# Ophthalmology Manpower A General Profile <br> <br> United States - 1968 

 <br> <br> United States - 1968}

Statistics are presented on selected demographic and professional characteristics of active and inactive ophthalmologists. The data were collected by the National Center for Health Statistics in cooperation with the U.S. Bureau of the Census from ophthalmologists in all 50 States and the District of Columbia. Ophthalmologists are statistically described in terms of general characteristics (ages, sex, geographic distribution, board certification, and whether doctors of medicine or of osteopathy); and by selected features of their professional activity, namely, number of States licensed in, principal type of employment, volume of activity, and clinical and nonclinical functions engaged in.

DHEW Publication No. (HSM) 73-1800

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Vital and Health Statistics-Series 14-No. 5

# NATIONAL CENTER FOR HEALTH STATISTICS 

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## COOPERATION OF THE BUREAU OF THE CENSUS

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.

Vital and Health Statistics-Series 14-No. 5

DHEW Publication No. (HSM) 73-1800
Library of Congress Card Number 75-190015

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## SYMBOLS

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# OPHTHALMOLOGY MANPOWER A GENERAL PROFILE 

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## INTRODUCTION

## Background

This is a report on the national resource in ophthalmologists as it existed in the United States in 1968. Statistics reported here are chiefly the product of one of three surveys on vision manpower conducted by the National Center for Health Statistics between May 1968 and June 1969. These surveys sought information on four groups-ophthalmologists, optometrists, opticianry establishments, and dispensing opticians. The long-range goal of the surveys was to provide statistical information for use in planning for educational programs, manpower requirements, research projects, and delivery of eye-care services.

## Scope

Reported here are statistics on an estimated 9,056 ophthalmologists, 8,616 of whom were active in their profession at the time of the 1968 survey. These totals reflect the application of a statistical adjustment designed to compensate for various types of nonresponse to the survey and are felt to represent a good approximation of the actual manpower resource in ophthalmologists in 1968.

Included within the population of active ophthalmologists are 8,434 doctors of medicine (M.D. ophthalmologists) who had reported to the American Medical Association (AMA) that ophthalmology was their primary or secondary specialty and 181 doctors of osteopathy (D.O. ophthalmologists) who
had reported to the American Osteopathic Association that they devoted any time whatever to ophthalmological activities.

Excluded from the scope of this report are 233 "uniformed" ophthalmologists (that is, ophthalmologists who were active in the Army, Navy, Air Force, and Commissioned Corps of the Public Health Service at the time of the survey), and 879 students of ophthalmology who were enrolled in civilian and military residency programs at the time of the survey. The chief interest of this report is in the formally qualified civilian ophthalmologist.

In scope and content this report differs substantially from other sources of information on ophthalmological manpower. The reader should generally avoid a direct comparison of these data with data from other sources, especially with data from AMA directories for the period or with publications based on AMA data. ${ }^{1-3}$ This caution in comparison is indicated for the following reasons. The universe reported on here comprehends D.O. ophthalmologists as well as M.D. ophthalmologists and includes practitioners who worked part time as well as those who worked full time in ophthalmological activities. Furthermore, the population reported on is non-Federal only to the extent that it excludes uniformed ophthalmolgists; otherwise it includes Federal employees. Also excluded are residents and interns. Therefore, unless suitable adjustments are made, only rough comparisons to the cited data sources can generally be made.

## Content

This general profile of the ophthalmologist is the first of three reports planned in the area of ophthalmological manpower. The subsequent reports, based chiefly on the same survey data, will focus in turn on characteristics of the clinical practice of ophthalmology and on the utilization of supplementary personnel by the ophthalmologist.

The report is composed of the following parts, given in the sequence in which they are discussed.

1. A statistical overview of the total national resource in active and inactive ophthalmologiststables 1-2.
2. A statistical evaluation of active ophthalmologists in terms of:

- Their geographic distribution and ratio to the general population-tables $1,2,3,4,7,8,10$, and 12.
- Such selected characteristics as their age, sex, specialty board certification, and professional identity (doctor of medicine or of osteopathy) tables 4-6.
- The areal scope of their actual and potential activity as indicated by the number of States in which they hold active licenses-tables 5,7 , and 9.
- The vocational context of their professional activity as revealed in their principal form of em-ployment-tables $5,8,9,11,13$, and 14 .
- The volume of their activity as determined from the number of weeks they worked per year and the number of hours they worked per weektables 6,9-11, and 13-18.
- Finally, the nature of their professional activity as evidenced by the clinical and nonclinical functions in which they engaged-tables 12-18.

The various compensatory adjustments used in establishing the report data along with other methodological considerations are discussed in appendix I. Definitions of terms used in the report appear in appendix II. Finally, the reader may refer to appendix III for copies of the actual survey questionnaires used to elicit information from M.D. and D.O. respondents.

## Major Characteristics of the Active

## Ophthalmologist

A brief overview of the major characteristics of the 8,616 active ophthalmologists who are the chief subjects of this report reveals that:

- About 98 percent were doctors of medicine.
- About 97 percent were male.
- About 95 percent were self-employed.
- About 97 percent reported some activity in the practice of clinical ophthalmology (direct diagnosis and treatment of eye patients).
- About 68 percent were active in solo practice.
- About 26 percent were engaged in some type of multiple-physician practice.
- About 33 percent spent some time in teaching.
- About 11 percent spent some time in medical research.
- Finally, there was a tendency in most regions and in most forms of employment to work at maximum volume (that is, in excess of 48 weeks per year and 48 hours per week).


## THE TOTAL OPHTHALMOLOGIST UNIVERSE

Survey findings support an estimate of 9,056 for the total number of ophthalmologists-active and inactive-in the United States in 1968. Of these, 8,616, or 95.1 percent, reported that they were active in their profession either in a fulltime or part-time capacity. The survey questionnaires did not define the terms "full-time" and "part-time," leaving their interpretation to the subjective judgment of the respondents, 89.2 percent of whom reported full-time activity. (See "Qualifying Comments" in appendix I.)

A total of 440 ophthalmologists, or 4.9 percent of all survey respondents reported that they were inactive in their profession, 311 by reason of retirement and 129 for other reasons. No effort was made to elicit the specific reasons for the inactivity of those ophthalmologists who reported being inactive in their profession although not retired.

Data in table A reveal the age characteristics of inactive ophthalmologists. About 49 percent of the inactive but not retired group were under 65 years of age, while only about 17 percent of the retired group were in that younger category. Data in table B reveal the distribution of ophthalmologists by geographic region. Except for a slightly disproportionate concentration of retired ophthalmologists in the North Central Region, the distribution agrees with regional proportions for active ophthalmologists.

## THE ACTIVE OPHTHALMOLOGIST

## Geographic Distribution and Ratio to Population

The number of ophthalmologists active in their profession at the time of the survey was approximately 8,616 . Data in figure 1 reveal their distribution by geographic region and division. Table $C$ shows the number of active ophthalmologists per 100,000 population in geographic regions and divisions and the census estimates for July 1 , 1968, while table D uses the same census estimates to show the ratio of the ophthalmologists to the population by State.

From the findings of this survey, the national ratio of active ophthalmologists to population in 1968 was estimated to be 4.4 ophthalmologists per 100,000 population. The reader is reminded that this population of active ophthalmologists included not only those M.D. opthalmologists who reported ophthalmology as their primary specialty but also doctors of medicine who reported ophthalmology as their secondary specialty, as well as doctors of osteopathy who reported that they had spent time in ophthalmological activities.

Four of the nine geographic divisions exceeded the national ratio-New England, Middle Atlantic, Mountain, and Pacific Divisions. The five States exhibiting the highest ratios were, in order of descending magnitude, the District of Columbia, Colorado, Montana, California, and New York. The five States exhibiting the lowest ratios were South Carolina, Mississippi, Alabama, Alaska, and Arkansas.

The South Region, although it has a larger civilian population than the other regions, is relatively poorest in ophthalmologists-3.7 per 100,000 population. When the District of Columbia

Table A. Number and percent distribution of inactive ophthalmologists by age: United States, 1968

| Age | Inactive but not retired | Retired |
| :---: | :---: | :---: |
| A11 ages---- | Num 129 | $311$ |
|  | Percent distribution |  |
| All ages---- | 100.0 | 100.0 |
| Under 35 years---- | 11.6 | 0.3 |
| 35-44 years------- | 10.9 | - |
| 45-54 years------- | 8.5 | 2.6 |
| 55-64 years------- | 17.8 | 14.5 |
| 65 years and over- | 51.2 | 82.6 |

with its disproportionately high ratio of 10.3 is excluded from the calculations for the South Atlantic Division, the southern ratio is even more sharply reduced to 3.1 .

Comparing the numeric growth in active ophthalmologists to the growth of the population, a slow but continuous increase in numbers of ophthalmologists per 100,000 population may be observed from 1950 to the time of this survey. This becomes evident when the findings of this survey for 1968 are added to the historical perspective established in a recent study ${ }^{3}$ as follows:

> Ophthalmologists per 100,000 population

| 1950------------ | 2.2 |
| :---: | :---: |
| 1960------------ | 3.0 |
| 1961 | 3.2 |
| 1962------------ | 3.3 |
| 1963--.-.-------- | 3.5 |
| 1964------------ | 3.6 |
| 1965 | 3.6 |
| 1966---.-------- | 3.6 |
| 1967 --.---------- | 3.7 |
| 1968--.-.---.---- | 3.8 |


| Geographic region | Activity status |  |  |
| :---: | :---: | :---: | :---: |
|  | Active | Inactive but not retired | Retired |
| United St | Numbers |  |  |
|  | 8,616 | 129 | 311 |
| Northeast- | 2,458 | 39 | 86 |
| North Central- | 2,117 | 28 | 95 |
| South- | 2,258 | 40 | 79 |
| West-- | 1,782 | 22 | 50 |
|  | Percent distribution |  |  |
| United States | 100.0 | 100.0 | 100.0 |
| Northeast- | 28.5 | 30.2 | 27.7 |
| North Central | 24.6 | 21.8 | 30.6 |
| South- | 26.2 | 31.0 | 25.5 |
| West- | 20.7 | 17.0 | 16.1 |

(See also figure 2.) In the cited study an ophthalmologist is defined as any M.D. physician in practice who declared ophthalmology as a "fulltime or primary specialty." Using this criterion, in 1950 there were 2.2 ophthalmologists per 100,000 population (adjusted to include an estimate for eye, ear, nose, and throat (EENT) specialists who saw themselves more as ophthalmologists than otolaryngologists). In 1967 there were 3.7 ophthalmologists per 100,000 . In 1950 there was one ophthalmologist for every 50,000 persons and 17 years later one for every 25,000.

The ratio for 1968 derived from the findings of this survey ( 4.4 ophthalmologists per 100,000
population) is not directly comparable to the ratios of the cited study since it does not limit itself to M.D. ophthalmologists reporting a primary specialty in ophthalmology. Rather, it has been extended to include 181 osteopathic ophthalmologists as well as approximately 903 M.D. ophthalmologists who reported ophthalmology as a secondary specialty. When, however, the more comprehensive figure of 4.4 per 100,000 is adjusted downward to. exclude these 1,084 practitioners, a ratio of 3.8 ophthalmologists per 100,000 is obtained, a figure which is directly comparable to the ratios in the cited study and which appears as the value for the 1968 ratio offered in figure 2. (See methodological discussion in appendix I.)


Figure 1. Number and percent distribution of active ophthalmologists by geographic region and division: United States, 1968.

## Selected Personal and Professional

## Characteristics

Figure 3 tabulates the numbers and percent distribution of active ophthalmologists by 10-year age intervals. The national median age was 51.4 years. Majority concentrations of ophthalmologists are seen to lie in the intervals directly above and below the median interval of 45-54 years, a bimodal tendency that may partly reflect the intervention of World War II with its attendant effects on formal training and licensure.

No respondents were reported as less than 25 years old and only about 9 percent fell in the age group $25-34$ years. About 3.6 percent were still active in their profession after the age of 75 years.

The Northeast Region exhibited a relatively greater proportion of ophthalmologists in the older age group 55-74 years than the other re-
gions. The West was highest in the proportion of active ophthalmologists in the younger age group 35-54 years. Survey findings offer no directly cogent reasons for these age effects.

In median age, the ophthalmologist tended to be at least 2 years older than the typical member of the active and formally qualified M.D. population. Whereas about 25 percent of the overall M.D. population clustered in the age group under 34 years, only about 9 percent of ophthalmologists surveyed fell in this younger category. ${ }^{2}$

The reason for this disparity probably lies chiefly in the fact that the ophthalmologist population included 1,584 members who still engaged part time in the practice of otolaryngology. As a group, this residual from earlier days when EENT was a unified specialty were most often found in the age group over 60 years, an effect which tended to elevate the overall age average for all survey respondents.

Table C. Number of active ophthalmologists per 100,000 population, by geographic region and division: United States, 1968

| Geographic location | Population in thous ands ${ }^{1}$ | ```勧仿ber ``` | Active ophthalmologists per 100,000 population |
| :---: | :---: | :---: | :---: |
| United States-------------------------- | 197,560 | 8,616 | 4.4 |
| Northeast Region-------------------------- | 48,193 | 2,458 | 5.1 |
| New England------------------------------------- | 11,322 | 548 | 4.8 |
| Middle Atlantic-------------------------------- | 36,871 | 1,909 | 5.2 |
|  | 55,369 | 2,117 | 3.8 |
| East North Central--------------------------- | 39,403 | 1,504 | 3.8 |
| West North Central---------------------------- | 15,965 | 613 | 3.8 |
| South Region-----------n------------------- | 61,227 | 2,259 | 3.7 |
| South Atlantic------------------------------- | 29,381 | 1,186 | 4.0 |
| East South Central | 12,893 | 376 | 2.9 |
| West South Central---------------------------- | 18,953 | 696 | 3.7 |
| West Region--------------------------------- | 32,771 | 1,782 | 5.4 |
| Mountain-------------------------------------- | 7,800 | 399 | 5.1 |
| Pacific--------------------------------------- | 24,972 | 1,383 | 5.5 |

[^1]About 97 percent of active ophthalmologists were male. Males reported a median age of 51.4 years, females a slightly lower median age of 50.1 years. Larger proportions of females than males were clustered in the age intervals 35-44 and 45-54.

The proportion of female ophthalmologists in the active survey universe (about 3 percent) is lower than the national proportion of female physicians (about 7 percent) reported by AMA as
of December 31, 1967, for all active and formally qualified M.D. physicians. ${ }^{2}$

Geographically, female ophthalmologists were distributed in roughly the same proportions as their male counterparts. As with the males, the largest concentrations were in California and New York. A disproportionately large female representation occurred in Illinois, where this survey revealed a cluster of 31 -about 13 per-cent-of all female ophthalmologists but only 5

Table D. Number of active ophthalmologists per 100,000 population, by State: United States, 1968

| State | Ophthalmologists per 100,000 population ${ }^{1}$ | State | Ophthalmologists per 100,000 population ${ }^{1}$ |
| :---: | :---: | :---: | :---: |
|  | Same as U.S. ratio (4.4) or above |  | $\begin{aligned} & \text { Below U.S. } \\ & \text { ratio ( } 4.4 \text { )-Con. } \end{aligned}$ |
| Arizona----- | 4.9 | Hawaii------ | 4.2 |
| California-=- | 5.7 | Illinois---- | 3.9 |
| Colorado- | 6.1 | Indiana-- | 3.5 |
| Connecticut | 5.2 | Iowa-- | 3.7 |
| District of Col | 10.3 | Kansas- | 3.4 |
| Florida-- | 4.9 | Kentucky-.-- | 3.0 |
| Idaho- | 4.8 | Louisiana- | 4.2 |
| Maryland | 4.5 | Maine-- | 4.0 |
| Massachusetts | 5.2 | Michigan-- | 3.9 |
| Montana---- | 5.7 | Minnesota--- | 4.0 |
| New Jersey | 4.4 | Mississippi | 2.7 |
| New Mexico- | 4.6 | Missouri--. | 4.2 |
| New Yorkm.. | 5.6 | Nebraska--.- | 3.8 |
| Oregon-- - | 5.5 | Nevada------ | 3.6 |
| Pennsylvania | 5.0 | New Hampshire | 3.9 |
| Utah------- | 4.6 | North Carolina | 3.5 |
| Vermont- | 4.4 | North Dakota-- | 3.3 |
| Washington- | 5.0 | Ohio---- | 3.7 |
| Wyoming------- | 5.0 | Oklahoma---- | 3.9 |
|  |  | Rhode Is land-- | 3.6 |
|  |  | South Carolina | 2.8 |
|  | ratio (4.4) | South Dakota- | 3.3 |
|  |  | Tennessee-- | 3.3 3.7 |
| Alabama----- <br> Alaska | 2.5 2.1 | Texas Virginia | 3.7 3.7 |
| Arkansas | 2.1 | West Virginia | 3.5 |
| Delaware- | 4.0 | Wisconsin----- | 4.0 |
| Georgia-m-n-m- | 3.2 |  |  |

${ }^{1}$ Based on census estimates for July 1, 1968, from U.S. Bureau of the Census, "Population Estimates," Current Population Reports, Series P-25, No. 436 Jan. 7, 1970.
percent of total respondents, male and female. Survey findings offer no explanation for this concentration.

All osteopathic ophthalmologists responding were males. In terms of professional identity (i.e., doctor of medicine or doctor of osteopathy) about 98 percent of active ophthalmologists were doctors of medicine.

Geographically, D.O. opthalmologists showed a stronger tendency to favor the North Central Region than their M.D. counterparts. Fifty-four percent of their number reported this region to be their area of primary activity as opposed to about 24 percent of M.D. respondents. The States of Michigan, Missouri, and Ohio were especially favored by D.O. opthalmologists, with


Figure 2. Numiter of ophthalmologists per 100,000 population: United States, 1950-68.

Source: Data for 1950-67 from article cited in reference 3.


Figure 3. Number and percent distribution of active ophthalmologists. by age: United States, 1968.
14.4 percent, 18.8 percent, and 12.2 percent of total osteopaths, respectively.

Information on specialty board certification of M.D. ophthalmologists was obtained from AMA. Of the 8,434 active M.D. ophthalmologists, 4,952 , or about 59 percent, were board certified, the majority with the American Board of Ophthalmology, a minority with the American Board of Otolaryngology. The national figure reported by AMA for all board certified physicians as of December 31, 1967, was 31.4 percent. ${ }^{2}$ (See "Qualifying Comment" in appendix I.)

## AREAL SCOPE OF ACTIVITY

## Number of States Licensed In

In order to approximate the geographic latitude of the ophthalmologist's activity, respondents were asked to list the States in which they currently held an active license to practice. Statistics presented here tabulate only the number of States in which the respondent reported active licensure; no report is attempted on the geographic contiguity of the States involved when a respondent reported licensure in more than one State.

Of 8,616 active ophthalmologists (M.D. and D.O.) 4,901 , or about 57 percent, held an active license in only one State. Slightly over 27 percent held an active license in two States and nearly 12 percent held an active license in three States. Only 402, or about 5 percent, were licensed in four or more States. About 65 percent of D.O.
respondents reported licensure in more than one State as opposed to about 43 percent of their M.D. counterparts.

