                   | 6.7                     | 2.2            | 4.5        | 93.3                 | 6.9            | 36.9  | 31.3  | 18.2       |
| No assistance . . . . .                                       | 100.0                   | 10.4                    | 6.4            | 4.0        | 89.6                 | 15.0           | 33.4  | 27.2  | 13.9       |
| No optometric practice . . . . .                              | 100.0                   | 21.9                    | 9.4            | 12.5       | 78.1                 | 6.3            | 28.9  | 21.1  | 21.9       |

Table 11. Number and percent distribution of active optometrists by percent of time spent in optometric practice activities, according to area: United States and each State, 1968

| Area                           | Time spent in optometric practice activities |               |              |               |             |                      |               |              |               |             |
|--------------------------------|--|---------------|--------------|---------------|-------------|----------------------|---------------|--------------|---------------|-------------|
|                                | Total  | No time spent | 1-49 percent | 50-99 percent | 100 percent | Total                | No time spent | 1-49 percent | 50-99 percent | 100 percent |
|                                | Number of active optometrists                |               |              |               |             | Percent distribution |               |              |               |             |
| United States . . . . .        | 18,427                                       | 128           | 135          | 3,568         | 14,597      | 100.0                | 0.7           | 0.7          | 19.4          | 79.2        |
| Alabama . . . . .              | 180  | #             | #            | 34            | 145         | 100.0                | #             | #            | 18.9          | 80.6        |
| Alaska . . . . .               | 17   | -             | -            | 5             | 12          | 100.0                | -             | -            | 29.4          | 70.6        |
| Arizona . . . . .              | 127  | #             | #            | 33            | 92          | 100.0                | #             | #            | 26.0          | 72.4        |
| Arkansas . . . . .             | 151  | -             | -            | 28            | 123         | 100.0                | -             | -            | 18.5          | 81.5        |
| California . . . . .           | 2,242  | 21            | 22           | 507           | 1,693       | 100.0                | 0.9           | 1.0          | 22.6          | 75.5        |
| Colorado . . . . .             | 188  | #             | #            | 54            | 130         | 100.0                | #             | #            | 28.7          | 69.1        |
| Connecticut . . . . .          | 260  | #             | #            | 49            | 206         | 100.0                | #             | #            | 18.8          | 79.2        |
| Delaware . . . . .             | 35   | -             | -            | 11            | 25          | 100.0                | -             | -            | 31.4          | 71.4        |
| District of Columbia . . . . . | 71   | -             | -            | 17            | 54          | 100.0                | -             | -            | 23.9          | 76.1        |
| Florida . . . . .              | 493  | #             | #            | 131           | 360         | 100.0                | #             | #            | 26.6          | 73.0        |
| Georgia . . . . .              | 263  | #             | #            | 51            | 210         | 100.0                | #             | #            | 19.4          | 79.8        |
| Hawaii . . . . .               | 64   | -             | -            | 14            | 50          | 100.0                | -             | -            | 21.9          | 78.1        |
| Idaho . . . . .                | 86   | #             | #            | 22            | 63          | 100.0                | #             | #            | 25.6          | 73.3        |
| Illinois . . . . .             | 1,616  | 14            | 21           | 254           | 1,327       | 100.0                | 0.9           | 1.3          | 15.7          | 82.1        |
| Indiana . . . . .              | 510  | 6             | 6            | 104           | 393         | 100.0                | 1.2           | 1.2          | 20.4          | 77.1        |
| Iowa . . . . .                 | 336  | #             | #            | 55            | 280         | 100.0                | #             | #            | 16.4          | 83.3        |
| Kansas . . . . .               | 229  | -             | -            | 31            | 198         | 100.0                | -             | -            | 13.5          | 86.5        |
| Kentucky . . . . .             | 229  | -             | -            | 29            | 200         | 100.0                | -             | -            | 12.7          | 87.3        |
| Louisiana . . . . .            | 223  | #             | #            | 43            | 179         | 100.0                | #             | #            | 19.3          | 80.3        |
| Maine . . . . .                | 116  | -             | -            | 16            | 100         | 100.0                | -             | -            | 13.8          | 86.2        |
| Maryland . . . . .             | 175  | #             | #            | 47            | 128         | 100.0                | #             | #            | 26.9          | 73.1        |
| Massachusetts . . . . .        | 719  | 5             | 8            | 154           | 553         | 100.0                | 0.7           | 1.1          | 21.4          | 76.9        |
| Michigan . . . . .             | 708  | -             | 4            | 125           | 579         | 100.0                | -             | 0.6          | 17.7          | 81.8        |
| Minnesota . . . . .            | 354  | #             | #            | 50            | 302         | 100.0                | #             | #            | 14.1          | 85.3        |
| Mississippi . . . . .          | 121  | #             | #            | 19            | 101         | 100.0                | #             | #            | 15.7          | 83.5        |
| Missouri . . . . .             | 432  | #             | #            | 65            | 362         | 100.0                | #             | #            | 15.0          | 83.8        |
| Montana . . . . .              | 89   | -             | -            | 16            | 72          | 100.0                | -             | -            | 18.0          | 80.9        |
| Nebraska . . . . .             | 155  | #             | #            | 30            | 124         | 100.0                | #             | #            | 19.4          | 80.0        |
| Nevada . . . . .               | 36   | -             | -            | 9             | 27          | 100.0                | -             | -            | 25.0          | 75.0        |
| New Hampshire . . . . .        | 70   | -             | -            | 14            | 56          | 100.0                | -             | -            | 20.0          | 80.0        |
| New Jersey . . . . .           | 675  | #             | #            | 145           | 518         | 100.0                | #             | #            | 21.5          | 76.7        |
| New Mexico . . . . .           | 71   | -             | -            | 15            | 56          | 100.0                | -             | -            | 21.1          | 78.9        |
| New York . . . . .             | 1,598  | 11            | 14           | 314           | 1,260       | 100.0                | 0.7           | 0.9          | 19.6          | 78.8        |
| North Carolina . . . . .       | 322  | #             | #            | 63            | 257         | 100.0                | #             | #            | 19.6          | 79.8        |
| North Dakota . . . . .         | 72   | -             | -            | 15            | 58          | 100.0                | -             | -            | 20.8          | 80.6        |
| Ohio . . . . .                 | 942  | #             | #            | 181           | 744         | 100.0                | #             | #            | 19.2          | 79.0        |
| Oklahoma . . . . .             | 247  | #             | #            | 49            | 195         | 100.0                | #             | #            | 19.8          | 78.9        |
| Oregon . . . . .               | 273  | 8             | 4            | 68            | 193         | 100.0                | 2.9           | 1.5          | 24.9          | 70.7        |
| Pennsylvania . . . . .         | 1,145  | 11            | 20           | 181           | 932         | 100.0                | 1.0           | 1.7          | 15.8          | 81.4        |
| Rhode Island . . . . .         | 132  | -             | -            | 23            | 109         | 100.0                | -             | -            | 17.4          | 82.6        |
| South Carolina . . . . .       | 155  | -             | -            | 21            | 134         | 100.0                | -             | -            | 13.5          | 86.5        |
| South Dakota . . . . .         | 94   | -             | -            | 25            | 70          | 100.0                | -             | -            | 26.6          | 74.5        |
| Tennessee . . . . .            | 296  | #             | #            | 54            | 235         | 100.0                | #             | #            | 18.2          | 79.4        |
| Texas . . . . .                | 752  | 12            | 3            | 100           | 637         | 100.0                | 1.6           | 0.4          | 13.3          | 84.7        |
| Utah . . . . .                 | 74   | -             | -            | 17            | 58          | 100.0                | -             | -            | 23.0          | 78.4        |
| Vermont . . . . .              | 38   | -             | -            | 9             | 29          | 100.0                | -             | -            | 23.7          | 76.3        |
| Virginia . . . . .             | 274  | #             | #            | 67            | 205         | 100.0                | #             | #            | 24.5          | 74.8        |
| Washington . . . . .           | 356  | #             | #            | 82            | 273         | 100.0                | #             | #            | 23.0          | 76.7        |
| West Virginia . . . . .        | 147  | -             | -            | 31            | 117         | 100.0                | -             | -            | 21.1          | 79.6        |
| Wisconsin . . . . .            | 429  | #             | #            | 87            | 340         | 100.0                | #             | #            | 20.3          | 79.3        |
| Wyoming . . . . .              | 41   | -             | -            | 5             | 36          | 100.0                | -             | -            | 12.2          | 87.8        |