Figure 4 offers a graphic representation of this areal scope of licensure according to the geographic division in which the M.D. or D.O. ophthalmologist was active. Noteworthy is the fact that 65 percent of the M.D. ophthalmologists active in the Mountain Division were licensed in more than one State. This proportion is higher than comparable proportions for the other eight divisions and may partly reflect the fact that in this area a relatively small percentage of the Nation's ophthalmologists (4.6 percent) must attempt to cover a population which is more widely dispersed geographically than the population of the other divisions.

Information on the type of license held by D.O. ophthalmologists was supplied by the American Osteopathic Association. According to the publication State Licensing of Health Occupations ${ }^{\ddagger}$ 41 States and the District of Columbia granted unlimited practice rights to doctors of osteopathy. Nine. States issued limited licenses to doctors of osteopathy which placed restrictions on their right to use drugs or perform surgery.

According to the American Osteopathic Association, the osteopathic ophthalmologists included in the survey held at least one license in a State which granted unlimited practice rights to osteopaths. Fourteen of the osteopathic respondents held at least one license in a State which restricted practice activities.

Areal scope of licensure showed a pronounced relationship to the age of the respondent, varying inversely with increasing age. This inverse relationship is shown in figure 5. Two factors probably account for it. One, the younger ophthalmologist has more energy to expend than his elder colleague, and, two, the younger practitioner does not have the economic security enjoyed by his older colleague and may thus extend the areal scope of his activity in order to achieve this security.

It was of interest to explore whether practice in multiple-physician arrangements carried with it a tendency toward extended areal scope of licensure. Figure 6 reveals the percentages of


Figure 4. Distribution of M.D. and D.O. ophthalmologists by number of States licensed in, according to geographic division: United States, 1968.


Figure 5. Percent of ophthalmologists licensed in more than one State by age: United States, 1968.


Figure 6. Percent of ophthalmologists licensed in more than one State by type of practice: United States, 1968.
ophthalmologists licensed in two or more States according to the type of practice. It can be seen that practitioners in multiple-physician arrangements showed a greater tendency toward plural licensure than did solo practitioners. The difference between the licensure status of solo practitioners and those engaged in partnership practice is too small to be of importance, but the number of practitioners in group practice who report plural licensure is sufficiently above the number of plurally licensed solo practitioners to warrant a more extended investigation.

## VOCATIONAL CONTEXT OF ACTIVITY

## Principal Type of Employment

One section of the survey questionnaire was designed to investigate the ophthalmologist's principal type of employment.

The data in table $E$ show the number and percent distribution of active ophthalmologists by their principal type of employment. It is noteworthy that by far the largest proportion of active ophthalmologists were self-employed and engaged in solo practice and that, of the various forms of multiple arrangements, the partnership was favored over such other plural-physician forms as group practice and various nongroup arrangements with other physicians.

Geographically, the Northeast Region had the highest percentage of self-employed ophthalmologists engaged in solo practice-79.1 per-cent-and, conversely, the lowest proportion engaged in plural-physician arrangements-14.8 percent. The North Central and West Regions, with about 31 percent each, had the highest percentage of ophthalmologists engaged in pluralphysician practice.

For the Northeast and West Regions atleast, these practice preferences may be partly explained by the effect of age. It will be remembered that ophthalmologists in the Northeast Region were relatively older and those in the West Region relatively younger than their colleagues in the other regions. As may be seen in the discussion that follows shortly, a definite relationship seems to exist between age and type of practice.

Of two minority groups in the ophthalmolo-

Table E. Number and percent distribution of active ophthalmologists by principal type of employment: United States, 1968

| Principal type of employment | Number | Percent <br> distri- <br> bution |
| :---: | :---: | :---: |
| All types-------- | 8,616 | 100.0 |
| Se1f-emp1oyed------ | 8,157 | 94.6 |
| Solo practice---------- | 5,902 | 68.5 |
| Partnership------------ | 1,407 | 16.3 |
| Group practice--------- | 487 | 5.7 |
| Nongroup arrangement with other physicians- | 361 | 4.2 |
| Salaried----------- | 459 | 5.3 |
| Hospital ${ }^{1}------------$ | 171 | 2.0 |
|  | 288 | 3.3 |

${ }^{1}$ Includes nongovernment hospitals and city, county, State, and Federal government hospitals.
${ }_{2}$ Includes medical schools; city, county, State, and Federal government agencies; and all types of insurance carriers, pharmaceutical companies, corporations, voluntary organizations, medical societies, associations,etc.
gist universe-females and doctors of osteo-pathy-females showed a slightly greater preference for plural-physician practice than males. Osteopathic physicians, on the other hand, showed a distinctive preference for solo practice; about 79 percent of D.O: ophthalmologists were in solo practice as opposed to about 68 percent of their M.D. colleagues.

Figure 7 pictures the relationship between principal type of employment and the age of the ophthalmologist. It is noteworthy that participation in plural-physician practice varied inversely with the age of the participant; the proportions were about 40 percent in plural-physician prac-
tice for ophthalmologists under 35, and only about 16 percent for those over 65 years of age. This tendency may partly reflect the fact that the forms of plural-physician practice are relatively recent in their application and are therefore more likely to be favored by the younger practitioner.

As also indicated by figure 7 , salaried employment was notably more common in the age group under 35 years, a fact which may be partly due to the extension of hospital employment into the immediate postresidency period.

Geographically, respondents in the Middle Atlantic, West North Central, and South Atlantic Divisions were the most disposed to salariedemployment with proportions of 5.9 percent, 6.3 percent, and 7.4 percent, respectively, as opposed to the national average of 5.3 percent. The lowest proportion of salaried ophthalmologists- 2.8 per-cent-was reported for respondents active in the Mountain Division. Possibly because of the number of ophthalmologists employed by Federal installations in or near the Nation's capitol, the District of Columbia with 22.2 percent and Maryland with 12.1 percent were highest among all the States in their proportions of salaried ophthalmologists.

Data in table $F$ reveal the distribution of salaried ophthalmologists by the two major categories of salaried employment which, for analytical purposes, were identified as hospital em-


Figure 7. Percent distribution of active ophthalmologists, by age and principal type of employment: United States, 1968.

Table F. Number and percent distribution of salaried ophthamologists by type of salaried employment:United States, 1968

| Type of salaried employment | Number | Percent distribution |
| :---: | :---: | :---: |
| A11 types--- | 459 | 100.0 |
| Hospital------- | 171 | 37.3 |
| Nongovernment hospitals--------- | 55 | 12.0 |
| City or county government hospitals--------- | 21 | 4.6 |
| State government hospitals | 28 | 6.1 |
| Federal Government hospitals | 67 | 14.6 |
| Nonhospital---- | 288 | 62.7 |
| Medical school----- | 222 | 48.4 |
| City or county government | 17 | 3.7 |
| State government | 12 | 2.6 |
| Federal Government- | 18 | 3.9 |
| Other1-n------------ | 19 | 4.1 |

${ }^{1}$ Includes all types of insurance carriers, pharmaceutical companies, corporations voluntary organizations, medical societies, associations, etc.
ployees and nonhospital employees. The several categories under other nonhospital employment have not been tabulated separately since they were infrequently reported.

## VOLUME OF ACTIVITY

## Weeks Worked Per Year and Hours Worked Per Week

Of several indicators of the volume of professional activity yielded by the survey findings, only one will be statistically explored at this
time, namely. the amount of time that the ophthalmologist spent in all his professional activi-ties-clinical and nonclinical-as measured by the weeks he "usually" worked per year and the hours he "usually" worked per week. ("Usually" is the wording used in the survey questionnaires.)

Figure 8 offers a representation of the national distribution of active ophthalmologists by this index of volume of activity. The categories "48-52 weeks per year" and "49 hours or more per week" are arbitrarily designated as the 'maximum volume of activity' in the textual commentary that follows.

As the data in figure 8 reveal, the largest proportion of active ophthalmologists-38.8 per-cent-reported working at the maximum volume of activity. This tendency toward longer working periods also appeared regionally throughout the country. It was most pronounced in the South Region, where 45 percent of the respondents reported working at the maximum volume of activity.

Since the South Region also showed the lowest ratio of ophthalmologists to population (3.7 per


Figure 8. Distribution of active ophthalmologists by weeks worked per year and hours worked per week: United States, 1968.

100,000 ), it was of interest to explore statistically the possible relationship between increased time spent in ophthalmological activities and the numbers of ophthalmologists available to do the work. This relationship is shown by geographic division in the table on page 13. Of the five divisions which fell below the national ratio of 4.4 ophthalmologists per 100,000 population, four are seen to exceed the national average of 38.8 percent for ophthalmologists working at the maximum volume of activity. Of the four divisions which exceeded the national ratio of ophthalmologists to population, only one is seen to exceed the national average for respondents working at the maximum volume of activity. A positive relationship therefore seems indicated.

The same tendency toward maximal work effort observed nationally and regionally is also apparent throughout the principal types of employment in which ophthalmologists reported themselves engaged. This may be seen in tableG. The largest percentage of ophthalmologists in every employment category reported a volume of activity level in excess of 48 weeks per year and 48 hours per week.

When certain personal characteristics such as sex and age are considered, females reported a more subdued volume of activity than did male ophthalmologists. Of the female respondents, the highest proportion-about 29 percent of the total for their sex-reported an activity level of over 48 weeks per year and between 35 and 48 hours per week, which, although relatively high, was lower than the maximum level. Male ophthalmologists, on the other hand, were more strongly represented in the maximum volume of activity category, where 39 percent of their numbers are found, as opposed to 19 percent of the female ophthalmologists.

Finally, a definite relationship was observed to exist between the age of the ophthalmologist and his tendency to work at the maximum volume of activity. This relationship is evident in figure 9 , where the tendency toward maximum volume of activity, greatest at ages under 35 years, declines in an inverse proportion to the age of respondents in the advancing age categories.

| Geographic division | Ophthalmologists per 100,000 population | Percentage of ophthalmologists working at maximum volume of activity ${ }^{1}$ |
| :---: | :---: | :---: |
| United States------------------------------ | 4.4 | 38.8 |
| Ratio of ophthalmologists to population under the national ratio of $4.4 / 100,000$ |  |  |
|  | 3.8 | 36.4 |
| West North Central------------------------------ | 3.8 | 41.1 |
| South Atlantic--------------------------------- | 4.0 | 44.7 |
| East South Central------------------------------ | 2.9 | 41.8 |
| West South Central---------------------------- | 3.7 | 47.1 |
| Ratio of ophthalmologists to population over the national ratio of $4.4 / 100,000$ |  |  |
| New England------------------------------------ | 4.8 | 41.8 |
| Middle Atlantic | 5.2 | 33.0 |
| Mountain | 5.1 | 38.6 |
| Pacific------------------------------------------ | 5.5 | 37.0 |

${ }^{1}$ I.e., 48-52 weeks per year and 49 hours or more per week.

NATURE OF ACTIVITY<br>Clinical and Nonclinical Activities Engaged In

To complete this general profile of the ophthalmologist active in his profession in the United States in 1968, one final dimension must be statistically evaluated, namely, the nature of the professional activities to which the ophthalmologist devoted all or part of his time.

Survey respondents were asked to define the degree of their participation in various clinical and nonclinical activities by reporting the percent of time per week that they spent in each of seven selected activities. The clinical activities reported were clinical ophthalmology (directophthalmological diagnosis and treatment of eye patients), clinical otolaryngology, and other (unspecified) clinical, medical activity. The nonclinical activities reported were teaching, medical re-
search, administration, and other nonclinical activities. (Note qualifying discussion in appendix I.)

Except to note that about 5 percent of all respondents reported participation in miscellaneous nonclinical activities not specifically identified with teaching, research, or administration, no more detail will be supplied on this "other" nonclinical category. Statistical information appearing here is limited to the nonclinical activities of teaching, medical research, and administration and to the three clinical activities already mentioned.

Figures 10 and 11 offer evidence of the degree of participation in certain clinical and nonclinical activities. As may be seen in figure 10, by far the largest proportion of active ophthal-mologists-96.7 percent-reported spending some or all of their working week in clinical ophthalmology. Figure 11 reveals that the median

Table G. Percent distribution of active ophthalmologists by volume of activity according to principal type of employment: United States, 1968

| Principal type of employment | Total | Volume of activity |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  | Worked less than 48 weeks per year |  | Worked 48-52 weeks per year |  |  |
|  |  | $\begin{gathered} \text { 1-34 } \\ \text { hours } \\ \text { per week } \end{gathered}$ | 35 hours or more per week | $\begin{gathered} \text { 1-34 } \\ \text { hours } \\ \text { per week } \end{gathered}$ | $35-48$ <br> hours per week | 49 hours or more per week |
| All types- | 100.0 | 5.2 | 20.1 | 7.0 | 28.9 | 38.8 |
| Self-employed |  |  |  |  |  |  |
| Solo practice------------- | 100.0 | 6.2 | 19.4 | 8.3 | 29.3 | 36.8 |
| Partnership--------------- | 100.0 | 2.8 | 25.2 | 3.5 | 27.8 | 40.8 |
| Group practice------------ | 100.0 | 3.3 | 24.2 | 2.7 | 25.3 | 44.8 |
| Nongroup arrangement with other physician(s) | 100.0 | 3.3 | 18.0 | 5.8 | 29.4 | 43.5 |
| Salaried |  |  |  |  |  |  |
| Hospital ${ }^{1}-$----------------- | 100.0 | 2.3 | 10.5 | 5.3 | 40.4 | 41.5 |
| Nonhospital ${ }^{2}-$------------- | 100.0 | 5.2 | 11.5 | 5.9 | 24.3 | 51.4 |

${ }^{1}$ Includes nongovernment hospitals and City, County, State, and Federal Government hospitals.

2 Includes medical schools; City, County, State, and Federal Government agencies; and all types of insurance carriers, pharmaceutical companies, corporations, voluntary organizations, medical societies, associations, etc.
number of respondents active in clinical ophthalmology devoted about 83 percent of their working week to this activity. In spite of the growing separation between the specialties of ophthalmology and otolaryngology, a substantial number of respondents $-1,583$, or 18.4 percent of all respon-dents-still engaged in the practice of clinical otolaryngology. However, the median number of respondents active in clinical otolaryngology devoted only about 46 percent of their working week to this activity, a more subdued volume of activity than the proportion of the working week that the average clinical ophthalmologist devoted to his specialty.

Participation in the nonclinical activities of teaching, research, and administration was sub-


Figure 9. Percent of ophthalmologists :wrking at maximum volume of activity, according to age: United States, 1968.


Figure 10. Number and percent of active ophthalmologists participating in selected clinical and nonclinical activities: United States, 1968.
stantially manifested by respondents, although generally at a much reduced level of participa-tion-less than 20 percent of the working week.

Viewed regionally, the Northeast Region showed the richest involvement in all the clinical and nonclinical activities reported except clinical otolaryngology; in this activity, respondents in the South and North Central Regions were dominant.

The data in table $H$ reflect the relationships between certain personal and professional characteristics and the selected activities engaged in.

It is notable that the median age level is substantially elevated for respondents who devoted some of their working effort to clinical otolaryngology, an effect which may be partly explained by the fact that the older respondent gained his training and experience in the days when EENT was a unified specialty and still tends to spend part of his clinical effort on disorders of the ear, nose, and throat. Also noteworthy is the fact that most of those respondents who devoted some part of their working week to nonclinical activities tended to cluster at the younger end of the age spectrum. It is perhaps partly owing to this relative youthfulness that participants in teaching and medical research also tended to work at maximum volume of activity (over 48 weeks per year and 48 hours per week). About 53 percent


Figure 11. Distribution of ophthalmologists by degree of participating reported in selected clinical and nonclinical activities: United States, 1968.
of the respondents active in teaching and about 58 percent of those active in medical research reported working at the maximum volume of activity, as compared to the national average of 38.8 percent for all ophthalmologists who reported working at the maximum level.

It is evident from the data in table H that female ophthalmologists engaged in the selected clinical and nonclinical activities in roughly the same proportions as their male counterparts, except that substantially fewer females reported
administrative activity and involvementin clinical otolaryngology. Also noteworthy is the fact that osteopathic respondents showed less involvement in nonclinical activities than did their M.D. colleagues and a much stronger preference for certain clinical activities, namely clinical otolaryngology and other clinical medical activities.

Table J explores one final parameter of the ophthalmologist's professional activity by presenting data on the vocational framework in which he practiced his clinical and nonclinical activities. The table reveals the expected finding that most of the clinical activity reported was ac-
complished by self-employed ophthalmologists engaged in solo or multiple-physician practice and the finding-also predictable-that salaried ophthalmologists do most of their teaching and research in medical schools. It could not be as readily predicted prior to the survey, however, that self-employed, solo practitioners would account not only for the largest proportion of the clinical activity reported in this survey but also for the largest proportion of the nonclinical functions of teaching, research, and administration.

Table H. Percent distribution of active ophthalmologists engaged in selected activities by median age, sex, and professional identity: United States, 1968

| Activity | Median age in years | Sex |  | Professiona1 identity |  |
| :---: | :---: | :---: | :---: | :---: | :---: |
|  |  | Male | Female | M.D. | D.0. |
| Clinical |  |  |  |  |  |
| Ophthalmology- | 50.4 | 96.7 | 94.4 | 96.0 | 89.0 |
| Otolaryngology | 60.4 | 18.7 | 7.7 | 17.4 | 62.4 |
| Medical activity---- | 53.3 | 8.0 | 9.4 | 7.6 | 27.6 |
| Nonc1inical |  |  |  |  |  |
| Teaching------ | 42.8 | 32.9 | 31.3 | 33.2 | 18.2 |
| Medical research- | 43.2 | 10.8 | 12.0 | 11.0 | 0.5 |
| Administration- | 46.0 | 34.5 | 23.6 | 34.3 | 31.5 |

Table J. Percent distribution of active ophthalmologists by principal type of employment, according to selected clinical and nonclinical activity: United States, 1968

| Activity | $\begin{gathered} \text { All } \\ \text { types } \end{gathered}$ | Principal type of employment |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: |
|  |  | Self-employed |  | Salaried |  |
|  |  | Solo practice | Multiple physician practice | Medical <br> school | Other than medical school |
| Clinical |  |  |  |  |  |
| Ophthalmology -------------- | 100.0 | 68.4 | 26.6 | 2.5 | 2.5 |
| Otolaryngology------------ | 100.0 | 80.9 | 15.7 | 0.2 | 3.0 |
| Other medical activity---- | 100.0 | 70.5 | 20.9 | 3.9 | 4.7 |
| Nonclinical |  |  |  |  |  |
| Teaching------------------ | 100.0 | 58.6 | 31.5 | 6.9 | 3.0 |
| Medical rasearch--------- | 100.0 | 48.8 | 24.7 | 19.3 | 7.2 |
| Administration------------ | 100.0 | 62.0 | 30.1 | 4.9 | 3.0 |

## SELECTED FINDINGS AMONG ACTIVE OPHTHALMOLOGISTS

1. There were an estimated 8,616 ophthalmologists active in their profession in the United States in 1968.
2. This figure reflects a slow but progressive increase over former years in the ratio of active ophthalmologists to general population.
3. Regionally, the South and North Central Regions were lowest in numbers of ophthalmologists per 100,000 population; the Northeast and West Regions were highest.
4. D.O. ophthalmologists favored the North Central Region, especially the States of Michigan, Missouri, and Ohio.
5. In median age, the ophthalmologist tended to be at least 2 years older than the typical member of the active and formally qualified M.D. population.
6. Substantially over one-half of all ophthalmologists held an active license in only one State. Number of States licensed in showed an inverse relationship to the age of the ophthalmologist.
7. Solo practice was predominantly the principal type of employment among all ophthalmologists. Solo practitioners not only showed the highest degree of participation in clinical activities; they also showed relatively more involvement in such nonclinical functions as teaching and medical research.
8. Of the types of multiple-physician practice, the partnership was the most favored. Participation in multiple-physician arrangements varied inversely with the age of the ophthalmologist.
9. Only 5.3 percent of all ophthalmologists were salaried by other employers, the largestnumber of these-222-by medical schools. Only about 2 percent of all ophthalmologists reported that they were salaried by hospitals as their principal type of employment.
10. There was a national tendency to work at the maximum volume of activity-that is, over 48 weeks per year and over 48 hours per week. This tendency appeared strongest in areas showing the lowest ratios of ophthalmologists to population. It was evident regardless of the ophthalmologist's principal type of employment, although it appeared strongest among ophthalmologists who devoted af least a part of their working week to teaching and medical research.
11. The overwhelming majority of ophthalmologists (about 97 percent) spent some or all of their working week in the direct care of eye patients.
12. As a possible legacy from earlier days when EENT was a unified specialty, many older ophthalmologists-with a median age of about 60 years-tended to devote some of their time to clinical otolaryngology. Respondents who were primarily active in the practice of clinical ophthalmology tended to cluster in the younger interval from 50 to 54 years.
13. Substantial numbers of ophthalmologists tended to devote at least part of their time to the nonclinical activities of teaching, research, and administration. Ophthalmologists who were not self-employed did most of their teaching and research in medical schools. Most of the ophthalmologists, however, who reported engaging in some teaching or medical research tended to be self-employed and engaged in solo practice.