# Data suppressed to comply with confidentiality requirements.

Table 12. Number and percent distribution of active optometrists by percent of time spent in optometric practice activities, according to sex, age, principal form of employment, highest degree achieved, and weeks per year and hours per week worked: United States, 1968

| Characteristic  | Time spent in optometric practice activities |               |              |               |             |                      |               |              |               |             |
|---|--|---------------|--------------|---------------|-------------|----------------------|---------------|--------------|---------------|-------------|
|   | Total  | No time spent | 1-49 percent | 50-99 percent | 100 percent | Total                | No time spent | 1-49 percent | 50-99 percent | 100 percent |
|   | Number of active optometrists                |               |              |               |             | Percent distribution |               |              |               |             |
| All active optometrists . . . . .                       | 18,427                                       | 128           | 135          | 3,568         | 14,597      | 100.0                | 0.7           | 0.7          | 19.4          | 79.2        |
| Sex:  |  |               |              |               |             |                      |               |              |               |             |
| Male . . . . .  | 18,034                                       | 122           | 127          | 3,519         | 14,266      | 100.0                | 0.7           | 0.7          | 19.5          | 79.1        |
| Female . . . . .  | 394  | 6             | 8            | 48            | 331         | 100.0                | 1.5           | 2.0          | 12.2          | 84.0        |
| Age:  |  |               |              |               |             |                      |               |              |               |             |
| Under 25 years . . . . .                                | 65   | 2             | 1            | 11            | 50          | 100.0                | 3.1           | 1.5          | 16.9          | 76.9        |
| 25-29 years . . . . .                                   | 840  | 9             | 9            | 244           | 578         | 100.0                | 1.1           | 1.1          | 29.0          | 68.8        |
| 30-34 years . . . . .                                   | 1,182  | 10            | 11           | 348           | 813         | 100.0                | 0.8           | 0.9          | 29.4          | 68.8        |
| 35-39 years . . . . .                                   | 1,950  | 9             | 13           | 499           | 1,429       | 100.0                | 0.5           | 0.7          | 25.6          | 73.3        |
| 40-44 years . . . . .                                   | 3,483  | 24            | 30           | 695           | 2,734       | 100.0                | 0.7           | 0.9          | 20.0          | 78.5        |
| 45-49 years . . . . .                                   | 3,835  | 20            | 22           | 795           | 2,998       | 100.0                | 0.5           | 0.6          | 20.7          | 78.2        |
| 50-54 years . . . . .                                   | 2,834  | 17            | 20           | 522           | 2,275       | 100.0                | 0.6           | 0.7          | 18.4          | 80.3        |
| 55-59 years . . . . .                                   | 1,595  | 9             | 10           | 233           | 1,343       | 100.0                | 0.6           | 0.6          | 14.6          | 84.2        |
| 60-64 years . . . . .                                   | 1,022  | 8             | 7            | 105           | 903         | 100.0                | 0.8           | 0.7          | 10.3          | 88.4        |
| 65-69 years . . . . .                                   | 749  | 5             | 5            | 54            | 685         | 100.0                | 0.7           | 0.7          | 7.2           | 91.5        |
| 70-74 years . . . . .                                   | 467  | 6             | 3            | 34            | 424         | 100.0                | 1.3           | 0.6          | 7.3           | 90.8        |
| 75 years and over . . . . .                             | 406  | 11            | 4            | 27            | 364         | 100.0                | 2.7           | 1.0          | 6.7           | 89.7        |
| Principal form of employment:                           |  |               |              |               |             |                      |               |              |               |             |
| Self-employed . . . . .                                 | 16,256                                       | 38            | 62           | 3,318         | 12,837      | 100.0                | 0.2           | 0.4          | 20.4          | 79.0        |
| Solo practice . . . . .                                 | 13,538                                       | 28            | 42           | 2,590         | 10,878      | 100.0                | 0.2           | 0.3          | 19.1          | 80.4        |
| Partnership practice . . . . .                          | 2,186  | 9             | 13           | 572           | 1,592       | 100.0                | 0.4           | 0.6          | 26.2          | 72.8        |
| Group practice . . . . .                                | 531  | 1             | 6            | 156           | 367         | 100.0                | 0.2           | 1.2          | 29.5          | 69.1        |
| Salaried . . . . .                                      | 2,172  | 90            | 73           | 249           | 1,760       | 100.0                | 4.1           | 3.3          | 11.5          | 81.0        |
| Employed by:  |  |               |              |               |             |                      |               |              |               |             |
| Government . . . . .                                    | 45   | 2             | 7            | 10            | 27          | 100.0                | 4.8           | 14.6         | 21.7          | 58.9        |
| Optometrist(s) . . . . .                                | 952  | 1             | 1            | 94            | 856         | 100.0                | 0.1           | 0.1          | 9.9           | 89.9        |
| Ophthalmologist(s) . . . . .                            | 135  | -             | -            | 21            | 114         | 100.0                | -             | -            | 15.5          | 84.5        |
| Physician(s) other than<br>ophthalmologist(s) . . . . . | 36   | -             | -            | 14            | 22          | 100.0                | -             | -            | 39.4          | 60.6        |
| Profitmaking organization . . . . .                     | 646  | 10            | 12           | 57            | 567         | 100.0                | 1.6           | 1.9          | 8.8           | 87.7        |
| Nonprofitmaking organization(s) . . . . .               | 194  | 54            | 33           | 28            | 80          | 100.0                | 27.7          | 16.9         | 14.4          | 41.0        |
| Other . . . . .   | 163  | 23            | 20           | 25            | 95          | 100.0                | 14.0          | 12.2         | 15.6          | 58.2        |
| Highest degree achieved:                                |  |               |              |               |             |                      |               |              |               |             |
| Doctor of optometry . . . . .                           | 16,543                                       | 100           | 117          | 3,211         | 13,115      | 100.0                | 0.6           | 0.7          | 19.4          | 79.3        |
| Doctor's degree . . . . .                               | 41   | 5             | 5            | 9             | 21          | 100.0                | 12.2          | 12.2         | 22.0          | 51.2        |
| Master's degree . . . . .                               | 417  | 9             | 3            | 106           | 299         | 100.0                | 2.2           | 0.7          | 25.4          | 71.7        |
| Bachelor's degree . . . . .                             | 1,288  | 14            | 9            | 230           | 1,035       | 100.0                | 1.1           | 0.7          | 17.9          | 80.4        |
| Other . . . . .   | 139  | -             | -            | 12            | 127         | 100.0                | -             | -            | 8.6           | 91.4        |
| Weeks per year and hours per week worked:               |  |               |              |               |             |                      |               |              |               |             |
| 1-47 weeks . . . . .                                    | 1,403  | 28            | 33           | 237           | 1,105       | 100.0                | 2.0           | 2.4          | 16.9          | 78.8        |
| 1-34 hours . . . . .                                    | 583  | 12            | 21           | 57            | 493         | 100.0                | 2.1           | 3.6          | 9.8           | 84.6        |
| 35 hours or more . . . . .                              | 820  | 16            | 12           | 180           | 612         | 100.0                | 2.0           | 1.5          | 21.9          | 74.6        |
| 48 weeks or more . . . . .                              | 17,024                                       | 100           | 102          | 3,331         | 13,492      | 100.0                | 0.6           | 0.6          | 19.6          | 79.3        |
| 1-34 hours . . . . .                                    | 1,589  | 8             | 27           | 187           | 1,367       | 100.0                | 0.5           | 1.7          | 11.8          | 86.0        |
| 35-39 hours . . . . .                                   | 2,641  | 12            | 6            | 409           | 2,214       | 100.0                | 0.5           | 0.2          | 15.5          | 83.8        |
| 40 hours . . . . .                                      | 4,014  | 25            | 13           | 572           | 3,404       | 100.0                | 0.6           | 0.3          | 14.3          | 84.8        |
| 41-44 hours . . . . .                                   | 2,244  | 9             | 4            | 390           | 1,840       | 100.0                | 0.4           | 0.2          | 17.4          | 82.0        |
| 45-48 hours . . . . .                                   | 3,352  | 18            | 11           | 689           | 2,635       | 100.0                | 0.5           | 0.3          | 20.5          | 78.6        |
| 49 hours or more . . . . .                              | 3,183  | 28            | 41           | 1,083         | 2,031       | 100.0                | 0.9           | 1.3          | 34.0          | 63.8        |

Table 13. Number and percent distribution of active optometrists by percent of time spent per week in teaching activities, according to sex, age, principal form of employment, highest degree achieved, weeks per year and hours per week worked, and geographic division of employment: United States, 1968

| Characteristic                             | Time spent per week in teaching activities |               |              |                |                      |               |              |                |
|--|--|---------------|--------------|----------------|----------------------|---------------|--------------|----------------|
|  | Total                                      | No time spent | 1-19 percent | 20-100 percent | Total                | No time spent | 1-19 percent | 20-100 percent |
| All active optometrists                    | 18,427                                     | 18,085        | 152          | 191            | 100.0                | 98.1          | 0.8          | 1.0            |
| Sex:                                       | Number of active optometrists              |               |              |                | Percent distribution |               |              |                |
| Male                                       | 18,034                                     | 17,703        | 150          | 181            | 100.0                | 98.2          | 0.8          | 1.0            |
| Female                                     | 394  | 381           | 2            | 10             | 100.0                | 96.7          | 0.5          | 2.5            |
| Age:                                       |  |               |              |                |                      |               |              |                |
| Under 25 years                             | 65   | 61            | -            | 3              | 100.0                | 93.8          | -            | 4.6            |
| 25-29 years                                | 840  | 807           | 9            | 25             | 100.0                | 96.1          | 1.1          | 3.0            |
| 30-34 years                                | 1,182                                      | 1,141         | 22           | 18             | 100.0                | 96.5          | 1.9          | 1.5            |
| 35-39 years                                | 1,950                                      | 1,905         | 25           | 20             | 100.0                | 97.7          | 1.3          | 1.0            |
| 40-44 years                                | 3,483                                      | 3,405         | 41           | 37             | 100.0                | 97.8          | 1.2          | 1.1            |
| 45-49 years                                | 3,835                                      | 3,775         | 27           | 33             | 100.0                | 98.4          | 0.7          | 0.9            |
| 50-54 years                                | 2,834                                      | 2,793         | 16           | 24             | 100.0                | 98.6          | 0.6          | 0.8            |
| 55-59 years                                | 1,595                                      | 1,577         | 7            | 12             | 100.0                | 98.9          | 0.4          | 0.8            |
| 60-64 years                                | 1,022                                      | 1,010         | 6            | 7              | 100.0                | 98.8          | 0.6          | 0.7            |
| 65-69 years                                | 749  | 743           | -            | 6              | 100.0                | 99.2          | -            | 0.8            |
| 70-74 years                                | 467  | 467           | -            | -              | 100.0                | 100.0         | -            | -              |
| 75 years and over                          | 406  | 401           | -            | 5              | 100.0                | 98.8          | -            | 1.2            |
| Principal form of employment:              |  |               |              |                |                      |               |              |                |
| Self-employed                              | 16,256                                     | 16,019        | 140          | 97             | 100.0                | 98.5          | 0.9          | 0.6            |
| Solo practice                              | 13,538                                     | 13,357        | 105          | 77             | 100.0                | 98.7          | 0.8          | 0.6            |
| Partnership practice                       | 2,186                                      | 2,139         | 30           | 18             | 100.0                | 97.8          | 1.4          | 0.8            |
| Group practice                             | 531  | 523           | 5            | 2              | 100.0                | 98.6          | 1.0          | 0.4            |
| Salaried                                   | 2,172                                      | 2,066         | 12           | 94             | 100.0                | 95.1          | 0.6          | 4.3            |
| Employed by:                               |  |               |              |                |                      |               |              |                |
| Government                                 | 45   | 43            | -            | 2              | 100.0                | 95.2          | -            | 4.8            |
| Optometrist(s)                             | 952  | 950           | 2            | -              | 100.0                | 99.8          | 0.2          | -              |
| Ophthalmologist(s)                         | 135  | 132           | 2            | 1              | 100.0                | 97.5          | 1.7          | 0.8            |
| Physician(s) other than ophthalmologist(s) | 36   | 36            | -            | -              | 100.0                | 100.0         | -            | -              |
| Profitmaking organization(s)               | 646  | 642           | 2            | 2              | 100.0                | 99.3          | 0.3          | 0.3            |
| Nonprofitmaking organization(s)            | 194  | 125           | 6            | 63             | 100.0                | 64.5          | 2.8          | 32.7           |
| Other                                      | 163  | 138           | -            | 25             | 100.0                | 84.7          | -            | 15.3           |
| Highest degree achieved:                   |  |               |              |                |                      |               |              |                |
| Doctor of optometry                        | 16,543                                     | 16,257        | 127          | 159            | 100.0                | 98.3          | 0.8          | 1.0            |
| Doctor's degree                            | 41   | 30            | 2            | 9              | 100.0                | 73.2          | 4.9          | 22.0           |
| Master's degree                            | 417  | 395           | 10           | 12             | 100.0                | 94.7          | 2.4          | 2.9            |
| Bachelor's degree                          | 1,288                                      | 1,264         | 13           | 11             | 100.0                | 98.1          | 1.0          | 0.9            |
| Other                                      | 139  | 139           | -            | -              | 100.0                | 100.0         | -            | -              |
| Weeks per year and hours per week worked:  |  |               |              |                |                      |               |              |                |
| 1-47 weeks                                 | 1,403                                      | 1,365         | 12           | 26             | 100.0                | 97.3          | 0.9          | 1.9            |
| 1-34 hours                                 | 583  | 570           | 2            | 11             | 100.0                | 97.7          | 0.4          | 1.9            |
| 35 hours or more                           | 820  | 795           | 10           | 15             | 100.0                | 96.9          | 1.2          | 1.8            |
| 48 weeks or more                           | 17,024                                     | 16,720        | 140          | 165            | 100.0                | 98.2          | 0.8          | 1.0            |
| 1-34 hours                                 | 1,589                                      | 1,571         | 9            | 10             | 100.0                | 98.8          | 0.6          | 0.6            |
| 35-39 hours                                | 2,641                                      | 2,608         | 15           | 18             | 100.0                | 98.8          | 0.6          | 0.7            |
| 40 hours                                   | 4,014                                      | 3,976         | 14           | 24             | 100.0                | 99.1          | 0.3          | 0.6            |
| 41-44 hours                                | 2,244                                      | 2,219         | 14           | 11             | 100.0                | 98.9          | 0.6          | 0.5            |
| 45-48 hours                                | 3,352                                      | 3,290         | 29           | 33             | 100.0                | 98.2          | 0.9          | 1.0            |
| 49 hours or more                           | 3,183                                      | 3,056         | 58           | 69             | 100.0                | 96.0          | 1.8          | 2.2            |
| Geographic division:                       |  |               |              |                |                      |               |              |                |
| New England                                | 1,334                                      | 1,301         | 17           | 16             | 100.0                | 97.5          | 1.3          | 1.2            |
| Middle Atlantic                            | 3,418                                      | 3,336         | 43           | 39             | 100.0                | 97.6          | 1.3          | 1.1            |
| East North Central                         | 4,204                                      | 4,112         | 35           | 58             | 100.0                | 97.8          | 0.8          | 1.4            |
| West North Central                         | 1,672                                      | 1,666         | 3            | 3              | 100.0                | 99.6          | 0.2          | 0.2            |
| South Atlantic                             | 1,936                                      | 1,927         | 7            | 2              | 100.0                | 99.5          | 0.4          | 0.1            |
| East South Central                         | 825  | 820           | -            | 5              | 100.0                | 99.4          | -            | 0.6            |
| West South Central                         | 1,373                                      | 1,355         | 5            | 13             | 100.0                | 98.7          | 0.4          | 0.9            |
| Mountain                                   | 711  | 709           | 2            | -              | 100.0                | 99.7          | 0.3          | -              |
| Pacific                                    | 2,953                                      | 2,859         | 40           | 54             | 100.0                | 96.8          | 1.4          | 1.8            |



Table 14. Number and percent distribution of active optometrists by percent of time spent per week in optometric research activities, according to sex, age, principal form of employment, highest degree achieved, weeks per year and hours per week worked, and geographic division of employment: United States, 1968

| Characteristic                                       | Time spent per week in optometric research activities |               |              |                |                         |               |              |                |
|--|---|---------------|--------------|----------------|-------------------------|---------------|--------------|----------------|
|  | All active optometrists                               | No time spent | 1-19 percent | 20-100 percent | All active optometrists | No time spent | 1-19 percent | 20-100 percent |
|  | Number of active optometrists                         |               |              |                | Percent distribution    |               |              |                |
| All active optometrists . . . . .                    | 18,427  | 17,376        | 910          | 141            | 100.0                   | 94.3          | 4.9          | 0.8            |
| Sex:   |   |               |              |                |                         |               |              |                |
| Male . . . . .                                       | 18,034  | 17,000        | 896          | 138            | 100.0                   | 94.3          | 5.0          | 0.8            |
| Female . . . . .                                     | 394   | 376           | 14           | 3              | 100.0                   | 95.4          | 3.6          | 0.8            |
| Age:   |   |               |              |                |                         |               |              |                |
| Under 25 years . . . . .                             | 65  | 59            | 4            | 1              | 100.0                   | 91.5          | 6.8          | 1.7            |
| 25-29 years . . . . .                                | 840   | 765           | 65           | 10             | 100.0                   | 91.1          | 7.7          | 1.2            |
| 30-34 years . . . . .                                | 1,182   | 1,085         | 88           | 9              | 100.0                   | 91.8          | 7.4          | 0.8            |
| 35-39 years . . . . .                                | 1,950   | 1,827         | 105          | 18             | 100.0                   | 93.7          | 5.4          | 0.9            |
| 40-44 years . . . . .                                | 3,483   | 3,295         | 162          | 25             | 100.0                   | 94.6          | 4.7          | 0.7            |
| 45-49 years . . . . .                                | 3,835   | 3,603         | 215          | 17             | 100.0                   | 94.0          | 5.6          | 0.4            |
| 50-54 years . . . . .                                | 2,834   | 2,664         | 150          | 20             | 100.0                   | 94.0          | 5.3          | 0.7            |
| 55-59 years . . . . .                                | 1,595   | 1,515         | 69           | 11             | 100.0                   | 95.0          | 4.3          | 0.7            |
| 60-64 years . . . . .                                | 1,022   | 991           | 23           | 8              | 100.0                   | 97.0          | 2.3          | 0.8            |
| 65-69 years . . . . .                                | 749   | 729           | 15           | 4              | 100.0                   | 97.3          | 2.0          | 0.5            |
| 70-74 years . . . . .                                | 467   | 456           | 9            | 2              | 100.0                   | 97.6          | 1.9          | 0.4            |
| 75 years and over . . . . .                          | 406   | 386           | 5            | 16             | 100.0                   | 95.1          | 1.2          | 3.9            |
| Principal form of employment:                        |   |               |              |                |                         |               |              |                |
| Self-employed . . . . .                              | 16,256  | 15,367        | 790          | 99             | 100.0                   | 94.5          | 4.9          | 0.6            |
| Solo practice . . . . .                              | 13,538  | 12,819        | 639          | 80             | 100.0                   | 94.7          | 4.7          | 0.6            |
| Partnership practice . . . . .                       | 2,186   | 2,046         | 124          | 16             | 100.0                   | 93.6          | 5.7          | 0.8            |
| Group practice . . . . .                             | 531   | 502           | 27           | 2              | 100.0                   | 94.5          | 5.1          | 0.4            |
| Salaried . . . . .                                   | 2,172   | 2,009         | 120          | 43             | 100.0                   | 92.5          | 5.5          | 2.0            |
| Employed by:   |   |               |              |                |                         |               |              |                |
| Government . . . . .                                 | 45  | 39            | 6            | 1              | 100.0                   | 85.4          | 12.2         | 2.4            |
| Optometrist(s) . . . . .                             | 952   | 916           | 33           | 3              | 100.0                   | 96.2          | 3.4          | 0.3            |
| Ophthalmologist(s) . . . . .                         | 135   | 127           | 7            | 1              | 100.0                   | 94.2          | 5.0          | 0.8            |
| Physician(s) other than ophthalmologist(s) . . . . . | 36  | 31            | 4            | -              | 100.0                   | 87.9          | 12.1         | -              |
| Profitmaking organization(s) . . . . .               | 646   | 617           | 23           | 6              | 100.0                   | 95.5          | 3.6          | 0.9            |
| Nonprofitmaking organization(s) . . . . .            | 194   | 142           | 29           | 23             | 100.0                   | 73.3          | 14.9         | 11.8           |
| Other . . . . .                                      | 163   | 135           | 19           | 9              | 100.0                   | 83.2          | 11.5         | 5.3            |
| Highest degree achieved:                             |   |               |              |                |                         |               |              |                |
| Doctor of optometry . . . . .                        | 16,543  | 15,589        | 831          | 123            | 100.0                   | 94.2          | 5.0          | 0.7            |
| Doctor's degree . . . . .                            | 41  | 28            | 5            | 8              | 100.0                   | 68.3          | 12.2         | 19.5           |
| Master's degree . . . . .                            | 417   | 393           | 19           | 5              | 100.0                   | 94.2          | 4.6          | 1.2            |
| Bachelor's degree . . . . .                          | 1,288   | 1,233         | 50           | 6              | 100.0                   | 95.7          | 3.9          | 0.5            |
| Other . . . . .                                      | 139   | 134           | 5            | -              | 100.0                   | 96.4          | 3.6          | -              |
| Weeks per year and hours per week worked:            |   |               |              |                |                         |               |              |                |
| 1-47 weeks . . . . .                                 | 1,403   | 1,305         | 70           | 29             | 100.0                   | 93.0          | 5.0          | 2.0            |
| 1-34 hours . . . . .                                 | 583   | 553           | 19           | 12             | 100.0                   | 94.7          | 3.2          | 2.1            |
| 35 hours or more . . . . .                           | 820   | 753           | 51           | 16             | 100.0                   | 91.8          | 6.2          | 2.0            |
| 48 weeks or more . . . . .                           | 17,024  | 16,071        | 841          | 113            | 100.0                   | 94.4          | 4.9          | 0.7            |
| 1-34 hours . . . . .                                 | 1,589   | 1,537         | 40           | 12             | 100.0                   | 96.7          | 2.5          | 0.8            |
| 35-39 hours . . . . .                                | 2,641   | 2,557         | 77           | 8              | 100.0                   | 96.8          | 2.9          | 0.3            |
| 40 hours . . . . .                                   | 4,014   | 3,870         | 124          | 21             | 100.0                   | 96.4          | 3.1          | 0.5            |
| 41-44 hours . . . . .                                | 2,244   | 2,147         | 85           | 11             | 100.0                   | 95.7          | 3.8          | 0.5            |
| 45-48 hours . . . . .                                | 3,352   | 3,170         | 174          | 8              | 100.0                   | 94.6          | 5.2          | 0.2            |
| 49 hours or more . . . . .                           | 3,183   | 2,789         | 340          | 54             | 100.0                   | 87.6          | 10.7         | 1.7            |
| Geographic division:                                 |   |               |              |                |                         |               |              |                |
| New England . . . . .                                | 1,334   | 1,264         | 58           | 13             | 100.0                   | 94.8          | 4.3          | 1.0            |
| Middle Atlantic . . . . .                            | 3,418   | 3,220         | 170          | 27             | 100.0                   | 94.2          | 5.0          | 0.8            |
| East North Central . . . . .                         | 4,204   | 3,969         | 194          | 42             | 100.0                   | 94.4          | 4.6          | 1.0            |
| West North Central . . . . .                         | 1,672   | 1,610         | 52           | 11             | 100.0                   | 96.3          | 3.1          | 0.7            |
| South Atlantic . . . . .                             | 1,936   | 1,832         | 97           | 6              | 100.0                   | 94.6          | 5.0          | 0.3            |
| East South Central . . . . .                         | 825   | 768           | 53           | 4              | 100.0                   | 93.1          | 6.4          | 0.5            |
| West South Central . . . . .                         | 1,373   | 1,296         | 67           | 11             | 100.0                   | 94.4          | 4.9          | 0.8            |
| Mountain . . . . .                                   | 711   | 674           | 31           | 7              | 100.0                   | 94.8          | 4.4          | 1.0            |
| Pacific . . . . .                                    | 2,953   | 2,743         | 190          | 20             | 100.0                   | 92.9          | 6.4          | 0.7            |