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(Owing to the effects of rounding, numbers will not always cumulate to the exact totals expected and percent distributions based on these numbers will reflect these rounding discrepancies.)

Table 1．Number and percent distribution of total ophthalmologists by activity status：United States and each State， 1968

| State | Activity status |  |  |  | Activity status |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | Total | Active | Inactive but not retired | Retired | Total | Active | Inactive but not retired | Retired |
| United States－－－－－ | Number |  |  |  | Percent distribution |  |  |  |
|  | 9，056 | 8，616 | 129 | 311 | 100.0 | 95.1 | 1.4 | 3.4 |
|  | 89 | 87 | 非 | 非 | 100.0 | 97.5 | \＃ | \＃ |
| Alaska－－－－－－－－－－－－m－n－n－－ | 5 | 5 | － | － | 100.0 | 100.0 | － | － |
| Arizona－m－n－n－－－－m－－－－－＊ | 84 | 80 | 非 | \＃ | 100.0 | 94.9 | 非 | 非 |
| Arkansas－ワ－－－－－m－n－o－－－＊ | 43 | 41 | 非 | 非 | 100.0 | 95.0 | 非 | 非 |
| California－－－－－－－－－－－－－－ | 1，124 | 1，079 | 11 | 34 | 100.0 | 96.0 | 1.0 | 3.1 |
|  | 128 | 123 | － | 5 | 100.0 | 95.9 | － | 4.1 |
| Connecticut－－－－－－－－－－－－－－ | 158 | 152 | 3 | 3 | 100.0 | 95.7 | 2.2 | 2.2 |
| Delaware－n－－－－－－－－－－－m－－－ | 23 | 21 | 非 | 非 | 100.0 | 90.0 | 非 | 非 |
| District of Columbia－－－－ | 89 | 81 | 3 | 5 | 100.0 | 91.6 | 2.8 | 5.6 |
| Florida－n－－－－－－－－－－－－－－－ | 324 | 302 | 7 | 16 | 100.0 | 93.0 | 2.1 | 4.9 |
| Georgia－－－－－－－－－－－－－－－n－ | 147 | 142 | 非 | 非 | 100.0 | 97.0 | \＃ | 非 |
|  | 31 | 30 | 非 | 非 | 100.0 | 96.4 | \＃ | 非 |
| Idaho－－－－－－－n－m－m－n－－－－－ | 35 | 34 | \＃ | 非 | 100.0 | 96.9 | \＃ | 非 |
| Illinois | 457 | 429 | 9 | 18 | 100.0 | 94.0 | 2.0 | 4.0 |
| Indiana | 182 | 175 | 非 | 非 | 100.0 | 96.2 | 非 | 非 |
|  | 113 | 102 | 4 | 7 | 100.0 | 90.5 | 3.2 | 6.3 |
| Kansas－－－－－－－－－－－－－－－－－－ | 82 | 76 | － | 6 | 100.0 | 92.1 | － | 7.9 |
|  | 100 | 96 | 非 | \＃ | 100.0 | 96.8 | 非 | 非 |
| Louisiana－－－－m－－－mon－m－n－m | 159 | 153 | － | 6 | 100.0 | 96.3 | － | 3.7 |
|  | 42 | 39 | \＃ | \＃ | 100.0 | 92.5 | 非 | 非 |
| Maryland－－－－－－－－－－－－－－－－ | 174 | 165 | 4 | 6 | 100.0 | 94.4 | 2.1 | 3.5 |
| Massachusetts－m－m．．．－n－m－ | 290 | 280 | 非 | 非 | 100.0 | 96.9 | 非 | 非 |
| Michigan－－－－－－－－－－－－－－－－－－ | 356 | 339 | 4 | 12 | 100.0 | 95.3 | 1.3 | 3.5 |
| Minnesota－－－－－－－－－－－－－－－－ | 154 | 148 | $-$ | 6 | 100.0 | 95.8 | $\cdots$ | 4.2 |
|  | 65 | 62 | 非 | 非 | 100.0 | 95.1 | 非 | 非 |
| Missouri－－－m－n－m－n－m－－－－ | － 200 | 190 | 4 | 6 | 100.0 | 94.7 | 2.1 | 3.2 |
| Montana－－－－－－－－－－－－－－－－－－ | 41 | 39 | 非 | 非 | 100.0 | 94.9 | \＃ | 非 |
| Nebraska－－－－－－－－－－－－－－－－－ | 59 | 55 | － | 4 | 100.0 | 93.9 | － | 6.1 |
| Nevada－－－－－－－－－－n－－－－－－－ | 16 | 16 |  |  | 100.0 | 100.0 86.7 | 非 |  |
| New Hampshire－－m－－－－－－－＊ | 31 | 27 | \＃ | \＃ | 100.0 | 86.7 | \＃ | \＃ |
| New Jersey－m－－n－n－－－－－－－ | 321 | 307 | 4 | 9 | 100.0 | 95.8 | 1.4 | 2.8 |
| New Mexico－－－－m－m－n－－－－－ | 45 | 45 | － | － | 100.0 | 100.0 |  | － |
| New York－－－7－－mo－m－n－－－＊ | 1，068 | 1，017 | 18 | 34 | 100.0 | 95.2 | 1.7 | 3.1 |
| North Carolina－m－m－n－m－ | 183 | 174 | 3 | 6 | 100.0 | 95.2 | 1.8 | 3.0 |
| North Dakota－r－m－－－－－－－－ | 20 | 20 | － | $\overline{-}$ | 100.0 | 100.0 | － | － |
|  | 414 | 392 | 4 | 17 | 100.0 | 94.7 | 1.1 | 4.2 |
|  | 102 | 97 | 非 | 非 | 100.0 | 94.6 | 非 | 非 |
|  | 111 | 109 | 非 | \＃ | 100.0 | 98.1 | 非 | 非 |
| Pennsylvania－－－－－－－－－－－－ | 619 | 585 | 8 | 27 | 100.0 | 94.4 | 1.3 | 4.3 |
| Rhode Island－－－－－－－－－－－－ | 33 | 32 | 非 | 非 | 100.0 | 96.8 | \＃ | \＃ |
| South Carolina－－－－m－m－n－ | 75 | 72 | \＃ | \＃ | 100.0 | 97.0 | \＃ | \＃ |
| South Dakota－－－－－－－－－－－－ | 23 | 22 | 非 | 非 | 100.0 | 95.5 | 非 | 非 |
| Tennesseer－－－－－－－m－－－－．．－ | 139 | 131 | 4 | 3 | 100.0 | 94.4 | 3.2 | 2.4 |
| Texas－－－－－－－－－－－－－－－－－－－－ | 429 | 405 | 6 | 18 | 100.0 | 94.5 | 1.3 | 4.2 |
| Utah－－－－－－－－－m－n－－n－n－－－ | 49 | 47 | 非 | 非 | 100.0 | 95.7 | 非 | 非 |
|  | 20 | 19 | 非 | 非 | 100.0 | 95.0 | 非 | 非 |
|  | 169 | 166 | 非 | 非 | 100.0 | 98.0 | \＃ | 非 |
| Washington－－－－－－－－－－－－－－－ | 169 | 160 | 4 | 4 | 100.0 | 94.8 | 2.6 | 2.6 |
| West Virginia－－－－n－－－－－ | 70 | 64 | 非 | 非 | 100.0 | 92.1 | 非 | 非 |
| Wisconsin－－－－－－－－－－－－－－－－ | 180 | 168 | 非 | 非 | 100.0 | 93.6 | 非 | 非 |
|  | 16 | 16 | － | － | 100.0 | 100.0 | － | － |

\＃Data suppressed to comply with confidentiality requirements．

Table 2. Number of ophthalmologists and number active and number per 100,000 civilian population: United States and each State, 1968

| State | Total number of ophthalmologists | Number of active ophthalmologists | Number per 100,000 population ${ }^{1}$ |  |
| :---: | :---: | :---: | :---: | :---: |
|  |  |  | Total ophthalmologists | Active ophtha1mologists |
| United States | 9,056 | 8,616 | 4.6 | 4.4 |
| Alabama- | 89 | 87 | 2.6 | 2.5 |
| Alaska- | 5 | 5 | 2.1 | 2.1 |
| Arizona-- | 84 | 80 | 5.1 | 4.9 |
| Arkansas- | 43 | 41 | 2.2 | 2.1 |
| California | 1,124 | 1,079 | 6.0 | 5.7 |
| Colorado- | 128 | 123 | 6.4 | 6.1 |
| Connecticut- | 158 | 152 | 5.4 | 5.2 |
| Delaware--- | 23 | 21 | 4.4 | 4.0 |
| District of Columbia- | 89 | 81 | 11.3 | 10.3 |
| Florida-------------- | 324 | 302 | 5.3 | 4.9 |
| Georgia----- | 147 | 142 | 3.3 | 3.2 |
| Hawaii--.--- | 31 | 30 | 4.3 | 4.2 |
| Idaho--- | 35 | 34 | 5.0 | 4.8 |
| Illinois- | 457 | 429 | 4.2 | 3.9 |
| Indiana- | 182 | 175 | 3.6 | 3.5 |
| Iowa---- | 113 82 | 102 | 4.1 3.6 | 3.7 3.4 |
| Kentucky--- | 100 | 96 | 3.2 | 3.0 |
| Louisiana--- | 159 | 153 | 4.3 | 4.2 |
| Maine------. | 42 | 39 | 4.4 | 4.0 |
| Maryland---- | 174 | 165 | 4.8 | 4.5 |
| Massachusetts | 290 | 280 | 5.4 | 5.2 |
| Michigan---- | 356 154 | 339 148 | 4.12 | 3.9 4.0 |
| Minnesota-- | 154 65 | 148 | 4.2 2.8 | 4.0 2.7 |
| Missouri-m. | 200 | 190 | 4.4 | 4.2 |
| Montana--- | 41 | 39 | 6.0 | 5.7 |
| Nebraska- | 59 | 55 | 4.1 | 3.8 |
| Nevada---..- | 16 | 16 | 3.6 | 3.6 |
| New Hampshire--- | 31 | 27 | 4.4 | 3.9 |
| New Jersey- | 321 | 307 | 4.6 | 4.4 |
| New Mexico-- | 45 | 4 | 4.6 | 4.6 |
| New York----- | 1,068 | 1,017 | 5.9 | 5.6 |
| North Carolina- | 183 | 174 | 3.6 | 3.5 |
| North Dakota--- | 20 | 20 | 3.3 | 3.3 |
| Ohio------.... | 414 | 392 | 3.9 | 3.7 |
| Ok1ahoma---- | 102 | 97 | 4.1 | 3.9 |
| Oregon------ | 111 | 109 | 5.6 | 5.5 |
| Pennsylvania | 619 33 | 585 32 | 5.3 3.7 |  |
| Rhode Island------- | 33 | 32 | 3.7 | 3.6 |
| South Carolina-- |  | 72 22 | 3.9 | 2.8 |
| South Dakota---- | 23 139 | 22 131 | 3.5 3.5 4.0 | 3.3 3.3 |
| Tennessee------- | 139 429 | 405 | 3.5 4.0 | 3.3 3.7 |
| Utah-------- | 49 | 47 | 4.8 | 4.6 |
| Vermont---... | 20 | 19 | 4.7 | 4.4 |
| Virginia--- | 169 | 166 | 3.8 | 3.7 |
| Washington--- | 169 | 160 | 5.3 3.9 | 5.0 3.5 |
| Wisconsin---a | 180 | 168 | 4.3 | 4.0 |
| Wyoming--- | 16 | 16 | 5.0 | 5.0 |

[^2]Table 3. Number and percent distribution of active ophthalmologists by professional identity and board certification: United States and each State, 1968

| State | Total | M.D. |  | D.0. | Total | M.D. |  | D.0. |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  | Board cer-tified | Not board cer-tified |  |  | Board cerfied | Not board cer-tified |  |
| United Sta | Number |  |  |  | Percent distribution |  |  |  |
|  | 8,616 | 4,952 | 3,482 | 181 | 100.0 | 57.5 | 40.4 | 2.1 |
| Alabama | 87 | 38 | 49 | - | 100.0 | 43.7 | 56.3 |  |
| Alaska | 5 | 3 | 2 | - | 100.0 | 60.0 | 40.0 |  |
| Arizona- | 80 | 49 | 27 | 4 | 100.0 | 61.3 | 33.8 | 5.0 |
| Arkansas | 41 | 19 | 21 | - | 100.0 | 47.5 | 52.5 |  |
| California | 1,079 | 687 | 391 | 1 | 100.0 | 63.7 | 36.2 | 0.1 |
| Colorado | 123 | 83 | 34 | 6 | 100.0 | 67.5 | 27.6 | 4.9 |
| Connecticu | 152 | 97 | 54 | 1 | 100.0 | 63.8 | 35.5 | 0.7 |
| Delaware--- | 21 | 12 | 9 | - | 100.0 | 57.1 | 42.9 |  |
| District of Columb | 81 | 61 | 20 | - | 100.0 | 75.3 | 24.7 |  |
| Florida------- | 302 | 165 | 127 | 10 | 100.0 | 54.6 | 42.1 | 3.3 |
| Georgia | 142 | 70 | 72 | - | 100.0 | 49.3 | 50.7 | - |
| Hawaii- | 30 | 13 | 17 | - | 100.0 | 43.3 | 56.7 |  |
| Idaho- | 34 | 16 | 17 | - | 100.0 | 48.5 | 51.5 |  |
| Illinoi | 429 | 253 | 175 | 1 | 100.0 | 59.0 | 40.8 | 0.2 |
| Indiana | 175 | 104 | 70 | 1 | 100.0 | 59.4 | 40.0 | 0.6 |
| Iowa- | 102 | 37 | 57 | 8 | 100.0 | 36.3 | 55.9 | 7.8 |
| Kansas- | 76 | 31 | 41 | 3 | 100.0 | 41.3 | 54.7 | 4.0 |
| Kentucky | 96 | 52 | 43 | 1 | 100.0 | 54.2 | 44.8 | 1.0 |
| Louisiana | 153 | 68 | 85 | - | 100.0 | 44.4 | 55.6 |  |
| Maine- | 39 | 19 | 19 | 1 | 100.0 | 48.7 | 48.7 | 2.6 |
| Maryland---- | 165 | 90 | 75 | - | 100.0 | 54.5 | 45.5 | - |
| Massachuset | 280 | 166 | 113 | 1 | 100.0 | 59.3 | 40.4 | 0.4 |
| Michigan- | 339 | 193 | 121 | 26 | 100.0 | 56.8 | 35.6 | 7.7 |
| Minnesota | 148 | 96 | 52 | - | 100.0 | 64.9 | 35.1 |  |
| Mississippi | 62 | 28 | 34 | - | 100.0 | 45.2 | 54.8 | - ${ }^{-}$ |
| Missouri | 190 | 102 | 54 | 34 | 100.0 | 53.7 | 28.4 | 17.9 |
| Montana | 39 | 17 | 22 | - | 100.0 | 43.6 | 56.4 | - |
| Nebraska | 55 | 36 | 19 | - | 100.0 | 65.5 | 34.5 | - |
| Nevada---- | 16 | 11 | 5 | - | 100.0 | 68.8 | 31.3 |  |
| New Hampshi | 27 | 18 | 9 | - | 100.0 | 66.7 | 33.3 |  |
| New Jersey- | 307 | 159 | 143 | 6 | 100.0 | 51.6 | 46.4 | 2.0 |
| New Mexico | 45 | 18 | 24 | 3 | 100.0 | 40.0 | 53.3 | 6.7 |
| New York--- | 1,017 | 673 | 342 | 2 | 100.0 | 66.2 | 33.6 | 0.2 |
| North Caroli | - 174 | 79 | 95 | - | 100.0 | 45.4 | 54.6 |  |
| North Dako | 20 | 9 | 11 | - | 100.0 | 45.0 | 55.0 | 5 |
| Ohio---- | 392 | 234 | 136 | 22 | 100.0 | 59.7 | 34.7 | 5.6 |
| Oklahoma | 97 109 | 43 | 48 | 6 | 100.0 | 44.3 | 49.5 | 6.2 |
| Oregon----. | 109 | 72 | 36 | 1 | 100.0 | 66.1 | 33.0 | 0.9 |
| Pennsylvania | 585 | 303 | 268 | 14 | 100.0 | 51.8 | 45.8 | 2.4 |
| Rhode Island | 32 | 15 | 16 | 1 | 100.0 | 46.9 | 50.0 | 3.1 |
| South Carolina | 72 | 32 | 41 | - | 100.0 | 43.8 | 56.2 | - |
| South Dakota | 22 | 13 | 6 | 3 | 100.0 | 59.1 | 27.3 | 13.6 |
| Tennessee-- | 131 | 76 | 54 | 1 | 100.0 | 58.0 | 41.2 | 0.8 |
| Texas--- | 405 | 237 | 151 | 17 | 100.0 | 58.5 | 37.3 | 4.2 |
| Utah-- | 47 | 31 | 16 | 1 | 100.0 | 66.0 | 34.0 | . |
| Vermont- | 19 | 9 | 10 | - | 100.0 | 47.4 | 52.6 | - |
| Virginia- | 166 | 82 | 84 | - | 100.0 | 49.4 | 50.6 | - |
| Washington-- | 160 | 94 | 65 | 1 | 100.0 | 58.8 | 40.6 | 0.6 |
| West Virginia | 64 | 27 | 36 | 2 | 100.0 | 41.5 | 55.4 | 3.1 |
| Wisconsin- | 168 | 106 | 61 | 1 | 100.0 | 63.1 | 36.3 | 0.6 |
| Wyoming- | 16 | 9 | 6 | 1. | 100.0 | 56.3 | 37.5 | 6.3 |