Table 15. Number and percent distribution of active optometrists by percent of time spent per week in administrative activities, according to sex, age, principal form of employment, highest degree achieved, weeks per year and hours per week worked, and geographic division of employment: United States, 1968

| Characteristic                                   | Time spent per week in administrative activities |               |              |                |                         |               |              |                |
|--|--|---------------|--------------|----------------|-------------------------|---------------|--------------|----------------|
|  | All active optometrists                          | No time spent | 1-19 percent | 20-100 percent | All active optometrists | No time spent | 1-19 percent | 20-100 percent |
|  | Number of active optometrists                    |               |              |                | Percent distribution    |               |              |                |
| All active optometrists .....                    | 18,427   | 16,133        | 2,080        | 215            | 100.0                   | 87.6          | 11.3         | 1.2            |
| <b>Sex:</b>                                      |  |               |              |                |                         |               |              |                |
| Male .....                                       | 18,034   | 15,762        | 2,063        | 209            | 100.0                   | 87.4          | 11.4         | 1.2            |
| Female .....                                     | 394  | 371           | 17           | 5              | 100.0                   | 94.2          | 4.3          | 1.3            |
| <b>Age:</b>                                      |  |               |              |                |                         |               |              |                |
| Under 25 years .....                             | 65   | 58            | 5            | 1              | 100.0                   | 89.2          | 7.7          | 1.5            |
| 25-29 years .....                                | 840  | 692           | 139          | 10             | 100.0                   | 82.4          | 16.5         | 1.2            |
| 30-34 years .....                                | 1,182  | 936           | 228          | 18             | 100.0                   | 79.2          | 19.3         | 1.5            |
| 35-39 years .....                                | 1,950  | 1,594         | 333          | 23             | 100.0                   | 81.7          | 17.1         | 1.2            |
| 40-44 years .....                                | 3,483  | 3,011         | 433          | 38             | 100.0                   | 86.4          | 12.4         | 1.1            |
| 45-49 years .....                                | 3,835  | 3,322         | 469          | 44             | 100.0                   | 86.6          | 12.2         | 1.1            |
| 50-54 years .....                                | 2,834  | 2,507         | 283          | 44             | 100.0                   | 88.5          | 10.0         | 1.6            |
| 55-59 years .....                                | 1,595  | 1,466         | 112          | 17             | 100.0                   | 91.9          | 7.0          | 1.1            |
| 60-64 years .....                                | 1,022  | 964           | 51           | 8              | 100.0                   | 94.3          | 5.0          | 0.8            |
| 65-69 years .....                                | 749  | 725           | 18           | 7              | 100.0                   | 96.8          | 2.4          | 0.9            |
| 70-74 years .....                                | 467  | 457           | 7            | 3              | 100.0                   | 97.9          | 1.5          | 0.6            |
| 75 years and over .....                          | 406  | 401           | 2            | 3              | 100.0                   | 98.8          | 0.5          | 0.7            |
| <b>Principal form of employment:</b>             |  |               |              |                |                         |               |              |                |
| Self-employed .....                              | 16,256   | 14,142        | 1,958        | 156            | 100.0                   | 87.0          | 12.0         | 1.0            |
| Solo practice .....                              | 13,538   | 11,940        | 1,494        | 104            | 100.0                   | 88.2          | 11.0         | 0.8            |
| Partnership practice .....                       | 2,186  | 1,791         | 358          | 37             | 100.0                   | 81.9          | 16.4         | 1.7            |
| Group practice .....                             | 531  | 411           | 105          | 15             | 100.0                   | 77.3          | 19.8         | 2.9            |
| Salaried .....                                   | 2,172  | 1,991         | 122          | 59             | 100.0                   | 91.7          | 5.6          | 2.7            |
| Employed by:                                     |  |               |              |                |                         |               |              |                |
| Government .....                                 | 45   | 40            | 4            | 1              | 100.0                   | 87.9          | 9.7          | 2.4            |
| Optometrist(s) .....                             | 952  | 909           | 43           | 1              | 100.0                   | 95.4          | 4.5          | 0.1            |
| Ophthalmologist(s) .....                         | 135  | 128           | 6            | -              | 100.0                   | 95.1          | 4.9          | -              |
| Physician(s) other than ophthalmologist(s) ..... | 36   | 28            | 8            | -              | 100.0                   | 78.7          | 21.3         | -              |
| Profitmaking organization(s) .....               | 646  | 609           | 20           | 17             | 100.0                   | 94.2          | 3.1          | 2.6            |
| Nonprofitmaking organization(s) .....            | 194  | 145           | 21           | 29             | 100.0                   | 74.5          | 10.8         | 14.7           |
| Other .....                                      | 163  | 132           | 20           | 11             | 100.0                   | 81.2          | 12.0         | 6.8            |
| <b>Highest degree achieved:</b>                  |  |               |              |                |                         |               |              |                |
| Doctor of optometry .....                        | 16,543   | 14,487        | 1,878        | 177            | 100.0                   | 87.6          | 11.4         | 1.1            |
| Doctor's degree .....                            | 41   | 28            | 6            | 6              | 100.0                   | 68.3          | 14.6         | 14.6           |
| Master's degree .....                            | 417  | 352           | 59           | 7              | 100.0                   | 84.4          | 14.1         | 1.7            |
| Bachelor's degree .....                          | 1,288  | 1,131         | 132          | 24             | 100.0                   | 87.8          | 10.2         | 1.9            |
| Other .....                                      | 139  | 135           | 4            | -              | 100.0                   | 97.1          | 2.9          | -              |
| <b>Weeks per year and hours per week worked:</b> |  |               |              |                |                         |               |              |                |
| 1-47 weeks .....                                 | 1,403  | 1,252         | 130          | 22             | 100.0                   | 89.2          | 9.2          | 1.6            |
| 1-34 hours .....                                 | 583  | 554           | 24           | 5              | 100.0                   | 95.0          | 4.1          | 0.9            |
| 35 hours or more .....                           | 820  | 698           | 106          | 17             | 100.0                   | 85.1          | 12.9         | 2.0            |
| 48 weeks or more .....                           | 17,024   | 14,881        | 1,950        | 193            | 100.0                   | 87.4          | 11.5         | 1.1            |
| 1-34 hours .....                                 | 1,589  | 1,507         | 75           | 8              | 100.0                   | 94.8          | 4.7          | 0.5            |
| 35-39 hours .....                                | 2,641  | 2,376         | 249          | 16             | 100.0                   | 90.0          | 9.4          | 0.6            |
| 40 hours .....                                   | 4,014  | 3,634         | 347          | 33             | 100.0                   | 90.5          | 8.6          | 0.8            |
| 41-44 hours .....                                | 2,244  | 1,996         | 241          | 7              | 100.0                   | 89.0          | 10.7         | 0.3            |
| 45-48 hours .....                                | 3,352  | 2,908         | 407          | 37             | 100.0                   | 86.7          | 12.1         | 1.1            |
| 49 hours or more .....                           | 3,183  | 2,460         | 631          | 92             | 100.0                   | 77.3          | 19.8         | 2.9            |
| <b>Geographic division:</b>                      |  |               |              |                |                         |               |              |                |
| New England .....                                | 1,334  | 1,174         | 149          | 12             | 100.0                   | 88.0          | 11.2         | 0.9            |
| Middle Atlantic .....                            | 3,418  | 3,063         | 310          | 45             | 100.0                   | 89.6          | 9.1          | 1.3            |
| East North Central .....                         | 4,204  | 3,726         | 432          | 47             | 100.0                   | 88.6          | 10.3         | 1.1            |
| West North Central .....                         | 1,672  | 1,489         | 172          | 11             | 100.0                   | 89.1          | 10.3         | 0.7            |
| South Atlantic .....                             | 1,936  | 1,612         | 296          | 28             | 100.0                   | 83.3          | 15.3         | 1.4            |
| East South Central .....                         | 825  | 735           | 83           | 8              | 100.0                   | 89.1          | 10.1         | 1.0            |
| West South Central .....                         | 1,373  | 1,239         | 126          | 9              | 100.0                   | 90.2          | 9.2          | 0.7            |
| Mountain .....                                   | 711  | 584           | 115          | 13             | 100.0                   | 82.1          | 16.2         | 1.8            |
| Pacific .....                                    | 2,953  | 2,511         | 398          | 43             | 100.0                   | 85.0          | 13.5         | 1.5            |

Table 16. Number and percent distribution of active optometrists by age, according to primary activity, secondary activity, patients seen weekly, services rendered to patients, and supplementary personnel assistance in optometric practice: United States, 1968

| Characteristic  | All ages | Under 35 years | 35-44 years | 45-54 years | 55-64 years | 65-74 years | 75 years and over |
|---|----------|----------------|-------------|-------------|-------------|-------------|-------------------|
|   |          |                |             |             |             |             |                   |
| All optometrists in optometric practice . . . . .                 | 18,299   | 2,066          | 5,400       | 6,632       | 2,600       | 1,205       | 396               |
| <b>Primary activity:</b>  |          |                |             |             |             |             |                   |
| General practice . . . . .  | 17,657   | 1,939          | 5,169       | 6,438       | 2,540       | 1,185       | 387               |
| Contact-lens fitting . . . . .                                    | 368      | 74             | 144         | 112         | 31          | 6           | 1                 |
| Visual training/orthoptics . . . . .                              | 63       | 21             | 24          | 9           | 6           | 3           | -                 |
| Developmental vision . . . . .                                    | 87       | 21             | 30          | 22          | 10          | 3           | 1                 |
| Prescribing low-vision aids . . . . .                             | 5        | -              | -           | 2           | 1           | 1           | 1                 |
| Industrial vision . . . . .                                       | 29       | 3              | 3           | 20          | 3           | -           | -                 |
| Other . . . . .   | 90       | 8              | 29          | 31          | 10          | 7           | 6                 |
| <b>Secondary activity:</b>  |          |                |             |             |             |             |                   |
| General practice . . . . .  | 2,709    | 263            | 676         | 905         | 472         | 294         | 99                |
| Contact-lens fitting . . . . .                                    | 10,588   | 1,474          | 3,665       | 4,019       | 1,144       | 257         | 29                |
| Visual training/orthoptics . . . . .                              | 1,104    | 128            | 272         | 358         | 195         | 122         | 29                |
| Developmental vision . . . . .                                    | 483      | 67             | 143         | 196         | 47          | 25          | 6                 |
| Prescribing low-vision aids . . . . .                             | 218      | 10             | 51          | 76          | 56          | 21          | 5                 |
| Industrial vision . . . . .                                       | 611      | 24             | 121         | 256         | 149         | 44          | 17                |
| Other . . . . .   | 213      | 22             | 50          | 72          | 42          | 21          | 6                 |
| No secondary activity . . . . .                                   | 2,373    | 79             | 422         | 751         | 495         | 421         | 204               |
| <b>Patients seen weekly:</b>                                      |          |                |             |             |             |             |                   |
| Less than 25 patients . . . . .                                   | 4,086    | 449            | 879         | 1,236       | 702         | 569         | 251               |
| 25-49 patients . . . . .  | 6,886    | 756            | 2,024       | 2,588       | 1,039       | 383         | 96                |
| 50-74 patients . . . . .  | 3,719    | 432            | 1,243       | 1,402       | 471         | 141         | 31                |
| 75-99 patients . . . . .  | 1,726    | 215            | 599         | 663         | 190         | 55          | 6                 |
| 100 patients or more . . . . .                                    | 1,881    | 214            | 655         | 743         | 200         | 57          | 12                |
| <b>Services rendered:</b>   |          |                |             |             |             |             |                   |
| Refractions . . . . .   | 18,238   | 2,060          | 5,382       | 6,620       | 2,590       | 1,196       | 390               |
| Visual fields . . . . .   | 13,780   | 1,810          | 4,307       | 4,996       | 1,783       | 696         | 189               |
| Tonometry . . . . .   | 12,098   | 1,754          | 4,036       | 4,450       | 1,354       | 417         | 86                |
| Aniseikonic testing . . . . .                                     | 1,528    | 250            | 423         | 542         | 211         | 81          | 22                |
| Biomicroscopy . . . . .   | 5,907    | 1,197          | 2,110       | 1,967       | 513         | 97          | 24                |
| Ophthalmoscopy . . . . .  | 16,928   | 2,011          | 5,203       | 6,264       | 2,318       | 906         | 225               |
| Contact-lens fitting . . . . .                                    | 14,521   | 2,001          | 4,893       | 5,429       | 1,693       | 437         | 68                |
| Visual training/orthoptics . . . . .                              | 9,128    | 1,384          | 2,830       | 3,184       | 1,174       | 430         | 126               |
| Developmental vision . . . . .                                    | 5,225    | 819            | 1,737       | 1,758       | 619         | 224         | 68                |
| Prescribing low-vision aids . . . . .                             | 7,450    | 1,093          | 2,402       | 2,655       | 909         | 296         | 95                |
| Visual readiness for reading . . . . .                            | 4,735    | 695            | 1,494       | 1,708       | 562         | 211         | 67                |
| Dispensing and adjusting . . . . .                                | 17,122   | 1,951          | 5,122       | 6,304       | 2,424       | 1,024       | 296               |
| Frame repairs . . . . .   | 15,532   | 1,870          | 4,831       | 5,771       | 2,014       | 799         | 247               |
| Fabrication of eyewear . . . . .                                  | 6,610    | 812            | 2,142       | 2,396       | 833         | 331         | 95                |
| Other . . . . .   | 718      | 110            | 239         | 242         | 91          | 25          | 11                |
| <b>Supplementary personnel assistance in optometric practice:</b> |          |                |             |             |             |             |                   |
| Some assistance . . . . .   | 14,339   | 1,780          | 4,562       | 5,238       | 1,850       | 723         | 186               |
| No assistance . . . . .   | 3,960    | 286            | 838         | 1,395       | 751         | 481         | 210               |

Table 16. Number and percent distribution of active optometrists by age, according to primary activity, secondary activity, patients seen weekly, services rendered to patients, and supplementary personnel assistance in optometric practice: United States, 1968—Con.