Table 4．Number and percent distribution of active ophthalmologists by age：United States and each State， 1968

| State | Total | Age |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  | Under 35 years | 35－44 years | $\begin{aligned} & 45-54 \\ & \text { years } \end{aligned}$ | 55－64 years | 65 years and over |
| United States－n－－－－－－－－－－－－－－－－－ | Number |  |  |  |  |  |
|  | 8，616 | 789 | 2，255 | 1，974 | 2，238 | 1，360 |
|  | 87 | 10 | 18 | 23 | 23 | 12 |
| Alaska－－m． | 5 | 44 |  |  |  |  |
| Arizona－－－－－－ | 80 |  | 29 | 15 | 18 | 14 |
| Arkansas－ | 41 | 非107 | 9 | 17 279 | 9 |  |
| California－－m | 1，079 |  | 325 |  | 245 32 | 123 |
| Colorado－ | 123 | 7 | 42 | 26 | 32 | 16 |
| Connecticut－ | 152 | 10 | 44 | 40 | 35 | 22 |
| Delaware－－－ | 21 | 非 | 3 | 5 | 7 | ，\＃15 |
| District of Columbia | 81 | 11 | 24 | 13 | 19 | 15 |
| Florida－－－－－－－－－－－－－ | 302 | 43 | 112 | 60 | 61 | 26 |
|  | 142 | 11 | 41 | 37 | 36 | 18 |
| Hawaii－m－n－m－n－－－－ | 30 | 非 | 4 | 9 | 12 | 74 |
| Idaho－－－ | 34 | 3 | 9 | 8 | 10 |  |
| Illinois | 429 | 26 | 98 | 100 | 114 | 4 91 |
| Indiana－ | 175 | 8 |  | 46 | 52 | 31 |
| Iowa－－－－ | 102 |  | 24 | 17 | 33 | 21 |
| Kansas－－ | 76 | 3 | 17 | 19 | 19 | 16 |
| Kentucky－－－ | 96 | 12 | 20 | 22 | 24 | 18 |
| Louisiana－ | 153 | 19 | 37 | 42 | 35 | 187 |
| Maine－－－ | 39 | 3 | 6 | 7 |  |  |
| Maryland－－－－－－－－－n－n－ | 165 | 23 | 46 | 30 | 40 | 2549 |
| Massachusetts－－ | 280 | 2346 | 59 94 | 7569 | 74 |  |
| Michigan－－－－－－ | 339 |  | 38 |  | 37 | 53 |
| Minnesota－ | 148 | 14 | 12 | 40 | 25 | 18 |
| Mississippi－－－－ | 62 190 | 4 |  | 11 |  | 11 |
| Missouri－ | 190 | 29 | 40 8 | 41 | 15 | 32 |
| Montana－－－－ | 39 <br> 55 | 非 | 12 | 17 | 15 | 17 |
| Nevada－ | 16 |  | 6 | 39 | 37 | 非 |
| New Hampshire－－m－－－－ | 27 | 非 |  |  |  |  |
| New Jersey－－－－－－ | 307 | 40 | 7512 | 628 | 9216 | 383 |
| New Mexico－－－ | 45 |  |  |  |  |  |
| New York－－－ | 1，017 | 90 | 252 | 196 | 281 | 198 |
| North Carolina－ | 174 | 18 | 54 5 | 33 | 40 | 30 |
| North Dakota－ | 20 |  | 100 | 87 | 3 | \＃ |
| Ohio－－－－ | 392 | 26 |  |  | 11033 | 12 |
| Oklahoma－ | $\begin{array}{r}97 \\ \hline\end{array}$ | 9 | 25 | 18 |  |  |
| Oregon－－－－－－－ | 109 | ${ }^{6}$ | 33 | 32 | 19 | 17 |
| Pennsylvania－－－ | 585 | 38 | 1157 | 128 | 19810 | 1078 |
| Rhode Island－n－－－－－－－ | 32 | 非 |  |  |  |  |
| South Carolina－ | 72 | 10 | $\begin{array}{r}19 \\ 4 \\ \hline\end{array}$ | 86 | 197 | 16 |
| South Dakota－－－ | 22 |  |  |  |  |  |
| Tennessee－－－－ | 131 | 14 | 43 | $\begin{array}{r} 31 \\ 106 \end{array}$ | 28 | 67 |
| Texas－－－－ | 405 | 34 | 118 |  | 8110 |  |
| Utah－m－ | 47 |  |  | 11 |  | 7424 |
| Vermont－－－． | 19 | 非 | $5{ }^{1}$ | \＃ | 10 |  |
| Virginia－－－ | 166 | 12 |  | 30 | 33 | 16 |
| Washington－－ | 160 |  | 41 | 20 |  |  |
| West Virginia－－－－－－－－ | 64 168 | 15 | 45 |  | 21 | 13 27 |
| Wisconsin－－－－ | 168 16 |  |  | 41 | 42 5 | 非 |

See footnote at end of table．

Table 4．Number and percent distribution of active ophthalmologists by age：United States and each State，1968－Con．

| State | Total | Age |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  | Under 35 years | 35－44 years | $\begin{aligned} & 45-54 \\ & \text { years } \end{aligned}$ | 55-64. <br> years | 65 years and over |
|  | Percent distribution |  |  |  |  |  |
| United States | 100.0 | 9.2 | 26.2 | 22.9 | 26.0 | 15.8 |
| Alabama－ | 100.0 | 11.5 | 20.5 | 26.9 | 26.9 | 14.1 |
| Alaska－ | 100.0 | 非 | 非 |  | 非 |  |
| Arkansas | 100.0 | 非 | 21. | 42.1 |  |  |
| California | 100.0 | 9.9 | 30.1 | 25.8 | 22.7 | 11.4 |
| Colorado | 100.0 | 6.0 | 34.2 | 21.4 | 25.6 | 12.8 |
| Connecticut | 100.0 | 6.8 | 29.3 | 26.3 | 23.3 | 14.3 |
| Delaware | 100.0 | 非 | 16.7 | 22.2 | 33.3 | 非 |
| District of Columbi | 100.0 | 13.8 | 29.2 | 15.4 | 23.1 | 18.5 |
| Flordia | 100.0 | 14.2 | 37.1 | 19.9 | 20.2 | 8.6 |
| Georgia－ | 100.0 | 7.8 | 28.9 | 25.8 | 25.0 | 12.5 |
| Hawaii－ | 100.0 | 非 | 14.8 | 29.6 | 40.7 | 非 |
| Idaho－ | 100.0 | 9.7 | 25.8 | 22.6 | 29.0 | 12.9 |
| Illinois | 100.0 | 6.2 | 22.8 | 23.3 | 26.5 | 21.2 |
| Indiana | 100.0 | 4.6 | 21.7 | 26.3 | 29.6 | 17.8 |
| Iowa－ | 100.0 | 7.0 | 23.3 | 16.3 | 32.6 | 20.9 |
| Kansas | 100.0 | 4.3 | 22.9 | 25.7 | 25.7 | 21.4 |
| Kentucky | 100.0 | 12.1 | 20.9 | 23.1 | 25.3 | 18.7 |
| Louisiana | 100.0 | 12.2 | 24.4 | 27.5 | 22.9 | 13.0 |
| Maine | 100.0 | 8.1 | 16.2 | 18.9 | 37.8 | 18.9 |
| Maryland | 100.0 | 14.0 | 27.9 | 18.4 | 24.3 | 15.4 |
| Massachuset | 100.0 | 8.1 | 21.1 | 26.8 | 26.4 | 17.5 |
| Michigan－－ | 100.0 | 13.5 | 27.7 | 20.5 | 22.8 | 15.5 |
| Minnesota | 100.0 | 9.5 | 25.5 | 27.0 | 25.5 | 12.4 |
| Mississippi | 100.0 | 6.9 | 19.0 | 17.2 | 39.7 | 17.2 |
| Missouri－－ | 100.0 | 15.1 | 21.2 | 21.8 | 25.1 | 16.8 |
| Montana | 100.0 | 13.5 | 21.6 | 16.2 | 37.8 | 10.8 |
| Nebraska | 100.0 | 非 | 21.7 | 30.4 | 非 | 30.4 |
| Nevada－ | 100.0 | 非 | 40.0 | 20.0 | 20.0 |  |
| New Hampshire | 100.0 | 非 | 23.1 | 34.6 | 26.9 | 非 |
| New Jersey | 100.0 | 13.0 | 24.5 | 20.2 | 30.0 | 12.3 |
| New Mexico | 100.0 | 12.5 | 27.5 | 17.5 | 35.0 | 7.5 |
| New York－－ | 100.0 | 8.8 | 24.8 | 19.3 | 27.6 | 19.5 |
| North Carolina | 100.0 | 10.1 | 31.0 | 19.0 | 22.8 | 17.1 |
| North Dakot | 100.0 | 非 | 26.3 | 31.6 | 15.8 | 非 |
| Ohio－ | 100.0 | 6.7 | 25.6 | 22.2 | 28.1 | 17.5 |
| Oklahoma | 100.0 | 9.1 | 26.1 | 18.2 | 34.1 | 12.5 |
| Oregon－－－ | 100.0 | 5.9 | 30.7 | 29.7 | 17.8 | 15.8 |
| Pennsylvania | 100.0 | 6.5 | 19.7 | 21.8 | 33.8 | 18.2 |
| Rhode Island | 100.0 | \＃ | 23.3 | 非 | 30.0 | 26.7 |
| South Carolina－ | 100.0 | 14.1 | 26.6 | 10.9 | 26.6 | 21.9 |
| South Dakota－ | 100.0 |  | 19.0 | 28.6 | 33.3 | 非 |
| Tennessee－ | 100.0 | 10.9 | 32.8 | 23.5 | 21.0 | 11.8 |
| Texas－－－－－ | 100.0 | 8.3 | 29.0 | 26.2 | 19.9 | 16.6 |
| Utah | 100.0 | \＃ | 33.3 | 24.4 | 22.2 | 非 |
| Vermont | 100.0 | \＃ | 非 | 非 | 52.6 | 21.1 |
| Virginia－ | 100.0 | 6.9 | 32.6 | 18.1 | 27.8 | 14.6 |
| Washington－ | 100.0 | 12.9 | 25.9 | 30.6 | 20.4 | 10.2 |
| West Virginia | 100.0 | 6.9 | 8.6 | 31.0 | 32.8 | 20.7 |
| Wisconsin－ | 100.0 | 8.6 | 26.5 | 24.1 | 24.7 | 16.0 |
| Wyoming－－m－－－n－m－－－－－ | 100.0 | － | 非 | 40.0 | 33.3 | 非 |

非Data suppressed to comply with confidentiality requirements．

Table 5. Number and percent distribution of active ophthalmologists by age, according to selected characteristics: United States, 1968

| Selected characteristic | Total | Current age |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  | Under 35 years | $\begin{aligned} & 35-44 \\ & \text { years } \end{aligned}$ | $\begin{aligned} & 45-54 \\ & \text { years } \end{aligned}$ | 55-64 years | 65 years and over |
| United States------------Age at graduation | Number |  |  |  |  |  |
|  | 8,616 | 789 | 2,255 | 1,974 | 2,238 | 1,360 |
|  |  |  |  |  |  |  |
|  <br> 25-29 years | 1,942 | 111 670 8 | 422 1,585 | 601 1,146 | 468 1,546 | 339 816 204 |
| Sex |  |  |  |  |  |  |
|  <br> Female | 8,382 $\mathbf{2 3 3}$ | 769 19 | 2,191 64 | 1,914 59 | 2,192 46 | 1,315 45 |
| Professional identity |  |  |  |  |  |  |
|  | 8,434 181 | 779 10 | 2,227 28 | 1,929 45 | 2,170 68 | 1,329 31 |
| Board certification |  |  |  |  |  |  |
|  <br> Not certified- | 4,953 3,662 | 212 577 | 1,549 707 | 1,405 569 | 1,232 1,006 | 555 804 |
| Number of States where licensed |  |  |  |  |  |  |
|  | 4,901 | 326 | 1,095 | 1,118 | 1,422 | 941 |
|  | 2,362 | 277 | 710 | 568 | 534 | 273 |
| 3 States--- | 950 | 132 | 315 | 206 | 204 | 93 |
| 4 States or more | 402 | 54 | 136 | 82 | 78 | 52 |
| Principal type of employment |  |  |  |  |  |  |
| Self-employed |  |  |  |  |  |  |
|  | 5,902 | 376 | 1,355 | 1,356 | 1,735 | 1,080 |
|  | 1,407 | 177 | 443 | 361 | 275 | 151 |
|  | 487 | 56 | 175 | 124 | 96 | 37 |
| Nongroup arrangement with other physicians---- | 361 | 87 | 132 | 67 | 41 | 34 |
|  | 222 | 51 | 108 | 32 |  |  |
|  | 55 | 12 | 17 | 9 | 10 | 7 |
| City or county government hospital -...--------- | 21 | 8 | 5 | 3 | 2 | 3 |
|  | 17 | - | - | 2 | 2 | 12 |
|  | 28 | 4 | 4 | $\stackrel{3}{-}$ | 8 | 8 |
|  | $\frac{12}{67}$ | 1 8 | 1 | 13 | 9 27 | 11 |
|  | 18 | 2 | 1 | 2 | 7 | 6 |
|  | 19 | 6 | 7 | 1 | 3 | 2 |
| Clinical subspecialty |  |  |  |  |  |  |
| General ophthalmology, medical and surgical----- | 7,956 | 742 | 2,069 | 1,856 | 2,088 | 1,201 |
|  | 32 | 1 | 11 | 8 |  | 2 |
|  | 95 | 18 | 56 | 16 | 6 | - |
|  | 69 | 12 | 33 | 12 | 7 | 6 |
|  | 14 | 3 | 3 | 1 | 1 | 6 |
|  | 22 | 1 | 13 | 3 | 3 | 1 |
|  | 138 288 | 3 8 | 37 34 | 30 47 | 39 85 | 115 |

See footnotes at end of table.

Table 5. Number and percent distribution of active ophthalmologists by age, according to selected characteristics: United States, 1968-Con.

| Selected characteristic | Total | Current age |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  | $\begin{aligned} & \text { Under } \\ & 35 \\ & \text { years } \end{aligned}$ | $35-44$ <br> years | $\begin{aligned} & 45-54 \\ & \text { years } \end{aligned}$ | 55-64 years | 65 years and over |
|  | Percent distribution |  |  |  |  |  |
|  | 100.0 | 9.2 | 26.2 | 22.9 | 26.0 | 15.8 |
| Age at graduation |  |  |  |  |  |  |
|  | 100.0 | 5.7 | 21.7 | 30.9 | 24.1 | 17.5 |
| 25-29 years- | 100.0 | 11.6 | 27.5 | 19.9 | 26.8 | 14.2 |
|  | 100.0 | 0.8 | 27.2 | 24.9 | 24.6 | 22.4 |
| Sex |  |  |  |  |  |  |
| Male- | 100.0 | 9.2 | 26.1 | 22.8 | 26.2 | 15.7 |
| Professional identity |  |  |  |  |  |  |
|  | 100.0 | 9.2 | 26.4 | 22.9 | 25.7 | 15.8 |
| Board certification |  |  |  |  |  |  |
|  | 100.0 | 4.3 | 31.3 | 28.4 | 24.9 | 11.2 |
|  | 100.0 | 15.7 | 19.3 | 15.5 | 27.5 | 22.0 |
| Number of States where 1icensed |  |  |  |  |  |  |
|  | 100.0 | 6.7 | 22.3 | 22.8 | 29.0 | 19.2 |
|  | 100.0 | 11.7 | 30.0 | 24.0 | 22.6 | 11.6 |
| 3 States-- | 100.0 | 13.8 | 33.2 | 21.7 | 21.5 | 9.8 |
| 4 States or more | 100.0 | 13.4 | 33.8 | 20.5 | 19.3 | 13.0 |
| Principal type of employment |  |  |  |  |  |  |
| Se1fmemployed |  |  |  |  |  |  |
|  | 100.0 | 6.4 | 23.0 | 23.0 | 29.4 | 18.3 |
|  | 100.0 | 12.6 | 31.5 | 25.6 | 19.6 | 10.7 |
|  | 100.0 | 11.5 | 35.9 | 25.4 | 19.6 | 7.5 |
| Nongroup arrangement with other physicians---- | 100.0 | 24.1 | 36.5 | 18.7 | 11.4 | 9.3 |
|  | 100.0 | 22.9 | 48.6 | 14.2 | 10.6 | 3.6 |
|  | 100.0 | 22.4 | 30.7 | 16.3 | 18.2 | 12.4 |
|  | 100.0 | 37.0 | 21.3 | 15.9 | 10.3 | 15.5 |
|  | 100.0 |  |  | 13.4 | 12.9 | 73.8 |
| State government hospital----------------------- | 100.0 | 16.2 | 15.8 | 12.0 | 28.2 | 27.9 |
|  | 100.0 100.0 | 8.6 11.8 | 12.18 | 19.7 | 73.0 39.7 | 16.2 |
|  | 100.0 | 12.9 | 6.7 | 12.1 | 37.3 | 31.0 |
|  | 100.0 | 29.5 | 35.4 | 5.9 | 17.6 | 11.6 |
| Clinical subspecialty |  |  |  |  |  |  |
| General ophthalmology, medical and surgical----- | 100.0 | 9.3 | 26.0 | 23.3 | 26.2 | 15.1 |
|  | 100.0 | 3.5 | 35.8 | 24.7 | 28.9 | 7.1 |
|  | 100.0 | 18.9 | 58.5 | 16.6 | 6.0 | - |
|  | 100.0 | 17.7 | 46.8 | 17.8 | 9.8 | 7.9 |
|  | 100.0 | 23.0 | 23.2 | 7.5 | 8.0 | 38.3 |
| Neuro-ophthalmology-- | 100.0 | 5.1 | 59.8 | 14.7 | 15.0 | 5.4 |
| Other------2 | 100.0 | 2.4 | 26.7 | 21.8 | 28.3 | 20.9 |
|  | 100.0 | 2.8 | 11.6 | 16.3 | 29.3 | 40.0 |

${ }^{1}$ Includes all types of insurance carriers, pharmaceutical companies, corporations, voluntary associations, medical societies, associations, etc.
${ }^{2}$ These are ophthalmologists who reported earlier in the survey questionnaire that they spent notime whatever in direct care of patients.