| Characteristic  | All ages | Percent distribution |             |             |             |             |                   |
|---|----------|----------------------|-------------|-------------|-------------|-------------|-------------------|
|   |          | Under 35 years       | 35-44 years | 45-54 years | 55-64 years | 65-74 years | 75 years and over |
| All optometrists in optometric practice . . . . .                 | 100.0    | 11.3                 | 29.5        | 36.2        | 14.2        | 6.6         | 2.2               |
| <b>Primary activity:</b>  |          |                      |             |             |             |             |                   |
| General practice . . . . .  | 100.0    | 11.0                 | 29.3        | 36.5        | 14.4        | 6.7         | 2.2               |
| Contact-lens fitting . . . . .                                    | 100.0    | 20.2                 | 39.1        | 30.4        | 8.5         | 1.5         | 0.3               |
| Visual training/orthoptics . . . . .                              | 100.0    | 33.3                 | 38.1        | 14.3        | 9.5         | 4.8         | -                 |
| Developmental vision . . . . .                                    | 100.0    | 24.2                 | 34.5        | 25.3        | 11.5        | 3.4         | 1.1               |
| Prescribing low-vision aids . . . . .                             | 100.0    | -                    | -           | 40.0        | 20.0        | 20.0        | 20.0              |
| Industrial vision . . . . .                                       | 100.0    | 10.3                 | 10.3        | 69.0        | 10.3        | -           | -                 |
| Other . . . . .   | 100.0    | 8.9                  | 32.2        | 34.4        | 11.1        | 7.8         | 6.7               |
| <b>Secondary activity:</b>  |          |                      |             |             |             |             |                   |
| General practice . . . . .  | 100.0    | 9.7                  | 24.9        | 33.4        | 17.4        | 10.9        | 3.7               |
| Contact-lens fitting . . . . .                                    | 100.0    | 13.9                 | 34.6        | 38.0        | 10.8        | 2.4         | 0.3               |
| Visual training/orthoptics . . . . .                              | 100.0    | 11.6                 | 24.6        | 32.4        | 17.7        | 11.1        | 2.7               |
| Developmental vision . . . . .                                    | 100.0    | 13.8                 | 29.5        | 40.5        | 9.7         | 5.2         | 1.2               |
| Prescribing low-vision aids . . . . .                             | 100.0    | 4.5                  | 23.2        | 34.6        | 25.7        | 9.6         | 2.3               |
| Industrial vision . . . . .                                       | 100.0    | 3.9                  | 19.8        | 41.9        | 24.4        | 7.2         | 2.7               |
| Other . . . . .   | 100.0    | 10.2                 | 23.7        | 33.8        | 19.5        | 9.8         | 3.0               |
| No secondary activity . . . . .                                   | 100.0    | 3.3                  | 17.8        | 31.7        | 20.9        | 17.7        | 8.6               |
| <b>Patients seen weekly:</b>                                      |          |                      |             |             |             |             |                   |
| Less than 25 patients . . . . .                                   | 100.0    | 11.0                 | 21.5        | 30.3        | 17.2        | 13.9        | 6.1               |
| 25-49 patients . . . . .  | 100.0    | 11.0                 | 29.4        | 37.6        | 15.1        | 5.6         | 1.4               |
| 50-74 patients . . . . .  | 100.0    | 11.6                 | 33.4        | 37.7        | 12.7        | 3.8         | 0.8               |
| 75-99 patients . . . . .  | 100.0    | 12.4                 | 34.7        | 38.4        | 11.0        | 3.2         | 0.3               |
| 100 patients or more . . . . .                                    | 100.0    | 11.4                 | 34.8        | 39.5        | 10.6        | 3.0         | 0.6               |
| <b>Services rendered:</b>   |          |                      |             |             |             |             |                   |
| Refractions . . . . .   | 100.0    | 11.3                 | 29.5        | 36.3        | 14.2        | 6.6         | 2.1               |
| Visual fields . . . . .   | 100.0    | 13.1                 | 31.2        | 36.3        | 12.9        | 5.1         | 1.4               |
| Tonometry . . . . .   | 100.0    | 14.5                 | 33.4        | 36.8        | 11.2        | 3.4         | 0.7               |
| Aniseikonic testing . . . . .                                     | 100.0    | 16.4                 | 27.7        | 35.4        | 13.8        | 5.3         | 1.4               |
| Biomicroscopy . . . . .   | 100.0    | 20.3                 | 35.7        | 33.3        | 8.7         | 1.6         | 0.4               |
| Ophthalmoscopy . . . . .  | 100.0    | 11.9                 | 30.7        | 37.0        | 13.7        | 5.4         | 1.3               |
| Contact-lens fitting . . . . .                                    | 100.0    | 13.8                 | 33.7        | 37.4        | 11.7        | 3.0         | 0.5               |
| Visual training/orthoptics . . . . .                              | 100.0    | 15.2                 | 31.0        | 34.9        | 12.9        | 4.7         | 1.4               |
| Developmental vision . . . . .                                    | 100.0    | 15.7                 | 33.2        | 33.6        | 11.8        | 4.3         | 1.3               |
| Prescribing low-vision aids . . . . .                             | 100.0    | 14.7                 | 32.2        | 35.6        | 12.2        | 4.0         | 1.3               |
| Visual readiness for reading . . . . .                            | 100.0    | 14.7                 | 31.6        | 36.0        | 11.9        | 4.4         | 1.4               |
| Dispensing and adjusting . . . . .                                | 100.0    | 11.4                 | 29.9        | 36.8        | 14.2        | 6.0         | 1.7               |
| Frame repairs . . . . .   | 100.0    | 12.0                 | 31.1        | 37.2        | 13.0        | 5.1         | 1.6               |
| Fabrication of eyewear . . . . .                                  | 100.0    | 12.3                 | 32.4        | 36.2        | 12.6        | 5.0         | 1.4               |
| Other . . . . .   | 100.0    | 15.3                 | 33.3        | 33.7        | 12.7        | 3.5         | 1.5               |
| <b>Supplementary personnel assistance in optometric practice:</b> |          |                      |             |             |             |             |                   |
| Some assistance . . . . .   | 100.0    | 12.4                 | 31.8        | 36.5        | 12.9        | 5.0         | 1.3               |
| No assistance . . . . .   | 100.0    | 7.2                  | 21.2        | 35.2        | 19.0        | 12.1        | 5.3               |

## APPENDIX I

### TECHNICAL NOTES ON METHODS

#### Background of This Report

The data presented in this report were collected as part of the 1968-69 Vision and Eye Care Manpower Survey. The Survey, conducted by the U.S. Bureau of the Census under contract to the Division of Health Resources Statistics, National Center for Health Statistics (NCHS), was designed to obtain information about the demographic and professional characteristics of optometrists engaged in providing direct health care to the public.

#### Survey Coverage

The total number of optometrists, for purposes of this survey, was defined as all legally registered persons licensed to practice optometry in any of the 50 States and the District of Columbia. The most complete and readily available list of these persons was *The Blue Book of Optometrists*,<sup>5</sup> which provided the names and addresses of licensed optometrists in each State and the District of Columbia. This list of 20,565 names and addresses became the original mailing list for the survey.

A pretest of the questionnaire used for the optometrists' survey was conducted during the period May-July 1968. Questionnaires were mailed to two optometrists in each State and the District of Columbia. After an initial mailout, one mail followup, and a telephone followup, a response rate of 91 percent was achieved. The questionnaire proved to be an effective instrument. Only minor alterations were required for the final questionnaire. (See appendix III for a copy of the final questionnaire.)

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<sup>5</sup>*The Blue Book of Optometrists: 1968*, (Professional Press, Inc., Chicago, 1968).

#### Data Collection and Processing

The collection of data for the 1968 Manpower Survey was accomplished under contract with the U.S. Bureau of the Census. This agency was responsible for mailing the questionnaires, receipt and control procedures, coding the completed questionnaires in accordance with specifications established by NCHS, and for followup whenever incomplete or inadequate questionnaires were returned or whenever a questionnaire was not returned.

For the actual survey, three mailouts were employed in an attempt to elicit a response, the first two by first-class mail, the last by certified mail. All three mailings were made in every case in which a return was not received.

Telephone contacts and personal interviews were also used. They were employed in cases of nonresponse or refusal, as well as in cases of questionnaires that had been only partially completed.

A preliminary edit of the data was undertaken at the time of the return of the survey questionnaires. This was done to insure completeness of the responses. The data from the questionnaires were coded, punched on cards, transferred to computer tape, and sent to NCHS for processing. Processing included an elaborate series of checks and cross-checks to confirm the accuracy of responses, to correct coding and punching errors that occurred, and also to insure consistency between related items.

#### Response to the Survey

A total of 20,565 optometrists were provided by the original mailing list for the survey; 262 were eliminated. These were duplicate names and military personnel. Military personnel were

eliminated because some were inaccessible. The data provided in this report are for civilian optometrists in the 50 States and the District of Columbia. This amounted to 20,303 optometrists, or 98.7 percent of the original list.

A total of 18,533, or 91.2 percent of the 20,303, responded to the survey with usable questionnaires. The remainder was composed of: 699 nonrespondents (i.e., reasons unknown); 533 postmaster returns (i.e., unable to locate); 308 deceased; and 230 refusals.

Of these 18,533 usable questionnaires (good responses), 16,835, or 90.8 percent, were active optometrists while 1,698 reported that they were either retired or not currently engaged in optometrical activities although not retired. There is evidence to indicate that the responses from active optometrists were better than those from inactive optometrists.

### Item Response

A response to the survey does not necessarily insure adequate answers to all of the questions on the questionnaire. In fact, a response to a single question is considered a response to the survey. This section will be concerned with the nonresponses to individual questions on the questionnaire, i.e., item nonresponse. The previous section discussed nonresponses to the survey as a whole, i.e., unit responses. This discussion will involve only the 18,533 good unit responses because interest here concerns the variability of responses to different questions. Table I presents the distribution of responses to selected questions on the questionnaire. Selection of the questions was based on their relevance to this report.

One can hardly avoid noticing the differences in the percentages of responses to the individual questions between the active and inactive respondents. At least 17 percent more active respondents answered every question (among those asked of both active and inactive optometrists) than did inactive respondents. Based on this finding, it is not unrealistic to suspect that a similar situation prevailed in terms of responses to the questionnaire generally. A larger share of the unit nonresponses were probably attributable to inactive persons than to those who were active.

### Imputation for Unknowns

As a matter of policy, tables in this publication are presented with item nonresponses imputed. The allocation of the item nonresponses was done by computer, utilizing two principles: first, random assignment; and second, utilization of related information as category controls to insure consistency among different related items within the same record.