Table 6. Number and percent distribution of active ophthalmologists by age, according to volume of activity, number of eye patients, services rendered, and whether or not assisted by supplementary personnel: United States, 1968


Table 6. Number and percent distribution of active ophthalmologists by age, according to volume of activity, number of eye patients, services rendered, and whether or not assisted by supplementary personnel: United States, 1968-Con.

| Selected characteristic | Total | Age |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  | Under 35 years | 35-44 years | $\begin{aligned} & 45-54 \\ & \text { years } \end{aligned}$ | 55-64 years | 65 years and over |
| United States | Percent distribution |  |  |  |  |  |
|  | 100.0 | 9.2 | 26.2 | 22.9 | 26.0 | 15.8 |
| Volume of activity |  |  |  |  |  |  |
|  |  |  |  |  |  |  |
| 1-34 hours per week <br> 35 hours or more per week | 100.0 100.0 | 1.5 4.2 | 21.6 | 96.5 26.4 | 32.7 33.9 | 51.1 |
| 48-52 weeks per year: |  |  |  |  |  |  |
| 1-35 hours per week-------------------------------- | 100.0 | 3.0 | 8.3 | 11.3 | 26.9 | 50.6 |
|  | 100.0 100.0 | 9.4 13.7 | 24.3 35.9 | 21.3 26.3 | 28.5 | 16.5 |
| Number of eye patients per week |  |  |  |  |  |  |
|  | 100.0 | 9.9 | 13.0 | 13.4 | 30.3 | 33.4 |
| 50-99 patients | 100.0 | 11.5 | 26.7 | 21.3 | 26.5 | 14.0 |
| 100-149 patients- | 100.0 | 8.3 | 34.0 | 28.6 | 22.6 | 6.5 |
| 150-199 patients | 100.0 | 4.2 | 35.0 | 32.8 | 23.4 | 4.5 |
| 200 patients or more | 100.0 | 6.0 | 31.2 | 34.6 | 24.5 | 3.7 |
| No patient care------------------------------------ | 100.0 | 2.8 | 11.6 | 16.3 | 29.3 | 40.0 |
| Services rendered to patients |  |  |  |  |  |  |
| Diagnostic examination |  |  |  |  |  |  |
| Yes--------- | 100.0 | 9.4 | 26.7 | 23.2 | 25.8 | 14.8 |
| Medical treatment ${ }_{\text {M }}$ |  |  |  |  |  |  |
|  |  |  |  |  |  |  |  |
| No---- | 100.0 | 3.2 | 13.4 | 14.9 | 29.0 | 39.4 |
| Eye surgery |  |  |  |  |  |  |
|  | 100.0 | 1.3 | 6.5 | 11.9 | 32.8 | 47.5 |
| Visual field examination and medical interpretation |  |  |  |  |  |  |
|  |  |  |  |  |  |  |  |
|  | 100.0 | 9.8 | 27.8 | 23.5 | 25.2 | 13.8 |
| Fitting contact lenses |  |  |  |  |  |  |
|  | 100.0 | 13.1 | 35.1 | 24.3 | 20.8 | 6.8 |
| Orthoptic training |  |  |  |  |  |  |
|  |  |  |  |  |  |  |  |
|  | 100.0 | 7.7 | 22.4 | 22.5 | 28.7 | 18.7 |
| Prescribing low vision aids |  |  |  |  |  |  |
| Yes------- | 100.0 | 11.9 | 31.9 | 23.9 | 22.2 | 10.2 |
|  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |  |
|  | 100.0 | 10.2 | 33.2 | 23.0 | 21.5 | 12.2 |
|  |  |  |  |  |  |  |
|  | 100.0 | 8.3 | 27.2 | 24.0 | 25.7 | 14.9 |
|  | 100.0 | 10.0 | 25.2 | 21.9 | 26.2 | 16.6 |
| Assisted by supplementary personnel |  |  |  |  |  |  |
| Yes-- | 100.0 | 9.5 | 27.8 | 23.7 | 25.5 | 13.5 |
| No-- | 100.0 | 5.9 | 8.6 | 14.4 | 31.2 | 39.9 |

Table 7．Number and percent distribution of active ophthalmologists by range of licensure and profes－ sional identity：United States and each State， 1968

| State | Total | Number of States where licensed |  |  |  | Total | Number of States where licensed |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  | $\underset{\text { State }}{\text { I }}$ | $\stackrel{2}{\text { States }}$ | $\stackrel{3}{\text { States }}$ |  |  | $\begin{gathered} 1 \\ \text { State } \end{gathered}$ | $\stackrel{2}{\text { States }}$ | $\stackrel{3}{\text { States }}$ |  |
|  | Number |  |  |  |  | Percent distribution |  |  |  |  |
| United States－－－－－－－ | 8，616 | 4，901 | 2，362 | 950 | 402 | 100.0 | 56.9 | 27.4 | 11.0 | 4.7 |
| Alabama－－－－－－－－－－－n－－－－－－－ | 87 | 52 | 27 | 4 | 3 | 100.0 | 60.3 | 30.8 | 5.1 | 3.8 |
|  | 5 | \＃ | 3 | 25 | 非 | 100.0 | \＃ | 60.0 | 32 | 8 |
| Arizona－－－－－－－－－－－－－－－－－－ | 80 | 16 | 32 | 25 | 6 | 100.0 | 20.0 | 40.0 | 32.0 | 8.0 |
|  | 41 | 29 | 5 | 非 | \＃ | 100.0 | 71.1 | 13.2 | 非 | 3.7 |
| California | 1，079 | 646 | 279 | 114 | 40 | 100.0 | 59.9 | 25.8 | 10.6 | 3.7 |
| Colorado－ | 123 | 49 | 41 | 20 | 13 | 100.0 | 40.2 | 33.3 | 16.2 | 10.3 |
| Connecticut－－－－－－－－－－－－－－ | 152 | $\begin{array}{r}74 \\ 8 \\ \hline\end{array}$ | $\begin{array}{r}54 \\ 8 \\ \hline\end{array}$ | 16 | 8 | 100.0 100.0 | 48.9 38.9 | 35.3 38.9 | 10.5 | 5.3 |
| Delaware－－－－－－－－－－－－－－－－－ | 21 81 | $\begin{array}{r}8 \\ 24 \\ \hline\end{array}$ | $\begin{array}{r}8 \\ 26 \\ \hline\end{array}$ | \＃ | 11 | 100.0 100.0 | 38.9 29.2 | 38.9 32.3 | 24．6 | 13.8 |
|  | 302 | 98 | 121 | 52 | 31 | 100.0 | 32.6 | 40.1 | 17.2 | 10.1 |
|  | 142 | 75 | 49 | 14 | 3 | 100.0 | 53.1 | 34.4 | 10.2 | 2.3 |
|  | 30 | 13 | 10 | 7 |  | 100.0 | 44.4 | 33.3 | 22.2 |  |
|  | 34 | 13 | 11 | 5 | 4 | 100.0 | 38.7 | 32.3 | 16.1 | 12.9 |
| Illinois | 429 | 240 | 135 40 | 36 | 18 | 100．0 | 56.0 59.9 | 31.4 23.0 | 8.3 9.9 | 4.3 |
|  | 175 102 | $\begin{array}{r}105 \\ 54 \\ \hline\end{array}$ | 40 27 | 17 | 13 | 100.0 100.0 | 59.9 52.3 | 23.0 26.7 | 9.9 11.6 | 7.2 |
| Iowa－－－－－－－－－－－－－－－－－－－－－－－－－－－－－－－－－－ | 102 | 54 40 | 18 | 12 | 10 | 100.0 | 52.3 52.9 | 24.3 | 15.7 | 7.1 |
|  | 96 | 54 | 28 | 8 | 6 | 100.0 | 56.0 | 28.6 | 8.8 | 6.6 |
| Louisiana－－－－－－－－－－－－－－－ | 153 | 116 | 26 | \＃ | \＃ | 100.0 | 75.6 | 16.8 | 非 | 非 |
| Maine－－－－－－－－－－－－－－－－－－－－－ | 39 | 25 | 8 | \＃ | 非 | 100.0 | 64.9 | 21.6 | 非 | \＃ |
| Maryland－．．－－－n－－－－－－－－－－－－－ | 165 | 87 | 41 | 23 | 13 | 100.0 | 52.9 | 25.0 | 14.0 | 8.1 |
|  | 280 | 179 | 70 | 25 | 7 | 100.0 | 63.8 | 24.8 | 8.9 | 2.4 |
| Michigan－－－－－－－－－－－－－－－－－ | 339 | 209 | 84 | 36 | 10 | 100.0 | 61.7 | 24.8 | 10.6 | 3.0 |
|  | 148 | 83 | 42 | 17 | 5 | 100.0 | 56.2 | 28.5 | 11.7 | 3.7 |
| Mississippi | 62 | 40 | 15 | \＃ | 非 | 100.0 | 63.8 | 24.1 | 16.8 | 6.1 |
| Missourim－－－－－－－－－－－－－－－－ | 190 | 91 | 55 | 32 | 12 | 100.0 | 48.0 | 29.1 | 16.8 24.3 | 6.1 10.8 |
| Montana－ | 39 55 1 | 16 | $\begin{array}{r}9 \\ 18 \\ \hline\end{array}$ | 9 | 4 | 100.0 100.0 | 40.5 47.8 | 24.3 32.6 | 24.3 | 10.8 |
| Nebraska | 55 16 | 26 6 | 18 | \＃ | 非 | 100.0 100.0 | 47.8 40.0 | 32.6 | 33.3 | \＃ |
| New Hampshire－－－－－－－－－－－－ | 27 | 9 | 11 | 6 | － | 100.0 | 34.6 | 42.3 | 23.1 |  |
| New Jersey－－－＂－n－－－－－－－－－－ | 307 | 134 | 112 | 37 | 24 | 100.0 | 43.7 | 36.5 | 11.9 | 7.9 |
| New Mexico－－－－－－－－－－－－－－ | 45 | 12 | 21 | 6 | 6 | 100.0 | 27.5 | 47.5 | 12.5 | 12.5 |
| New York－1－ | 1，017 | 691 | 223 | 85 | 18 | 100.0 | 68.0 | 21.9 | 8.4 | 1.8 |
| North Carolina－－－－－－－－－．．． | 174 | 109 | 48 | 6 | 11 | 100.0 | 62.7 | 27.8 | 3.2 | 6.3 |
| North Dakota－－－－－－－－－－－－－－ | 20 | 4 | 8 | \＃ | \＃ | 100.0 | 21.1 | 42.1 | 非 | \＃ |
| Ohio－ | 392 | 213 | 130 | 32 | 19 | 100.0 | 54.2 | 33.1 | 8.1 | 4.7 |
| Oklahoma | 97 | 67 | 18 | 非 | ，${ }^{1}$ | 100.0 | 69.3 | 18.2 | 20.8 | 9．${ }^{\text {¢ }}$ |
| Oregon－－－－－－－－－m－－－－－－－－－－ | 109 | 41 | 35 | 23 | 11 | 100.0 | 37.6 | 31.7 | 20.8 | 9.9 |
| Pennsylvania－－－－－－－－－－－－－ | 585 | 422 | 104 8 | 40 | 19 | 100.0 100.0 | 72.1 53.3 | 17.8 26.7 | 6.8 | 3.2 |
| Rhode Island－－－－－－－－－－－－ | 32 | 17 | 8 | \＃ | \＃ | 100.0 | 53.3 | 26.7 | \％ | \＃ |
| South Carolina－－－－－－－－－－－－ | 72 | 50 | 16 | 7 | － | 100.0 | 68.8 | 21.9 | 9.4 | $\overline{7}$ |
| South Dakota－－－－－－－－－－－－ | 22 | 6 | 非 | 7 | \＃ | 100.0 | 28.6 |  | 33.3 | \＃ |
| Tennessee－－－－－－－－－－－－－－＊ | 131 | 75 | 39 | 13 | 4 | 100.0 | 57.1 | 29.4 | 10.1 | 3.4 |
| Texas | 405 | 256 | 87 | 40 | 21 | 100.0 | 63.3 | 21.5 | 9.9 | 5.2 |
| Utah－ | 47 | 21 | 17 | 非 | \＃ | 100.0 | 44.4 | 35.6 | 非 | 非 |
| Vermont | 19 | 11 | 7 | 非 | 非 | 100.0 | 57.9 | 36.8 | 非 | 非 |
| Virginia－－－－－－－－－－－－－－－－－ | 166 | 113 | 36 | \＃ | \＃ | 100.0 | 68.1 | 21.5 | 非 | 非 |
| Washington－－－－－－－－－－－－－－－ | 160 | 59 | 60 | 33 | 9 | 100.0 | 36.7 | 37.4 | 20.4 | 5.4 |
|  | 64 168 | 36 81 | 19 | 3 20 | 7 |  | 55.2 48.1 |  | 5.2 11.7 | 10.3 1.9 |
|  | 168 16 | 81 | 64 7 | 30 3 | 非 | 100.0 100.0 | 48.1 | 38.3 46.7 | $\underline{11.7}$ | 1．9 |

\＃Data suppressed to comply with confidentiality requirements．

Table 8．Number and percent distribution of active ophthalmologists by principal type of employment：United States and each State， 1968

| State | Total | Principal type of employment |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  | Self－employed |  |  |  | Salaried |  |
|  |  | Solo practice | $\begin{gathered} \text { Partner- } \\ \text { shi.p } \end{gathered}$ | Group practice | Nongroup arrange－ ment with other phy－ sicians | Hospital ${ }^{1}$ | Non－ hospital： |
| United States | Number |  |  |  |  |  |  |
|  | 8，616 | 5，902 | 1，407 | 487 | 361 | 171 | 288 |
| Alabama－－－－－－－－－－－－－－ | 87 | 60 | 12 |  |  |  |  |
| Alaskam－－－－－－－－ | 5 | 4 | 12 | 非 |  |  | 翡 |
| Arizona－－ | 80 | 54 | 19 | 3 | \＃ | － | 非 |
| Arkansas－－－－－ | 41 | 26 | 9 | \＃ | 3 | － | 非 |
| California－－ | 1，079 | 697 | 186 | 83 | 59 | 15 | 37 |
| Colorado－－－－－ | 123 | 70 | 33 | 5 | 9 | 非 | \＃ |
| Connecticut－－－－－－－－ | 152 21 | 117 | 22 | 5 | 非 | 非 | 6 |
| District of Columbia | 81 | 40 | 16 | 非 | 翡 | $\overline{7}$ | $1 \overline{1}$ |
| Florida－－－－－－－－－－－－ | 302 | 198 | 55 | 15 | 14 | 7 | 13 |
| Georgia－－－－－－－－－－－ | 142 | 99 | 23 | 9 | 3 | 4 | 3 |
| Hawaii－－－－－ | 30 | 19 | 8 | 3 | － | － | － |
| Idaho－－－－－－－－－ | 34 | 25 | 5 | － | 3 | － | － |
| Indiana－－－－－－ | 429 | 136 | 76 | 29 10 | 22 | 10 | 10 |
| Iowa－－－－－－－－ | 102 | 55 | 30 | 7 | 非 | 非 | 10 |
| Kansas－－－－ | 76 | 53 | 11 | 5 | 5 | 非 | ＊ |
| Kentucky－－－－ | 96 | 64 | 14 | 11 | 非 | 非 |  |
| Louisiana－ | 153 | 87 | 34 | 11 | 9 | 7 | 6 |
| Maine－－－ | 39 | 34 | 4 | \＃ | － | － | \＃ |
| Maryland－－－－－ | 165 | 119 | 24 | \＃ | \＃ | 4 | 16 |
| Massachusetts | 280 | 219 | 16 | 10 | 16 | 8 | 11 |
| Michigan－－－－－－ | 339 | 214 | 62 | 32 | 12 |  | 8 |
| Minnesota－－－ | 148 | 60 | 40 | 23 | 13 |  |  |
| Mississippi－－－ | $\begin{array}{r}62 \\ 190 \\ \hline\end{array}$ | 39 112 | 16 | 3 10 | 3 7 | 非 | 非 |
| Montana－－－－－． | 39 | 27 | 7 | 13 | $\underline{-}$ | 非 | 13 |
| Nebraska－－－－ | 55 | 30 | 22 | 4 | － | \％ |  |
| Nevada－－－－ | 16 | 10 | 4 | － | 非 | － | 彗 |
| New Hampshire－－－－－－ | 27 | 21 | ， | 4 | \＃ | － | \＃ |
| New Jersey－－－－．．－－－－ | 307 | 255 | 26 |  | 8 | \＃ | 非 |
| New Mexico－－－－－－－－－ | 45 | 35 | 非 | 非 | 3 | 3 | 4 |
| New York－－－－－－ | 1，017 | 780 | 102 | 20 | 35 |  | 59 |
| North Carolina－－ | 174 | 110 | 35 | 15 | \＃ | 非 | 8 |
| North Dakota－．．－ | 20 | 11 | 6 | 3 | － | － | － |
| Ohion－－－－－－－ | 392 97 | 282 76 | 58 12 | 20 | 20 | 7 | 5 |
| Oregon－－－－－－－ | 109 | 70 | 17 | 8 | 8 | 非 | 非 |
| Pennsylvania－－－ | 585 | 470 | 62 | 14 | 14 | 10 | 14 |
| Rhode Island－－－－－－－－ | 32 | 30 | 非 | 1 | － | 10 | \＃ |
| South Carolina－－ | 72 | 44 | 18 |  |  |  | \＃ |
| South Dakota－－－ | 22 | 17 | 非 | 非 | 非 | \＃ | － |
| Tennessee－－－－ | 131 | 91 | 25 | 3 | 7 | 非 | \＃ |
| Texas－－－．．－ | 405 | 256 | 87 | 28 | 19 | 8 | 7 |
| Vermont－－－－－ | 47 | 29 | 8 | 5 | 3 | \＃ | 非 |
| Virginia－－－－－ | 166 | 108 | $3 \overline{7}$ | 5 | 10 | $\overline{3}$ | $\overline{3}$ |
| Washington－－ | 160 | 93 | 39 | 13 |  | 非 | 誛 |
| West Virginia－ | 64 | 42 | 9 | 7 | 非 | 3 | 非 |
| Wisconsin－－－－ | 168 | 88 | 42 | 21 | 9 | 非 | 非 |
| Wyoming－－－－－－－－ | 16 | 12 | 3 | 非 | － | － | 非 |

See footnotes at end of table．

Table 8．Number and percent distribution of active ophthalmologists by principal type of employment：United States and each State，1968－Con．

| State | Total | Principal type of employment |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  | Self－employed |  |  |  | Salaried |  |
|  |  | $\begin{aligned} & \text { Solo } \\ & \text { practice } \end{aligned}$ | ```Partner- ship``` | Group practice | Nongroup arrange－ ment with other phy－ sicians | Hospital ${ }^{1}$ | Non－ hospital ${ }^{2}$ |
| United States | Percent distribution |  |  |  |  |  |  |
|  | 100.0 | 68.5 | 16.3 | 5.7 | 4.2 | 2.0 | 3.3 |
| Alabama－－－－ | 100.0 | 69.2 | 14.1 | 11.5 | \＃ | \＃ | 非 |
| Alaska－－－ | 100.0 | 80.0 |  | \＃ | － | － | \＃ |
| Arizona－－ | 100.0 | 68.0 | 24.0 | 4.0 | \＃ | － | 非 |
| Arkansas－－－－ | 100.0 100.0 | 63.2 64.6 | 21.1 | 7.7 | 7.9 5.5 | ． 4 | 3. |
| Colorado－－ | 100.0 | 57.3 | 26.5 | 4.3 | 7.7 | －非 | 3.1 \＃ |
| Connecticut－ | 100.0 | 77.4 | 14.3 | 3.0 | 非 | 非 | 3.8 |
| Delaware－－－－－ | 100.0 | 77.8 | 非 |  | 非 | － | － |
| District of Columbia | 100.0 | 49.2 | 20.0 | 非 | 非 | 7.7 | 13.8 |
| Florida－．－－－－－ | 100.0 | 65.5 | 18.4 | 4.9 | 4.5 | 2.2 | 4.5 |
| Georgia－－ | 100.0 | 69.5 | 16.4 | 6.3 | 2.3 | 3.1 | 2.3 |
| Hawaid－－ | 100.0 | 63.0 | 25.9 | 11.1 |  | ， |  |
| Idaho－－＊ | 100.0 | 74.2 | 16.1 | － | 9.7 | － | － |
| Ilifnois－ | 100.0 | 65.7 | 17.7 | 6.7 | 5.1 | 2.4 | 2.4 |
| Indiana－－ | 100.0 | 77.6 | 12.5 | 5.9 | 非 | 非 | 2.0 |
| Kansas－－－－－ | 100.0 | 70.0 | 14.3 | 7.1 | 7.1 | 非 | 9.3 |
| Kentucky－．． | 100.0 | 65.9 | 14.3 | 11.0 | 非 | 非 | 5.5 |
| Louisiana－－ | 100.0 | 56.5 | 22.1 | 6.9 | 6.1 | 4.6 | 3.8 |
| Maine－－－－ | 100.0 | 86.5 | 10.8 | \＃ | － | － | 非 |
| Maryland－－－－ | 100.0 | 72.1 | 14.7 | 非 | \＃ | 2.2 | 9.6 |
| Massachusetts | 100.0 | 78.0 | 5.7 | 3.7 | 5.7 | 2.8 | 4.1 |
| Michigan－－－－ | 100.0 | 63.0 | 18.2 | 9.6 | 3.6 | 3.3 | 2.3 |
| Minnesota－ | 100.0 | 40.9 | 27.0 | 15.3 | 8.8 | 2.9 | 5.1 |
| Mississippi－ | 100.0 | 62.1 | 25.9 | 5.2 | 5.2 | ，\＃ | 㐟 |
| Missouri－－－－ | 100.0 100.0 | 759.2 | 23.5 18.9 | 5.0 8.1 | 3.9 | 1.7 | 6.7 |
| Nebraska－ | 100.0 | 54.3 | 39.1 | 6.5 | － | 7 | \＃ |
| Nevada－－ | 100.0 | 60.0 | 26.7 | － | \＃ | － | \＃ |
| New Hampshire－．．－ | 100.0 | 76.9 |  | 15.4 | 非 | － | 非 |
| New Jersey－－－ | 100.0 | 83.0 | 8.3 | 2.9 | 2.5 | \＃ | \＃ |
| New Mexico－－ | 100.0 | 77.5 | 非 | \＃ | 7.5 | 7.5 | － |
| New York－－－－－ | 100.0 | 76.7 | 10.0 | 2.0 | 3.4 | 2.1 | 5.8 |
| North Carolina | 100.0 | 63.3 | 20.3 | 8.9 | \＃ | \＃ | 4.4 |
| North Dakota－ | 100.0 | 52.6 | 31.6 | 15.8 | － | － |  |
| Ohio－－．．．－－－ | 100.0 | 71.9 | 1.4 .7 | 5.0 | 5.0 | 1.9 | 1.4 |
| Oklahoma－ | 100.0 | 78.4 | 12.5 | 5.7 | 非 | \＃ |  |
| Oregon－－－－－－ | 100.0 | 64.4 | 15.8 | 6.9 | 6.9 | 非 | 非 |
| Pennsylvania | 100.0 | 80.3 | 10.6 | 2.5 | 2.5 | 1.7 | 2.5 |
| Rhode Island－－－．－－－－ | 100.0 | 93.3 | 非 | － | － | － | \＃ |
| South Carolina | 100.0 | 60.9 | 25.0 | 4.7 | 4.7 | \＃ | 非 |
| South Dakota－ | 100.0 | 76.2 | 非 | 非 | 5 ${ }^{\text {F }}$ | 非 | － |
| Tennessee－－－－ | 100.0 | 69.7 | 19.3 | 2.5 | 5.0 | \＃ | \＃ |
| Uexas－－－－ | 100.0 100.0 | 63.3 | 21.5 17.8 | 6.9 11.1 | 4.7 6.7 | 1.9 | 1.7 |
| Vermont－－－ | 100.0 | 100.0 |  | － | － | － | － |
| Virginia－－ | 100.0 | 65.3 | 21.5 | 2.8 | 6.3 | 2.1 | 2.1 |
| Washington－ | 100.0 | 57.8 | 24.5 | 8.2 | 5.4 | 非 | 非 |
| West Virginia | 100.0 | 65.5 | 13.8 | 10.3 | 非 | 5.2 | \＃ |
| Wisconsin－－－－ | 100.0 | 52.5 | 24.7 | 12.3 | 5.6 | \＃ | 非 |
| Wyoming－－－－ | 100.0 | 73.3 | 20.0 | \＃ | － | － | 非 |

[^3]Table 9. Number and percent distribution of active ophthalmolists by principal type of employment, according to sellected characteristics: United States, 1968


[^4]Table 10. Number and percent distribution of active ophthalmologists by volume of activity: United States and each State, 1968


See footnote at end of table.

Table 10．Number and percent distribution of active ophthalmologists by volume of activity：United States and each State，1968－Con．

| State | Total | Worked less than 48 weeks per year |  | Worked 48－52 weeks per year |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  | 1－34 hours per week | 35 hours per week or more | 1－34 hours per week | $35-48$ <br> hours per week | 49 hours per week or more |
|  | Percent distribution |  |  |  |  |  |
| United States－ | 100.0 | 5.2 | 20.1 | 7.0 | 28.8 | 38.8 |
| Alabama－ | 100.0 | \＃ | 11.5 | 非 | 48.3 | 34.5 |
| Alaska | 100.0 | － |  | － |  | 100.0 |
| Arizona－ | 100.0 | 非 | 13.8 | 非 | 36.3 | 35.0 |
| Arkansas | 100.0 | 非 | 17.1 | \＃ | 39.0 | 41.5 |
| California | 100.0 | 3.9 | 17.4 | 9.3 | 33.0 | 36.4 |
| Colorado－ | 100.0 | 3.3 | 17.9 | 4.9 | 31.7 | 42.3 |
| Connecticut | 100.0 | 6.6 | 21.1 | 6.6 | 25.0 | 40.8 |
| Delaware－ | 100.0 | 非 | 23.8 | 非 | 47.6 | 14.3 |
| District of Columbi | 100.0 | 非 | 13.6 | 非 | 29.6 | 45.7 |
| Florida－ | 100.0 | 5.0 | 15.6 | 7.0 | 29.5 | 42.7 |
| Georgia－ | 100.0 | 2.8 | 12.0 | 6.3 | 31.0 | 47.9 |
| Hawaii－ | 100.0 | \＃ | 20.0 | 非 | 23.3 | 30.0 |
| Idaho－－ | 100.0 | \＃ | 20.6 | 非 | 41.2 | 32.4 |
| Illinois | 100.0 | 5.1 | 28.4 | 8.2 | 28.2 | 30.3 |
| Indiana | 100.0 | 7.4 | 23.4 | 8.6 | 26.3 | 34.3 |
| Iowa－－ | 100.0 | 5.9 | 40.2 | 3.9 | 26.5 | 23.5 |
| Kansas－ | 100.0 | 3.9 | 21.1 | 5.3 | 21.1 | 48.7 |
| Kentucky－ | 100.0 | 3.1 | 20.8 | 3.1 | 26.0 | 46.9 |
| Louisiana | 100.0 | 非 | 9.2 | 非 | 37.3 | 49.7 |
| Maine－ | 100.0 | 非 | 15.4 | 非 | 35.9 | 33.3 |
| Maryland－－－－ | 100.0 | 3.0 | 16.4 | 7.3 | 29.1 | 44.2 |
| Massachusetts | 100.0 | 4.6 | 26.4 | 5.7 | 17.1 | 46.4 |
| Michigan－－－－－ | 100.0 | 7.4 | 24.2 | 3.8 | 26.0 | 38.6 |
| Minnesotam－－m． | 100.0 | 2.0 | 29.1 | 3.4 | 22.3 | 43.2 |
| Mississippi | 100.0 | 非 | 16.1 | 非 | 33.9 | 38.7 |
| Missouri－ | 100.0 | 4.2 | 16.8 | 7.9 | 26.3 | 44.7 |
| Montana－ | 100.0 | 非 | 12.8 | 非 | 30.8 | 38.5 |
| Nebraska | 100.0 | 非 | 25.5 | 非 | 23.6 | 40.0 |
| Nevada－ | 100.0 | 非 | \＃ | $-$ | 62.5 | 31.3 |
| New Hampshire | 100.0 | 非 | 29.6 | \＃ | 29.6 | 33.3 |
| New Jersey－ | 100.0 | 5.8 | 22.1 | 10.1 | 29.6 | 32.5 |
| New Mexico | 100.0 | 11.1 | 22.2 | 6.7 | 22.2 | 37.8 |
| New York－ | 100.0 | 9.7 | 26.0 | 8.3 | 25.0 | 31.1 |
| North Carolina | 100.0 | 5.2 | 7.5 | 8.6 | 27.0 | 51.7 |
| North Dakota | 100.0 | \＃ | 20.0 | 非 | 20.0 | 55.0 |
| Ohio－ | 100.0 | 5.6 | 22.4 | 6.1 | 27.0 | 39.0 |
| Oklahoma | 100.0 | 非 | 14.4 | 非 | 42.3 | 40.2 |
| Oregon－ッーロ | 100.0 | 3.7 | 16.5 | 8.3 | 35.8 | 35.8 |
| Pennsylvania－ | 100.0 | 6.5 | 19.7 | 8.0 | 29.2 | 36.6 |
| Rhode Island－ | 100.0 | 9.4 | 34.4 | 12.5 | 12.5 | 31.3 |
| South Carolina | 100.0 | 6.9 | 12.5 | 8.3 | 27.8 | 44.4 |
| South Dakota－ | 100.0 | ，非 | 22.7 | 非 | 13.6 | 54.5 |
| Tennessee－ | 100.0 | 3.1 | 19.1 | 5.3 | 27.5 | 45.0 |
| Texas－－－－m | 100.0 | 2.7 | 11.6 | 4.2 | 32.8 | 48.6 |
| Utah－－－ | 100.0 | 非 | 14.9 | 非 | 36.2 | 42.6 |
| Vermont－ | 100.0 | 非 | 36.8 | 非 | 15.8 | 36.8 |
| Virginia－ | 100.0 | 4.2 | 16.9 | 5.4 | 28.9 | 44.6 |
| Washington－－2 | 100.0 | 3.1 | 17.5 | 8.1 | 30.0 | 41.3 |
| West Virginia | 100.0 | 10.9 | 21.9 | 9.4 | 18.8 | 39.1 |
| Wisconsin－ | 100.0 | 3.0 | 21.4 | 1.8 | 29.2 | 44.6 |
| Wyoming－－－－ | 100.0 | 非 | 非 | 18.8 | 25.0 | 43.8 |

\＃Data suppressed to comply with confidentiality requirements．

Table 11. Number and percent distribution of active ophthalmologists by volume of activity, according to selected characteristics: United States, 1968

| Selected characteristic | Total | Worked less thanper year 48 weeks |  |  | Worked 48-52 weeks per year |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  | $\begin{gathered} \text { All } \\ \text { activity } \end{gathered}$ | Hours per | worked week | $\begin{gathered} \text { All } \\ \text { activity } \end{gathered}$ | Hours worked per week |  |  |
|  |  |  | $\begin{aligned} & 1-34 \\ & \text { hours } \end{aligned}$ | $\begin{gathered} 35 \\ \text { hours } \\ \text { or more } \end{gathered}$ |  | $\begin{aligned} & 1-34 \\ & \text { hours } \end{aligned}$ | $35-48$ hours | $\begin{gathered} 49 \\ \text { hours } \\ \text { or more } \end{gathered}$ |
| United States--------------------- | Number |  |  |  |  |  |  |  |
|  | 8,616 | 2,186 | 450 | 1,736 | 6,430 | 603 | 2,485 | 3,341 |
|  | 8,382 | 2,11075 | 41634 | 1,69441 | 6,272158 | 55647 | $\begin{array}{r} 2,418 \\ 67 \end{array}$ | 3,29844 |
| Female-m-n-m---------------------------- | 233 |  |  |  |  |  |  |  |
| Professional identity |  |  |  |  |  | 58518 | 2,42362 | 3,28259 |
|  | 8,434 | 2,144 | 439 | 1,705 | 6,290 |  |  |  |
| Doctor of osteopathy-------------------- | 181 | 42 | 11 | 31 | 139 |  |  |  |
| Board cextification |  |  |  |  |  |  |  | 2,067 |
| Certified--------m---------------------- | 4,953 | 1,376 | 208 | 1,168 | 3,5772,853 | 233370 | 1,2771,209 |  |
|  | 3,662 | 809 | 242 | 568 |  |  |  | 1,274 |
| Principal type of employment |  |  |  |  |  |  |  |  |
| Self-employed |  |  |  |  |  | 492 | 1,727 | 2,173 |
| Solo practice-n----------------------- | 5,902 | 1,510 | 364 | 1,146 | 4,392 |  |  |  |
| Partnership---n------------------------ | 1,407 | 393 | 39 | 354 | 1,014 | 49 | 391 | 574 |
| Group practice---------------+-*--** | 487 | 133 | 16 | 118 | 354 | 13 | 123 | 218 |
| Nongroup arrangement with other physicians | 361 | 77 | 12 | 65 | 283 | 21 | 106 | 156 |
| Salaried |  |  |  |  |  |  |  |  |
|  | 222 | 32 | 2 | 30 | 190 | 12 | 38 | 140 |
| Nongovernment hospital-.------------- | 55 | 9 | 4 | 5 | 46 | 1 | 15 | 30 |
| City or county government hospital-~ | 21 | - |  | - | 21 | 2 | 8 | 11 |
|  | 17 | 9 | - | - | 8 | 2 | 6 | - |
| State government hospital----------- | 28 | 5 | - | 5 | 23 | 4 | 6 | 13 |
| State government----..-------.-------- | 12 | 6 | 4 | 2 | 6 | - | 4 | 2 |
| Federal Government hospital-n---- | 67 | 8 | - | 8 | 59 | 2 | 40 | 17 |
| Federal Government---------------- | 18 | 2 | - | 2 | 16 | 2 | 12 | 2 |
|  | 19 | 1 | - | 1 | 18 | 2 | 10 | 6 |
| Assisted by supplementary personnel |  |  |  |  |  |  |  |  |
|  | 7,882 | 1,974 | 352 | 1,622 | 5,909 | 456 | 2,260 | 3,193 |
|  | 733 | 212 | 98 | 114 | 521 | 147 | 225 | 149 |

See footnote at end of table.

Table 11. Number and percent distribution of active ophthalmologists by volume of activity, according to
selected characteristics: United states, 1968-Con.

| Selected characteristic | Total | Worked less thanper year 48 weeks |  |  | Worked 48-52 weeks per year |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  | $\stackrel{\text { All }}{\text { activity }}$ | Hours worked per week |  | $\underset{\text { activity }}{\text { A11 }}$ | Hours worked per week |  |  |
|  |  |  | ( $\begin{array}{r}\text { 1-34 } \\ \text { hours }\end{array}$ | 35 hours or more |  | \| $\begin{array}{r}1-34 \\ \text { hours }\end{array}$ | 35-48 |  |
|  |  | 25.4 | Percent distribution5.2\| 20.1 ( 74.6 |  |  | 7.0 | 28.8 | 38.8 |
|  | 100.0 |  |  |  |  |  |  |  |  |
|  | $\begin{aligned} & 100.0 \\ & 100.0 \end{aligned}$ | $\begin{aligned} & 25.2 \\ & 32.2 \end{aligned}$ | 5.014.6 | $\begin{aligned} & 20.2 \\ & 17.6 \end{aligned}$ | $\begin{aligned} & 74.8 \\ & 67.8 \end{aligned}$ | 6.620.2 | $\begin{aligned} & 28.8 \\ & 28.8 \end{aligned}$ | $\begin{aligned} & 39.3 \\ & 18.9 \end{aligned}$ |
|  |  |  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |  |  |
| Professional identity |  |  |  |  |  | 20.2 |  |  |
| Doctor of medicine---------------------- | 100.0 | 25.4 | 5.2 | 20.2 | 74.6 | $\begin{aligned} & 6.9 \\ & 9.9 \end{aligned}$ | 28.734.3 | $\begin{aligned} & 38.9 \\ & 32.6 \end{aligned}$ |
| Doctor of osteopathy--------------------- | 100.0 | 23.2 | 6.1 | 17.1 | 76.8 |  |  |  |
| Board certification |  |  |  |  |  |  | 34.3 |  |
|  | 100.0 | 27.8 | 4.2 | 23.6 | 72.2 | 4.7 | 25.8 | 41.7 |
| Not certified---------------------------- | 100.0 | 22.1 | 6.6 | 15.5 | 77.9 | 10.1 | 33.0 | 34.8 |
| Principal type of employment |  |  |  |  |  |  |  |  |
| Self-employed |  |  |  |  |  |  |  |  |
|  | 100.0 | 25.6 | 6.2 | 19.4 | 74.4 | 8.3 | 29.3 | 36.8 |
| Partnership--------------------------- | 100.0 | 27.9 | 2.8 | 25.2 | 72.1 | 3.5 | 27.8 | 40.8 |
|  | 100.0 | 27.3 | 3.3 | 24.2 | 72.7 | 2.7 | 25.3 | 44.8 |
| Nongroup arrangement with other physicians | 100.0 | 21.3 | 3.3 | 18.0 | 78.4 | 5.8 | 29.4 | 43.2 |
| Salaried |  |  |  |  |  |  |  |  |
|  | 100.0 | 14.4 | 0.9 | 13.5 | 85.6 | 5.4 | 17.1 | 63.1 |
| Nongovernment hospital-------------- | 100.0 | 16.4 | 7.3 | 9.1 | 83.6 | 1.8 | 27.3 | 54.5 |
| City or County government hospital-- | 100.0 | - | - | - | 100.0 | 9.5 | 38.1 | 52.4 |
| City or County government---.--------1-1 | 100.0 | 52.9 | 52.9 | - | 47.1 | 11.8 | 35.3 | - |
| State government hospital----------- | 100.0 | 17.9 | - | 17.9 | 82.1 | 14.3 | 21.4 | 46.4 |
|  | 100.0 | 50.0 | 33.3 | 16.7 | 50.0 | - | 33.3 | 16.7 |
| Federal Government hospital-------w- | 100.0 | 11.9 |  | 11.9 | 88.1 | 3.0 | 59.7 | 25.4 |
| Federal Government------------------- | 100.0 | 11.15.3 |  | 11.1 | 88.9 | 11.1 | 66.7 | 11.1 |
|  | 100.0 |  |  | 5.3 | 94.7 | 10.5 | 52.6 | 31.6 |
| Assisted by supplementary personnel |  |  |  |  |  |  |  |  |
|  | 100.0 | 25.0 | 4.5 | 20.6 | 75.0 | 5.8 | 28.7 | 40.5 |
|  | 100.0 | 28.9 | 13.4 | 15.6 | 71.1 | 20.1 | 30.7 | 20.3 |

${ }^{1}$ Inciudes all types of insurance carriers, pharmaceutical companies, corporations, voluntary associations, medical societies, associations, etc.