Assignment of values to replace item nonresponse is done on a random basis to prevent bias. The value used to replace an item nonresponse is randomly selected from within a range of values prescribed by related information from the record containing the item nonresponse. Establishment of a range of values is necessary to insure that the value used to replace the item nonresponse will not be inconsistent with other values within the record in which the value is being placed.

An example may clarify the procedures. Mr. Blank is 48 years of age. His year at graduation is not known. It must be imputed. Age and year at graduation are related items. In this case, Mr. Blank's age will be used as a category control to choose an appropriate record from which a year at graduation will be selected. By means of a random selection process, Mr. Given's record is chosen because his age was 49. (The age category in this case could have been 48-50.) Thus, Mr. Blank's and Mr. Given's ages were both in the same category. Mr. Given's year at graduation was listed as 1942. The year 1942 is then copied into Mr. Blank's record as his year at graduation and will be counted in all tabulations as if it were the actual year Mr. Blank had provided on his questionnaire.

### State and National Estimates

The statistics presented in this report were inflated to allow for unit nonresponses, i.e., for the nonavailability of entire questionnaires. This "inflation" factor was the ratio of total optometrists to the number of usable (good) responses obtained. Within each State the number of optometrists was divided by the number of good responses to obtain the increment needed to

Table I. Number and percent distribution of respondents to the questionnaire by question number and content, according to activity status: United States, 1968

| Question number and content   | All active respondents | Inactive respondents, retired and not retired |
|---|------------------------|---|
|   | Number                 |   |
| All respondents . . . . .   | 16,835                 | 1,698   |
|   | Percent distribution   |   |
| Total . . . . .   | 100.0                  | 100.0   |
| 2. In what year were you born? . . . . .  | 99.6                   | 82.5  |
| 5. Sex? . . . . .   | 97.9                   | 81.1  |
| 6a. From which school of optometry did you graduate? . . . . .  | 99.1                   | 78.1  |
| 6b. When did you graduate? . . . . .  | 98.7                   | 75.6  |
| 7. What degrees have you earned? . . . . .  | 97.5                   | 72.4  |
| 8. In which States do you currently hold an active license to practice optometry? . . . . .   | 98.6                   | 74.1  |
| 9. Are you currently active in optometry? . . . . .   | 100.0                  | 100.0   |
| 10. Which categories best describe your principal form of employment? . . . . .   | 99.6                   | ...   |
| 11. How many weeks per year do you usually practice optometry? . . . . .  | 99.0                   | ...   |
| 12. How many hours per week do you usually practice optometry? . . . . .  | 99.0                   | ...   |
| 13a. Approximately what percent of the hours per week do you usually spend in optometric practice? . . . . .                          | 98.8                   | ...   |
| 16a. In your optometric practice, approximately how many patient visits for all purposes do you have during a typical week? . . . . . | 92.0                   | ...   |
| 16b. Approximately how many patients does this represent? . . . . .   | 88.4                   | ...   |
| 18. In your optometric practice do you have supplementary personnel to assist you? . . . . .  | 98.4                   | ...   |

adjust the statistics for the nonresponses. The increment multiplied by the number of respondents provided the inflated number of civilian optometrists (20,301).

Table II presents the number of respondents to the optometry manpower survey, the ratio weights, and the inflated numbers of active optometrists for each State.

Table II. Number of optometrists by activity status, before and after inflation: United States and each State, 1968

|                                | Optometrist |          | Inflation factors | Inflated active optometrists | Inflated inactive optometrists | Inflated total |
|--------------------------------|-------------|----------|-------------------|------------------------------|--------------------------------|----------------|
|                                | Active      | Inactive |                   |                              |                                |                |
| United States . . . . .        | 16,835      | 1,698    | 1.10              | 18,427                       | 1,873                          | 20,301         |
| Alabama . . . . .              | 159         | 11       | 1.13              | 180                          | 12                             | 192            |
| Alaska . . . . .               | 16          | 1        | 1.06              | 17                           | 1                              | 18             |
| Arizona . . . . .              | 115         | 3        | 1.10              | 127                          | 3                              | 130            |
| Arkansas . . . . .             | 136         | 3        | 1.11              | 151                          | 3                              | 154            |
| California . . . . .           | 2,077       | 231      | 1.08              | 2,242                        | 249                            | 2,492          |
| Colorado . . . . .             | 174         | 10       | 1.08              | 188                          | 11                             | 199            |
| Connecticut . . . . .          | 252         | 7        | 1.03              | 260                          | 7                              | 267            |
| Delaware . . . . .             | 30          | 3        | 1.18              | 35                           | 4                              | 39             |
| District of Columbia . . . . . | 59          | 12       | 1.21              | 71                           | 15                             | 86             |
| Florida . . . . .              | 465         | 38       | 1.06              | 493                          | 40                             | 533            |
| Georgia . . . . .              | 250         | 15       | 1.05              | 263                          | 16                             | 278            |
| Hawaii . . . . .               | 61          | 4        | 1.05              | 64                           | 4                              | 68             |
| Idaho . . . . .                | 77          | 5        | 1.12              | 86                           | 6                              | 92             |
| Illinois . . . . .             | 1,393       | 262      | 1.16              | 1,616                        | 304                            | 1,920          |
| Indiana . . . . .              | 472         | 27       | 1.08              | 510                          | 29                             | 539            |
| Iowa . . . . .                 | 311         | 22       | 1.08              | 336                          | 24                             | 360            |
| Kansas . . . . .               | 216         | 20       | 1.06              | 229                          | 21                             | 250            |
| Kentucky . . . . .             | 214         | 8        | 1.07              | 229                          | 9                              | 238            |
| Louisiana . . . . .            | 199         | 15       | 1.12              | 223                          | 17                             | 240            |
| Maine . . . . .                | 109         | 9        | 1.06              | 116                          | 10                             | 125            |
| Maryland . . . . .             | 160         | 17       | 1.09              | 175                          | 19                             | 194            |
| Massachusetts . . . . .        | 660         | 87       | 1.09              | 719                          | 95                             | 814            |
| Michigan . . . . .             | 656         | 59       | 1.08              | 708                          | 64                             | 772            |
| Minnesota . . . . .            | 331         | 43       | 1.07              | 354                          | 46                             | 400            |
| Mississippi . . . . .          | 115         | 8        | 1.05              | 121                          | 8                              | 129            |
| Missouri . . . . .             | 400         | 45       | 1.08              | 432                          | 49                             | 481            |
| Montana . . . . .              | 82          | 6        | 1.08              | 89                           | 6                              | 95             |
| Nebraska . . . . .             | 146         | 16       | 1.06              | 155                          | 17                             | 172            |
| Nevada . . . . .               | 33          | 2        | 1.09              | 36                           | 2                              | 38             |
| New Hampshire . . . . .        | 66          | 1        | 1.06              | 70                           | 1                              | 71             |
| New Jersey . . . . .           | 608         | 27       | 1.11              | 675                          | 30                             | 705            |
| New Mexico . . . . .           | 69          | 2        | 1.03              | 71                           | 2                              | 73             |
| New York . . . . .             | 1,402       | 178      | 1.14              | 1,598                        | 203                            | 1,801          |
| North Carolina . . . . .       | 298         | 19       | 1.08              | 322                          | 21                             | 342            |
| North Dakota . . . . .         | 63          | 4        | 1.15              | 72                           | 5                              | 77             |
| Ohio . . . . .                 | 880         | 86       | 1.07              | 942                          | 92                             | 1,034          |
| Oklahoma . . . . .             | 231         | 12       | 1.07              | 247                          | 13                             | 260            |
| Oregon . . . . .               | 258         | 27       | 1.06              | 273                          | 29                             | 302            |
| Pennsylvania . . . . .         | 1,022       | 150      | 1.12              | 1,145                        | 168                            | 1,313          |
| Rhode Island . . . . .         | 119         | 10       | 1.11              | 132                          | 11                             | 143            |
| South Carolina . . . . .       | 145         | 6        | 1.07              | 155                          | 6                              | 162            |
| South Dakota . . . . .         | 88          | 7        | 1.07              | 94                           | 7                              | 102            |
| Tennessee . . . . .            | 279         | 27       | 1.06              | 296                          | 29                             | 324            |
| Texas . . . . .                | 690         | 62       | 1.09              | 752                          | 68                             | 820            |
| Utah . . . . .                 | 63          | 10       | 1.18              | 74                           | 12                             | 86             |
| Vermont . . . . .              | 35          | 1        | 1.08              | 38                           | 1                              | 39             |
| Virginia . . . . .             | 249         | 9        | 1.10              | 274                          | 10                             | 284            |
| Washington . . . . .           | 330         | 37       | 1.08              | 356                          | 40                             | 396            |
| West Virginia . . . . .        | 139         | 10       | 1.06              | 147                          | 11                             | 158            |
| Wisconsin . . . . .            | 397         | 22       | 1.08              | 429                          | 24                             | 453            |
| Wyoming . . . . .              | 36          | 2        | 1.13              | 41                           | 2                              | 43             |



## APPENDIX II

### DEFINITIONS OF CERTAIN TERMS USED IN THIS REPORT

#### Demographic Terms

*Age.*—Refers to the respondent's age in 1968. In all cases, it is calculated as the difference between 1968 and respondent's year of birth.