Table 12．Number of active ophthalmologists by participation in selected clinical and nonclinical activities：United States and each State， 1968

| State | Total | clinical activities |  |  | Nonclinical activities |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  | Ophthal－ mology | $\begin{aligned} & \text { Otolaryn- } \\ & \text { gology } \end{aligned}$ | Other medical activities | Teaching | Medical research | $\begin{aligned} & \text { Adminis- } \\ & \text { tration }^{1} \end{aligned}$ |
| United States－－－－－－ | 8，616 | 8，327 | 1，583 | 694 | 2，834 | 932 | 2，945 |
| Alabama－－m－n－n－m－n－m－0－0－0 | 87 | 84 | 29 | 非 | 29 | 8 | 29 |
|  | 5 | 5 | 非 | 非 |  | － | \＃ |
|  | 80 | 78 | 17 | 7 | 12 | 4 | 23 |
| Arkansas－－－－－－－－－－－－－－－－－－－ | 41 | 41 | 10 | － | 12 | 3 | 15 |
| California－－－－－－－－－－－－－－－ | 1，079 | 1，043 | 133 | 99 | 396 | 129 | 366 |
| Colorado－n－m－－－－n－m－n－m－n－ | 123 | 118 | 17 | 8 | 51 | 8 | 45 |
| Gonnecticut－m－a－m－－－－－－－－ | 152 | 150 | 19 | 17 | 47 | 15 | 51 |
|  | 21 | 17 | 5 | 3 | 12 | 非 | 8 |
| District of Columbia－－－－－ | 81 | 75 | \＃ | 4 | 44 | 20 | 41 |
| Florida－－－－－－－－n－－－－－－－－－ | 302 | 292 | 50 | 29 | 61 | 40 | 113 |
|  | 142 | 138 | 44 | 6 | 33 | 10 | 41 |
| Hawaii | 30 | 30 | 6 | 4 | 3 | \＃ | 12 |
|  | 34 | 34 | 10 | 3 | － | 非 | 5 |
| Illinois－－－－－－－－－－－－－－－－－－ | 429 | 415 | 98 | 41 | 140 | 51 | 141 |
| Indiana－m－－－－－－－－m－－－－－－－ | 175 | 170 | 40 | 5 | 40 | 13 | 52 |
|  | 102 | 99 | 33 | 8 | 17 | 8 | 29 |
|  | 76 | 72 | 19 | 14 | 5 | － | 25 |
|  | 96 | 90 | 29 | 11 | 33 | 4 | 34 |
|  | 153 | 149 | 35 | 9 | 61 | 23 | 55 |
| Maine－－－－－－w－－－－－－－－－－－－＊＊ | 39 | 39 | 7 | \＃ | 4 | 非 | 9 |
| Maryland－n－－－－－－m－n－m－n－m | 165 | 155 | 21 | 10 | 81 | 33 | 62 |
| Massachusetts－－－－－－－－－－－－ | 280 | 269 | 49 | 22 | 117 | 43 | 79 |
|  | 339 | 333 | 68 | 34 | 113 | 28 | 108 |
| Minnesota－－－－－－－－－－－－－－－－－ | 148 | 147 | 24 | 11 | 70 | 11 | 56 |
| Mississippi－w－－m－n－m－n－－－ | 62 | 59 | 27 | \＃ | 5 | － | 20 |
| Missouri－n－－m－nmon－m－－－－－ | 190 | 176 | 35 | 16 | 83 | 35 | 69 |
|  | 39 | 39 | 14 |  | 23 | 5 | 11 |
| Nebraska－－－－－－－－－n－m－－－－－ | 55 | 54 | 11 | 6 | 23 | 5 | 20 |
|  | 16 | 16 | 非 | － | \＃ | － | 6 |
| New Hampshire－－－－－－－－－m－－ | 27 | 27 | 5 | 非 | 3 | \＃ | 10 |
| New Jersey－－－－－－－－－－m－n－－－ | 307 | 299 | 51 | 24 |  | 24 | 123 |
| New Mexico－－－m－－－－－－－－－－－ | 45 1,017 | $\begin{array}{r}44 \\ 980 \\ \hline\end{array}$ | 12 | 5 76 | 5 454 | ［ 6 | 18 337 |
|  | 1,017 174 | 167 | 52 | 12 | 33 | 123 | 53 |
| North Dakota－nm－mmen－－－0． | 20 | 20 | 6 | \＃ | 非 | 非 | 7 |
|  | 392 | 382 | 81 | 29 | 125 | 29 | 150 |
| OkIahoma－－－－－－－－n－m－n－m－ | 97 | 95 | 28 | 13 | 30 | \＃ | 37 |
|  | 109 | 108 | 17 | 10 | 33 | 15 | 37 |
| Pennsylvania－m－n－m－n－－－－－ | 585 | 548 | 104 | 61 | 199 | 58 | 200 |
| Rhode Island－－－－－－－－－－－－－ | 32 | 32 | 8 | \＃ | 12 | － | 8 |
| South Carolina－－m－n－m－m－n | 72. | 70 | 21 | 6 | 15 | 6 | 25 |
| South Dakota－－n－－－－－－－－－－ | 22 | 22 | 4 | 4 | 3 | － | 6 |
| Tennessee－－m－n－m－n－－－－－－－ | 131 | 127 | 22 | 8 | 46 | 11 | 41 |
|  | 405 | 396 | 100 | 34 | 121 | 36 | 146 |
|  | 47 | 47 | 6 | 非 | 18 | 非 | 15 |
| Vermont－－－m－n－m－n－－－－－－－n－ | 19 | 18 | 6 | $\overline{7}$ | 5 | － | 4 |
| Virginia－－－－－－－－－－－－－－－－－ | 166 | 160 | 29 | 7 | 47 | 16 | 66 |
| Washington－m－－－n－－m－－－－－－－ | 160 | 1.55 | 33 | 9 | 40 | 15 | 58 |
|  | 64 168 | 61 | 24 46 | 3 9 | 4 50 | 4 16 | 21 53 |
|  | 16 | 16 | 3 | \＃ | 非 | 非 | \＃ |

[^5]Table 13. Number of active ophthalmologists by participation in selected clinical and nonclinical activities, by selected characteristics: United States, 1968

| Selected characteristic | Total | Clinical activities |  |  | Nonclinical activities |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  | Ophthalmology | $\begin{aligned} & \text { Otolaryn - } \\ & \text { gology } \end{aligned}$ | ```Other medical ac- tivities``` | $\begin{gathered} \text { Teach- } \\ \text { ing } \end{gathered}$ | Medica1 research | Adminis tration ${ }^{1}$ |
|  | 8,616 | 8,327 | 1,583 | 694 | 2,834 | 932 | 2,945 |
| Age |  |  |  |  |  |  |  |
|  | 789 | 781 | 17 | 46 | 388 | 125 | 305 |
|  | 1,248 | 1,229 | 21 | 80 | 671 | 210 | 577 |
| 40-44 years | 1,007 | - 992 | 39 | 62 | 469 | 158 | 448 |
|  | 1,914 | 894 | 106 | 70 | 325 | 108 | 362 |
|  | 1,060 | 1,033 | 187 | 103 | 348 | 107 | 429 |
| 55-59 years-- | 1,177 | 1,136 | 320 | 104 | 315 | 91 | 412 |
| 60-64 years-- | 1,061 | 1,018 | 340 | 105 | 179 | 53 | 243 |
| 65-69 years--- | 624 | 594 | 240 | 47 | 83 | 32 | 106 |
| 70 years and over | 736 | 650 | 314 | 77 | 56 | 47 | 64 |
| Sex |  |  |  |  |  |  |  |
| Male- <br> Femal | 8,382 233 | 8,106 221 | 1,565 18 | 672 23 | 2,761 | 904 28 | 2,889 55 |
| Professional identity |  |  |  |  |  |  |  |
|  | 8,434 181 | 8,167 161 | 1,470 113 | 644 50 | 2,801 33 | 931 1 | 2,888 57 |
| Board certification |  |  |  |  |  |  |  |
| Certified <br> Not certified $\qquad$ | 4,953 3,662 | 4,865 3,462 | 330 1,252 | 310 384 | 2,053 781 | 637 295 | 1,965 980 |
| Principal type of employment |  |  |  |  |  |  |  |
| Self-employed |  |  |  |  |  |  |  |
|  | 5,902 | 5,695 | 1,281 | 489 | 1, 660 | 455 | 1,826 |
|  | 1,407 | 1,385 | 166 | 80 | 1, 578 | 134 | 1, 557 |
|  | - 487 | - 483 | 62 | 39 | 160 | 52 | 197 |
| Nongroup arrangement with othex physicians- | 361 | 352 | 21 | 26 | 153 | 44 | 131 |
|  | 222 | 204 | 4 | 27 | 197 | 180 | 144 |
| Nongovernment hospital---m-m-------m-m------- | 55 | 50 | 8 | 9 | 30 | 186 | 25 |
| City or county government hospital-mmo----- | 21 | 19 | 1 | 1 | 9 | 5 | 6 |
|  | 17 | 13 | 1 | - | 2 | 1 | 2 |
|  | 28 | 21 | 7 | 8 | 10 | 6 | 11 |
|  | 12 | 9 | - | 1 | 3 | - | 2 |
| Federal Government hospital------mmm------- | 67 | 63 | 24 | 13 | 23 | 18 | 32 |
| Federal Government | 18 | 17 | 6 | 13 | - | 18 | 7 |
| Other ${ }^{2}$ | 19 | 17 | 1 | 1 | 7 | 8 | 6 |
| Volume of activity |  |  |  |  |  |  |  |
| Less than 48 weeks per year: |  |  |  |  |  |  |  |
|  | 450 1,736 | 410 1,692 | 128 | 28 136 | 34 584 | 15 179 | 52 |
| 48-52 weeks per year: | 1,736 | 1,692 | 291 | 136 | 584 | 179 | 625 |
| 1-34 hours per week----m-n-----n-mom-m--mm- | 603 | 548 | 186 | 45 | 74 | 32 | 59 |
| 35-48 hours per week-n--mmom-mmem-m-m-m- | 2,485 | 2,396 | 530 | 190 | 630 | 169 | 668 |
|  | 3,341 | 3,280 | 448 | 296 | 1,513 | 537 | 1,541 |

${ }^{1}$ Includes professional associations, hospital medical staffs, etc. Administrative duties related to the medical care of the respondent's own patients are excluded here and included under specific clinical activity engaged in.
${ }^{2}$ Includes all types of insurance carriers, pharmaceutical companies, corporations, voluntary associations,medical societies, association, etc.

Table 14. Number and percent distribution of active ophthalmologists by percent of time spent per week in clinical ophthalmology, according to selected characteristics: United States, 1968


See footnote at end of table.

Table 14. Number and percent distribution of active ophthalmologists by percent of time spent per week in clinical ophthalmology, according to selected characteristics: United States, 1968-Con.

| Selected characteristic | Total | Time spent per week in clinical ophthalmology |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  | No time | $\begin{gathered} \text { 1-19 } \\ \text { percent } \end{gathered}$ | $\begin{gathered} 20-49 \\ \text { percent } \end{gathered}$ | $\begin{gathered} 50-99 \\ \text { percent } \end{gathered}$ | $\begin{aligned} & 100 \\ & \text { percent } \end{aligned}$ |
| United States------------------------- | Percent distribution |  |  |  |  |  |
|  | 100.0 | 3.3 | 1.6 | 7.5 | 57.3 | 30.3 |
| Age |  |  |  |  |  |  |
|  | 100.0 | 1.0 | 0.7 | 6.5 | 64.8 | 27.0 |
| 35-39 years | 100.0 | 1.5 | 1.1 | 5.3 | 68.1 | 24.0 |
| 40-44 years | 100.0 | 1.5 | 1.1 | 4.5 | 65.2 | 27.7 |
| 45-49 years | 100.0 | 2.2 | 1.2 | 5.6 | 58.2 | 32.8 |
| 50-54 years | 100.0 | 2.5 | 2.1 | 8.5 | 56.4 | 30.5 |
| 55-59 years | 100.0 | 3.6 | 2.0 | 8.8 | 56.2 | 29.4 |
|  | 100.0 | 4.0 | 2.4 | 10.9 | 47.5 | 35.2 |
| 65-69 years | 100.0 | 4.7 | 2.0 | 8.2 | 49.1 | 36.1 |
| 70 years and over-n-------------------------- | 100.0 | 11.7 | 2.2 | 9.3 | 42.9 | 33.9 |
| Sex |  |  |  |  |  |  |
|  | 100.0 | 3.3 | 1.6 | 7.5 | 57.6 | 29.9 |
| Female | 100.0 | 5.3 | 1.4 | 5.4 | 44.8 | 43.0 |
| Professional identity |  |  |  |  |  |  |
|  | 100.0 | 3.2 | 1.5 | 6.9 | 57.7 | 30.8 |
| Doctor of osteopathy------------------------ | 100.0 | 11.5 | 8.5 | 33.2 | 40.1 | 6.7 |
| Board certification |  |  |  |  |  |  |
| Certified- | 100.0 | 1.8 | 0.8 | 4.1 | 61.0 | 32.3 |
| Not certified | 100.0 | 5.5 | 2.8 | 12.0 | 52.2 | 27.6 |
| Principal type of employment |  |  |  |  |  |  |
| Self-employed |  |  |  |  |  |  |
| Solo practice | 100.0 | 3.5 | 1.5 | 6.5 | 56.7 | 31.8 |
|  | 100.0 | 1.6 | 0.9 | 4.3 | 62.8 | 30.4 |
| Group practice--------------------------- | 100.0 | 0.7 | 0.9 | 4.3 | 64.8 | 29.3 |
| Nongroup arrangement with other physicians | 100.0 | 2.5 | 1.9 | 3.7 | 63.1 | 28.8 |
| Salaried |  |  |  |  |  |  |
| Medical school--------------------------- | 100.0 | 8.2 | 4.5 | 54.2 | 29.6 | 3.5 |
| Nongovernmental hospital-------------n-n- | 100.0 | 10.1 | 4.0 | 28.7 | 42.7 | 14.4 |
| City or county government hospital------ | 100.0 | 10.2 | 5.4 | 10.5 | 42.5 | 31.4 |
| City or county government--------------- | 100.0 | 19.4 | 13.4 |  | 13.2 | 53.9 |
|  | 100.0 | 24.3 | 4.0 | 16.3 | 43.5 | 11.9 |
|  | 100.0 | 27.5 |  |  | 18.4 | 54.1 |
| Federal Government hospita | 100.0 | 6.8 | 8.0 | 23.4 | 46.9 | 15.0 |
| Federal Government-m---- | 100.0 | 6.0 | 5.7 | 25.8 | 37.0 | 25.4 |
| Other ${ }^{1}$ | 100.0 | 11.9 | 23.7 | - | 41.0 | 23.5 |
| Volume of activity |  |  |  |  |  |  |
|  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |  |
| 35 hours or more per week------------m---- | 100.0 | 2.5 | 1.4 | 6.2 | 60.1 | 29.7 |
|  |  |  |  |  |  |  |
|  | 100.0 | 9.1 | 2.8 | 7.4 | 37.1 | 43.6 |
|  | 100.0 | 3.6 | 1.6 | 6.9 | 51.8 | 36.2 |
|  | 100.0 | 1.8 | 1.6 | 8.7 | 66.2 | 21.7 |

[^6]Table 15. Number and percent distribution of active ophthalmologists by percent of time spent per week in clinical otolaryngology, according to selected characteristics: United States, 1968


See footnote at end of table.

Table 15. Number and percent distribution of active ophthalmologists by percent of time spent per week in clinical otolaryngology, according to selected characteristics:United States,1968-Con.

| Selected characteristic | Total | Time spent per week in clinical otolaryngology |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  | No time | $\begin{aligned} & 1-19 \\ & \text { percent } \end{aligned}$ | $\begin{gathered} 20-49 \\ \text { percent } \end{gathered}$ | $\begin{gathered} 50-99 \\ \text { percent } \end{gathered}$ | $\stackrel{100}{\text { percent }}$ |
|  | Percent distribution |  |  |  |  |  |
|  | 100.0 | 81.6 | 2.5 | 7.4 | 8.4 | 0.0 |
| Age |  |  |  |  |  |  |
|  | 100.0 | 97.9 | 0.7 | 0.5 | 0.9 | - |
|  | 100.0 | 98.3 | 0.4 | 0.5 | 0.8 | - |
|  | 100.0 | 96.2 | 1.0 | 1.1 | 1.8 | - |
|  | 100.0 | 88.4 | 2.2 | 4.5 | 4.9 | - |
|  | 100.0 | 82.4 | 2.9 | 8.6 | 6.1 | - |
|  | 100.0 | 72.8 | 4.2 | 12.5 | 10.4 | 0.1 |
|  | 100.0 | 68.0 | 3.8 | 12.5 | 15.7 | - |
|  | 100.0 100.0 | 61.5 57.3 | 4.5 4.1 | 14.6 | 19.5 | - |
| Sex |  |  |  |  |  |  |
| Male | 100.0 | 81.3 | 2.6 | 7.5 | 8.6 | 0.0 |
| Professional identity | 100.0 | 92.2 | 0.5 | 4.9 | 2.5 | - |
|  | 100.0 | 82.6 | 2.4 | 7.0 | 8.0 | - |
|  | 100.0 | 37.7 | 9.6 | 24.7 | 27.4 | 0.6 |
| Board certification |  |  |  |  |  |  |
| Certified- | 100.0 | 93.3 | 1.5 | 3.1 | 2.0 | - |
| Not certified | 100.0 | 65.8 | 3.9 | 13.2 | 17.1 | 0.0 |
| Principal type of employment |  |  |  |  |  |  |
| Self-employed |  |  |  |  |  |  |
| Solo practice | 100.0 | 78.3 | 2.7 | 8.6 | 10.4 | 0.0 |
|  | 100.0 | 88.2 | 2.5 | 4.8 | 4.5 | - |
|  | 100.0 | 87.3 | 1.8 | 6.5 | 4.3 | - |
| Nongroup arrangement with other |  |  |  |  |  |  |
|  | 100.0 | 94.2 | 0.9 | 1.8 | 3.1 | - |
| Medical School----------------------------- | 100.0 | 98.0 | 0.5 | 0.5 | 1.0 | - |
|  | 100.0 | 85.9 | 2.0 | 6.0 | 6.0 | - |
| City or county government hospital------- | 100.0 | 95.0 | - | 7 | 5.0 | - |
| City or county government-----------------1-1 | 100.0 | 93.3 | - | 6.7 | - | - |
| Statè government hospital-m--------mm---- | 100.0 | 75.9 | - | 20.2 | 3.9 | - |
|  | 100.0 | 100.0 | - | - |  | - |
| Federal Government hospital | 100.0 | 63.8 | 13.0 | 8.2 | 14.9 | - |
| Federal Government- | 100.0 | 68.9 | 7 | 24.8 | 6.3 | - |
| Other ${ }^{1}-$ | 100.0 | 94.3 | 5.7 | - |  | - |
| Volume of activity |  |  |  |  |  |  |
| Less than 48 weeks per year: $1-34$ hours per week---mater |  |  |  |  |  |  |
|  | 1100.0 | 71.6 83.2 | 2.9 2.2 | 10.2 | 15.3 | - |
| 48-52 weeks per year: |  |  |  | 7.3 | 7.3 | - |
| 1-34 hours per week- | 100.0 | 69.2 | 2.8 | 10.6 | 17.2 | 0.2 |
| 35-48 hours per week- | 100.0 | 78.7 | 2.8 | 8.3 | 10.2 | - |
|  | 100.0 | 86.6 | 2.4 | 5.8 | 5.2 | - |

[^7]Table 16. Number and percent distribution of active ophthalmologists by percent of time spent per week in teaching, according to selected characteristics: United States, 1968


See footnote at end of table.

Table 16. Number and percent distribution of active ophthalmologists by percent of time spent per week in teaching, according to selected characteristics: United States, 1968-Con.


[^8]Table 17: Number and percent distribution of active ophthalmologists by percent of time spent per week in medical research, according to selected characteristics: United States, 1968


See footnote at end of table.