*Geographic region and division.*—The States in which the respondent is licensed to practice optometry are classified into four regions which are further subdivided into nine divisions corresponding to those used by the U.S. Bureau of the Census. These regions and divisions are as follows:

| <i>Region and divisions</i>  | <i>States included</i>  |
|------------------------------|---|
| <b>Northeast</b>             |   |
| New England . . . . .        | Maine, New Hampshire, Vermont, Massachusetts, Rhode Island, Connecticut   |
| Middle Atlantic . . . . .    | New York, New Jersey, Pennsylvania  |
| <b>North Central</b>         |   |
| East North Central . . . . . | Ohio, Indiana, Illinois, Michigan, Wisconsin  |
| West North Central . . . . . | Minnesota, Iowa, Missouri, North Dakota, South Dakota, Nebraska, Kansas   |
| <b>South</b>                 |   |
| South Atlantic . . . . .     | Delaware, Maryland, District of Columbia, Virginia, West Virginia, North Carolina, South Carolina, Georgia, Florida |
| East South Central . . . . . | Kentucky, Tennessee, Alabama, Mississippi   |
| West South Central . . . . . | Arkansas, Louisiana, Oklahoma, Texas  |
| <b>West</b>                  |   |
| Mountain . . . . .           | Montana, Idaho, Wyoming, Colorado, New Mexico, Arizona, Utah, Nevada  |
| Pacific . . . . .            | Washington, Oregon, California, Alaska, Hawaii  |

*United States.*—The 50 States and the District of Columbia.

#### Terms Relating to Optometry

*Licensed optometrist.*—An individual who has met the legal requirements to practice optometry in a given State or the District of Columbia.

*Optometric practice activity.*—Providing vision care directly to the patient.

*Optometrist.*—An expert in measuring human vision; educated, trained, and licensed to examine the eye and related structures to determine the presence of vision impairments, eye diseases, vision malfunctions related to educational difficulties, or other abnormalities. He prescribes and adapts lenses, contact lenses, other optical aids, and utilizes vision training to preserve, restore, and improve vision efficiency. He may engage in research and teaching.

*Part time.*—An optometrist was classified as a part-time worker if he reported that he usually practices optometry less than 35 hours per week.

*Full time.*—An optometrist who reported that he usually practices optometry 35 hours or more per week was classified as a full-time worker.

*Short year.*—The term "short year" describes a work-year of less than 48 weeks per year reported by an optometrist.

*Full year.*—The term "full year" identifies a work-year of 48 or more weeks per year reported by an optometrist.

*Active.*—Active optometrists are those who reported that they were currently engaged, at least part time, in the practice of optometry.

*Inactive.*—Inactive optometrists are those who reported that they were not currently engaged in optometry in any way. They may have been working in some other occupation during the survey.

*Retired.*—Retired optometrists were formerly active in optometry, but reported that they are currently retired from optometry and other forms of employment.

# APPENDIX III

## SURVEY QUESTIONNAIRE

PHS-T407-3  
REV. 8-68

U.S. DEPARTMENT OF COMMERCE  
BUREAU OF THE CENSUS  
ACTING AS COLLECTING AGENT FOR THE  
U.S. PUBLIC HEALTH SERVICE

Form Approved  
Budget Bureau No. 68-S68028

CONFIDENTIAL: All information which permits the identification of the individual will be held strictly confidential, will be used solely by persons engaged in, and only for the purposes of the survey and will not be disclosed or released to other persons or for any other purpose.

### SURVEY OF OPTOMETRISTS

1. Is your name correct, and is the address above your PRIMARY PLACE OF PRACTICE?

1  Yes      2  No

↓  
If no, please enter the correct information below:

Name: \_\_\_\_\_  
*First                      Middle                      Last*

Primary place of practice: \_\_\_\_\_  
*Number                                      Street*

\_\_\_\_\_ *City                      State                      Zip Code*

2. In what year were you born? \_\_\_\_\_  
*(Year)*

3. Where were you born? \_\_\_\_\_  
*(State or foreign country)*

4. Are you a citizen of the United States? *(Please check appropriate box)*

- 1  Yes, Native Born
- 2  Yes, Naturalized
- 3  No

5. Sex: 1  Male  
2  Female

6. A. From which school of optometry did you graduate?

\_\_\_\_\_ *Name of School*

\_\_\_\_\_ *City                                      State or Country*

B. When did you graduate? \_\_\_\_\_  
*(Year graduated)*

7. What degrees have you earned? (Check all that apply)

- 1  Doctor of Optometry
- 2  Doctorate (Specify major field: \_\_\_\_\_ )
- 3  Master's (Specify major field: \_\_\_\_\_ )
- 4  Bachelor's (Specify major field: \_\_\_\_\_ )
- 5  Other (Specify: \_\_\_\_\_ )

8. In which States do you currently hold an ACTIVE LICENSE to practice optometry?

\_\_\_\_\_

\_\_\_\_\_

9. Are you CURRENTLY ACTIVE in optometry? (Include patient care, teaching, research, and administration)

- 1  Yes, Full-time
- 2  Yes, Part-time
- 3  No, Not active in optometry
- 4  No, Retired

↓  
**PROCEED to  
Question 10.**

↓  
**STOP!**  
Remainder of questionnaire does not apply. Please  
return questionnaire in the envelope provided.

10. Which of the following categories best describes your PRINCIPAL form of employment? (Check one)

- 01  Self-employed – Solo practice
- 02  Self-employed – Partnership practice
- 03  Self-employed – Group practice
- 04  Employed by – Military
- 05  Employed by – Government (non-military)
- 06  Employed by – Optometrist(s)
- 07  Employed by – Ophthalmologist(s)
- 08  Employed by – Physician(s) other than ophthalmologist(s)
- 09  Employed by – Firm or corporation (profit-making)
- 10  Employed by – Nonprofit organization or institution
- 11  Other (Specify: \_\_\_\_\_ )

If in partnership or group practice, how many  
**OPTOMETRISTS** are there in the partnership  
or group **COUNTING YOURSELF**?

\_\_\_\_\_

Number

11. How many WEEKS per year do you usually practice optometry? (Include patient care, teaching, research, and administration. Do not count vacations as weeks worked.)

\_\_\_\_\_

(Weeks per year)

12. How many HOURS per week do you usually practice optometry? (Include patient care, teaching, research, and administration)

\_\_\_\_\_

(Hours per week)

13. APPROXIMATELY what PERCENT of the hours per week, indicated in Item 12 above, do you usually spend in each of the following activities?

- a. \_\_\_\_\_ % Optometric practice
  - b. \_\_\_\_\_ % Teaching in a school of optometry
  - c. \_\_\_\_\_ % Optometric research
  - d. \_\_\_\_\_ % Administration (*Optometric Association, etc.*)
  - e. \_\_\_\_\_ % Other (*Specify: \_\_\_\_\_*)
- 100 % TOTAL

If 0% of your time is spent in OPTOMETRIC PRACTICE, (Item 13 a. above) STOP, and return questionnaire in the envelope provided; otherwise continue.

14. In your OPTOMETRIC PRACTICE, which of the services below are rendered to your patients by you or under your direction? (Check all that apply)

- 01  Refractions
- 02  Visual fields
- 03  Tonometry
- 04  Aniseikonic testing
- 05  Biomicroscopy
- 06  Ophthalmoscopy
- 07  Contact lens fitting
- 08  Visual training/orthoptics
- 09  Developmental vision
- 10  Prescribing low vision aids
- 11  Visual readiness for reading
- 12  Dispensing and adjusting
- 13  Frame repairs
- 14  Fabrication of eyewear
- 15  Other (*Specify: \_\_\_\_\_*)

15. In your OPTOMETRIC PRACTICE, what do you consider to be your PRIMARY, and your SECONDARY, activity?

A. PRIMARY activity: (Check one)

- 1  General practice
- 2  Contact lens fitting
- 3  Visual training/orthoptics
- 4  Developmental vision
- 5  Prescribing low vision aids
- 6  Industrial vision
- 7  Other (*Specify: \_\_\_\_\_*)

B. SECONDARY activity: (Check one)

- 1  General practice
- 2  Contact lens fitting
- 3  Visual training/orthoptics
- 4  Developmental vision
- 5  Prescribing low vision aids
- 6  Industrial vision
- 7  Other (*Specify: \_\_\_\_\_*)
- 8  None

16. A. In your **OPTOMETRIC PRACTICE, APPROXIMATELY** how many patient **VISITS** for all purposes do you have during a typical week?

\_\_\_\_\_
( Approximate number of visits )

B. **APPROXIMATELY** how many **PATIENTS** does this represent? (Patients with multiple visits should be counted only once)

\_\_\_\_\_
( Approximate number of patients )

17. What is the total number of office locations at which you currently practice optometry?

\_\_\_\_\_
( Number of locations )

18. In your **PRINCIPAL FORM OF EMPLOYMENT**, indicated in Item 10 above, do you have supplementary personnel to assist you?

1  Yes 2  No

Please indicate the **NUMBER** in each category below for **ALL** offices combined which are related to your principal form of employment.

(Persons who spend less than 75% of their time in any one category below should be counted in category b, general optometric assistant)

Table with 4 columns: NUMBER WHO WORK FULL-TIME (35 hours or more per week) and NUMBER WHO WORK PART-TIME (Less than 35 hours per week), each subdivided into FOR YOU ALONE and FOR YOU AND ASSOCIATES. Rows include Secretaries, Receptionists, General optometric assistants, Optometric technicians, Dispensing opticians, Contact lens technicians, Optical technicians (Shopmen), and Other (Specify: \_\_\_\_\_).

19. A. If you have made entries under **FOR YOU AND ASSOCIATES** in the full-time or part-time columns in Item 18 above how many associates, **COUNTING YOURSELF**, share these personnel?

\_\_\_\_\_
( Number of associates )

B. Of these associates, how many are **OPTOMETRISTS, COUNTING YOURSELF?**

\_\_\_\_\_
( Number of optometrists )

COMMENTS - General comments are invited as well as comments on specific items:

PLEASE RETURN QUESTIONNAIRE IN THE STAMPED ENVELOPE PROVIDED.

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