Table 17. Number and percent distribution of active ophthalmologists by percent of time spent per week in medical research, according to selected characteristics: United States, 1968-Con.

${ }^{1}$ Includes all types of insurance carriers, pharmaceutical companies, corporations, volumtary associations, medical societies, associations, etc.

Table 18. Number and percent distribution of active ophthalmologists by percent of time spent per week in administration, according to selected characteristics: United States, 1968


See footnotes at end of table.

Table 18. Number and percent distribution of active ophthalmologists by percent of time spent per week in administration, according to selected characteristics: United States, 1968-Con.

| Selected characteristic | Total | Time spent per week in administration ${ }^{1}$ |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  | No time | $\stackrel{1-19}{\text { percent }}$ | $\begin{gathered} 20-49 \\ \text { percent } \end{gathered}$ | $\begin{gathered} 50-99 \\ \text { percent } \end{gathered}$ | $\stackrel{100}{\text { percent }}$ |
|  | Percent distribution |  |  |  |  |  |
|  | 100.0 | 65.8 | 31.1 | 2.5 | 0.5 | 0.2 |
| Age |  |  |  |  |  |  |
|  | 100.0 | 61.4 | 35.3 | 3.0 | 0.3 | - |
| 35-39 years | 100.0 | 53.8 | 43.2 | 2.8 | 0.3 |  |
| 40-44 years | 100.0 | 55.5 | 41.3 | 2.9 | 0.3 | - |
| 45-49 years | 100.0 | 60.4 | 36.2 | 2.2 | 0.7 | 0.5 |
| 50-54 years | 100.0 | 59.5 | 36.4 | 3.2 | 0.5 | 0.4 |
| 55-59 years | 100.0 | 65.0 | 31.6 | 2.9 | 0.3 | 0.2 |
| 60-64 years | 100.0 | 77.1 | 20.1 | 1.5 | 1.1 | 0.2 |
| 65-69 years | 100.0 | 83.0 | 14.3 | 2.2 | 0.5 | - |
| 70 years and over----------------------------1-1 | 100.0 | 91.3 | 7.6 | 0.9 | 0.2 | - |
| Sex |  |  |  |  |  |  |
| Male- | 100.0 | 65.5 | 31.4 | 2.5 | 0.5 | 0.2 |
| Female | 100.0 | 76.3 | 20.9 | 2.4 | 0.5 | - |
| Professional identity |  |  |  |  |  |  |
|  | 100.0 | 65.8 | 31.2 | 2.5 | 0.5 | 0.1 |
|  | 100.0 | 68.5 | 27.9 | - | 0.6 | 3.0 |
| Board certification |  |  |  |  |  |  |
| Certified | 100.0 | 60.3 | 36.1 | 3.0 | 0.5 | 0.1 |
| Not certified | 100.0 | 73.2 | 24.4 | 1.7 | 0.5 | 0.2 |
| Principal type of employment |  |  |  |  |  |  |
| Self-employed 100.0 |  |  |  |  |  |  |
|  | 100.0 | 69.1 | 28.7 | 1.8 | 0.2 | 0.2 |
| Partnership- | 100.0 | 60.4 | 38.0 | 1.5 | 0.1 | - |
|  | 100.0 | 59.6 | 38.8 | 1.1 | 0.5 | - |
| Nongroup arrangement with other physicians | 100.0 | 63.7 | 34.4 | 1.9 | - | - |
| Salaried |  |  |  |  |  |  |
|  | 100.0 | 35.1 | 38.1 | 24.4 | 2.5 | - |
| Nongovernment hospital-------------mo---- | 100.0 | 55.1 | 26.4 | 12.5 | 6.0 | - |
| City or county government hospital-m-n-m- | 100.0 | 73.3 | 10.8 | 15.9 | - | - |
| City or county government-m. | 100.0 | 86.6 | - | - | 13.4 | - |
| State government hospital- | 100.0 | 60.0 | 19.7 | 8.1 | 8.1 | 4.2 |
| State government------ | 100.0 | 81.6 | 9.2 |  | 9.1 | - |
|  | 100.0 | 53.1 | 31.9 | 10.1 | 4.9 | - |
| Federal Government-- | 100.0 | 62.8 | 12.4 | 6.2 | 12.6 | 6.0 |
| Other ${ }^{2}$ | 100.0 | 70.6 | 17.6 |  | 11.9 | - |
| Volume of activity |  |  |  |  |  |  |
| Less than 48 weeks per year: |  |  |  |  |  |  |
|  | 100.0 | 88.5 | 9.0 | 2.0 | 0.2 | 0.2 |
| 35 hours or more per week--n--m-n-m-n----1 | 100.0 | 64.0 | 32.7 | 2.7 | 0.2 | 0.3 |
| 48-52 weeks per year: 0 - 0.3 |  |  |  |  |  |  |
| 1-34 hours per week-- | 100.0 | 90.2 | 8.3 | 1.1 | 0.2 | 0.2 |
| 35-48 hours per week- | 100.0 | 73.2 | 24.7 | 1.2 | 0.7 | 0.2 |
| 49 hours or more per week--------------n- | 100.0 | 53.9 | 42.1 | 3.6 | 0.5 | 0.0 |

[^9]
## APPENDIX I

## TECHNICAL NOTES AND QUALIFYING COMMENTS

## Data Collection

Most of the statistical information used in this report is the product of a survey of ophthalmologists conducted by the National Center for Health Statistics between May and December 1968. This was a part of a general survey of eye-care manpower which sought information on four groups-ophthalmologists (both doctors of medicine and doctors of osteopathy), optometrists, opticianry establishments, and dispensing opticians.

In advance of the actual survey of the ophthalmologists, prominent ophthalmological associations received copies of the proposed questionnaires and survey plan. A number of government agencies-Federal, State, and local-were also contacted. Recommendations received from these advisory sources were used to modify the survey plan and questionnaires.

An announcement of the survey was published by the Eve, Ear, Nose and Throat Monthly, The Ophthalmologist, and the newsletter of the American Osteopathic Association. The American Association of Ophthalmology cooperated by sending a letter to each of its members urging their participation.

A total of 10,302 ophthalmologists comprised the survey universe, a figure which included both doctors of medicine (M.D.'s) and doctors of osteopathy (D.O.'s). M.D. ophthalmologists surveyed included all those who had reported to the American Medical Association that ophthalmology was their primary or secondary specialty. Of the 10,102 M.D. ophthalmologists surveyed, 9,020 , or 89.2 percent, listed ophthalmology as their primary specialty, while 1,082 , or 10.7 percent, designated it as their secondary specialty.
D.O. ophthalmologists included in the survey universe were all those doctors of osteopathy who had reported to the American Osteopathic Association that they devoted any time whatever to ophthalmology. Of the 200 D.O. ophthalmologists surveyed, 17 , or 8.5 percent, had reported that they devoted 75 percent or more of their work week to ophthalmology. An additional 21 , or 10.5 percent, reported between 50 and 75 percent, while the remaining 145 , or 72.5 percent, apparently devoted under 25 percent of their work week to ophthalmological activities.

A pretest was conducted by the National Center for Health Statistics during the 1 -month period from May 31 to July 3, 1968. Questionnaires were mailed to two M.D. ophthalmologists in each State and the District of Columbia. Twenty-five D.O. ophthalmologists were selected at random and mailed questionnaires. A 90.5 -percent response to the pretest was achieved, and based on an analysis of this pretest response, certain minor alterations were made in the M.D. questionnaire and the D.O. questionnaire.

The revised questionnaires appear in appendix III as they were used in final form.

In the remaining months of 1968 the main body of the ophthalmologist universe was surveyed. The collection of data for the survey was accomplished under contract with the U.S. Bureau of the Census. This agency was responsible for the mailing of the questionnaires, receipt, and control of the responses, and followup whenever incomplete or inadequate questionnaires were returned or whenever a questionnaire was not returned. Four mailings were used in an attempt to elicit a response, the first three by first-class mail, the last by certified mail. All four mailings were made in every case where a return was not received.

In addition to the mailings, telephone contacts and personal interviews were also used. They were employed in cases of nonresponse or refusal as well as in cases of questionnaires which had been only partially completed.

After all contact efforts a response rate of 92.7 percent was achieved.

In addition to the information obtained directly from the survey respondents, this report also uses supplementary information supplied by the American Medical Association and the American Osteopathic Association for such characteristics as sex, chronological age, age at graduation, and certification by specialty boards.

## Processing of Data

A preliminary edit was undertaken at the time of the return of the survey questionnaires. This was done to insure completeness of the responses. The information from the questionnaires was then coded, punched, and placed on computer tape.

During the cleanup and editing phases of the processing an elaborate series of checks and cross-checks were made, chiefly to confirm accuracy of response and to correct coding and punching errors that occurred, but also to insure consistency between related items.

Table I shows the overall response to the survey. Of the total 10,302 M.D. and D.O. ophthalmologists included in the original survey universe, 1,245 , or 12.1 percent, were eliminated in processing as out of scope for the purpose of reporting. These out-of-scopes included 133 respondents who were either practicing ophthalmology in foreign countries or not engaged at all in the practice of ophthalmology; 233 uniformed ophthalmologists (in the Army, Navy, Air Force, and Public Health Service); and 879 students in ophthalmology residency programs (both civilian and military). Data reported, then, are for civilian ophthalmologists who have completed their training requirements and are formally qualified to practice. In number this group amounted to 9,057 ophthalmologists, or 87.9 percent of the original universe.

A total of 8,136 , or 90.0 percent of the 9,057 , responded to the survey with usable questionnaires. The remainder was composed of 675 nonrespondents (i.e., no questionnaires returned, reason unspecified); 186 post office returns; and 60 deceased nonrespondents; or 7.5 percent, 1.8 percent, and 0.6 percent, respec. tively.

Of the 8,136 usablequestionnaires (good responses), 7,741 , or 95.1 percent, specified an active status while 395 reported that they were either retired or not currently engaged in ophthalmological activities although not retired.

## Adjustments

Two types of adjustment were applied to the survey responses.

The first was an adjustment for partial nonresponse within the questionnaire; for example, leaving one item unanswered. In such cases omitteditems were randomly assigned the response obtained from respondents with similar characteristics and the total figure for theitem adjusted to include this "imputation." As may be seen in table II, the need for this type of adjustment was minimal; the item nonresponse rate was less than 4 percent for all items considered in this general report except for the question on approximate number of patients seen per week, where the nonresponse rate was 7.8 percent. At least two factors may have contributed to the high nonresponse rate for this item. First, the question occurs relatively late in the questionnaire and a certain amount of respondent fatigue may have set in. The second factor, however, seems to carry more weight. It concerns question content. Respondents were asked to derive the approximate number of eye patients seen in a typical week from the approximate number of patient visits during a typical week. This

Table I. Number and percent distribution of survey population by type of respondent or nonrespondent: United States, 1968

| Type of respondent or nonrespondent | Number | Percent of total |
| :---: | :---: | :---: |
| Total questionnaires mailed-- | 10,302 | 100.0 |
| Out-of-scopes: |  |  |
| Not practicing in United States or not engaged at all |  |  |
|  | 133 | 1.3 |
| Uniformed ophthalmologists--- | 233 | 2.3 |
| In ophthalmology residency programs | 879 | 8.5 |
| Civilian. formally qualified ophthalmologists- | 9,057 | 87.9 |
| Givilian, formally qualified ophthalmologists- | 9,057 | 100.0 |
| Unusable questionnaires: <br> Nonrespondents (reason |  |  |
| unspecified)----m--- | 675 | 7.5 |
| Post office returns----------- | 186 | 1.8 |
| Deceased nonrespondents------- | 60 | 0.6 |
|  | 8,136 | 90.0 |
| Good responses-m-u------------- | 8,136 | 100.0 |
| Active ophthalmologists-n---- | 7,741 | 95.1 |
| Inactive ophthalmologists---- | 395 | 4.9 |

involved a judgment as to typicality as well as the need to make a quantified estimate which is itself a second-order derivation from another quantified estimate. This rather difficult succession of requirements may have acted to inhibit freer response to the item.

In addition to this adjustment for item nonresponse, an adjustment was also made for unit nonresponse, i.e., for nonavailability of the entire questionnaire. This "inflation" factor was established from the ratio of total ophthalmologists in a civilian formally qualified status to the number of usable (good) responses obtained. The average inflation factor was, therefore, $9,057: 8,136$, or $1+.1132$. Applied to the 7,741 active good respondents cited above, it produced a weighted national estimate of 8,616 ophthalmologists who were active, not uniformed, and formally qualified in the United States in 1968. This figure of 8,616 supplies the statistical base for most of the tables and textual commentary in this report. Table III shows the distribution of these ophthalmologists by State before and

Table II. Percentages of active ophthalmologists responding to selected questions on survey questionnaires: United States, 1968

| Questionnaire item ${ }^{1}$ | Preadjustment percentage of active ophthalmologist's responding |
| :---: | :---: |
| Activity status-----------m---1 | 100.0 |
| States where licensed-------.. | 97.4 |
| Principal type of employment- | 98.1 |
| Weeks per year usually worked | 96.6 |
| Hours per week usually worked | 96.4 |
| Clinical and noncifinical activities | 97.1 |
| Ophthalmological subspecialy- | 96.9 |
| Use of supplementary personnel | 97.1 |
| Patient services rendered---- | 97.2 |
| Eye patients seen weekly-m-n- | 92.2 |

${ }^{1}$ Data presented in this table are not for all items on the questionnaires, only for items that fall within the scope of this particular report.
after the application of the appropriate inflation factor for each State.

## Qualifying Comments

The survey questionnaires did not define the terms "full-time" and "part-time," leaving their interpretation to the subjective judgment of the respondents, 89.2 percent of whom reported full-time activity. The proportion of time that D.O. ophthalmologists devoted to ophthalmological activities is discussed on page 49, of this appendix. The number of osteopaths engaged full time in the practice of ophthalmology was few. M.D. ophthalmologists comprised 97.9 percent of the survey respondents, and about 89 percent of these M.D. respondents had already reported to the AMA that ophthalmology was their "primary" specialty. It seems likely that the conditions "fulltime" and "primary" tended to be applied interchangeably by M.D. respondents.

In order to obtain from these survey findings a ratio of active ophthalmologists to general population which would be comparable to the ratios established in the study by Ivan J. Fahs entitled "Vision Manpower in the United States," ${ }^{3}$ it was necessary to abstract from the survey population to include only M.D. respondents reporting a primary specialty in ophthalmology. This meant deducting from the total active universe of 8,616 ophthalmologists a figure of 1,084 practitioners (181 osteopathic ophthalmologists and approximately 903 M.D. ophthalmologists who had reported ophthalmology as a "secondary" specialty). This reduction led to a figure of 7,532 which, when applied to the estimated general population of $1,975,600$, produced the ratio of 3.8 per 100,000 used in this report as directly comparable to the ratio of the Fahs study.

Data on specialty board status of M.D. ophthalmologists was obtained from AMA. Tabular data and narrative are presented on "first" and "second" diplomates of the American Board of Ophthalmology and the American Board of Otolaryngology. Using preadjustment figures, of the 10,102 M.D. ophthalmologists included in the original survey universe, 5,002 , or 49.5 percent, designated the American Board of Ophthalmology as their first specialty board while 609 , or 6.0 percent, designated the American Board of Otolaryngoology to be their first specialty board. Sixteen, or 0.1 percent, designated ophthalmology as their second board specialty, while 233 , or 2.3 percent designated otolaryngology as a second board specialty.

By "clinical activity" is meant activity in direct diagnosis and treatment of patients. "Teaching" was intended to comprehend not only formal instruction as a faculty member in a medical school, but all forms of teaching, training or instruction-formal or informal, indifferent of locus-that an ophthalmologist might engage in, along with the preparation time involved. "Administration" was perhaps the least clearly defined of the activities. The survey respondent was asked to report as administrative activity his duties with "e.g., professional associations, hospital medical staff, etc." The survey instructions specified that administrative duties related to the medical care of the ophthalmologist's own patients should be excluded from this nonclinical adminstrative category and included as time spent in a specific clinical activity. It seems likely that much activity which is essentially administrative in character may be concealed in the data for the clinical activities or be otherwise unreported.

NOTE: The list of references follows the text.

Table III. Distribution of active, civilian, formally qualified ophthalmologists by State before and after application of adjustment ratios: United States, 1968

| State | $\begin{gathered} \text { Responding } \\ \text { active } \\ \text { ophthalmologists } \end{gathered}$ | Adjustment factor | Weighted estimate of ophthalmologists |
| :---: | :---: | :---: | :---: |
| United States----- | 7,741 | 1.11 | 8,616 |
| Alabama------------------ | 78 | 1.11 | 87 |
|  | 5 | 1.00 | 5 |
| Arizona----------------- | 75 | 1.06 | 80 |
| Arkansas ----------------- | 38 | 1.07 | 41 |
| California-----m-------- | 972 | 1.11 | 1,079 |
| Colorado---..------..----- | 117 | 1.05 | 123 |
| Connecticut------------- | 133 | 1.14 | 152 |
| Delaware----m----------- | 18 | 1.15 | 21 81 |
| District of Columbia---- | 65 | 1.25 | 81 302 |
| F'lorida------------------ | 267 | 1.13 | 302 142 |
| Georgia-----n----------- | 128 | 1.11 | 142 30 |
|  | 27 31 | 1.11 1.09 | 30 34 |
|  | 373 | 1.15 | 429 |
|  | 152 | 1.15 | 175 |
|  | 86 | 1.19 | 102 |
|  | 70 | 1.08 | 76 |
| Kentucky----------------- | 91 | 1.06 | 96 |
|  | 131 | 1.17 | 153 |
| Maine---m------m-------- | 37 | 1.05 | 39 |
| Maryland---------------- | 136 | 1.21 | 165 |
| Massachusetts ----------- | 246 | 1.14 | 280 |
| Michigan---------------- | 303 | 1.12 | 339 |
|  | 137 | 1.08 | 148 |
| Mississippi-------------- | 58 | 1.07 | 62 |
| Missouri -m-------------- | 179 | 1.06 | 190 |
| Montana----------------- | 37 | 1.05 | 39 |
| Nebraska----------m----- | 46 | 1.20 | 55 |
| Nevada ------------------ | 15 | 1.07 | 16 |
| New Hampshire------------ | 26 | 1.03 | 27 |
| New Jersey--------------- | 277 | 1.11 | 307 |
| New Mexico----------m--- | 40 | 1.13 | 45 |
| New York----------m------ | 908 | 1.12 | 1,017 |
| North Carolina---------- | 158 | 1.10 | 174 |
|  | 19 | 1.05 | 20 |
| Ohio-------------------- | 360 | 1.09 | 392 |
|  | 88 | 1.10 | 97 |
| Oregon------------------- | 101 | 1.08 | 109 |
| Pennsylvania------------- | 527 | 1.11 | 585 |
| Rhode Island-.---.--m-m- | 30 | 1.06 | 32 |
| South Carolina----------- | 64 | 1.13 | 72 |
| South Dakota---a-m---m | 21 | 1.05 | 22 |
|  | 119 | 1.10 | 131 |
|  | 362 | 1.12 | 405 |
|  | 45 | 1.04 | 47 |
| Vermont------------------ | 19 | 1.00 | 19 |
|  | 144 | 1.15 | 166 |
| Washington----------m-m- | 147 | 1.09 | 160 |
| West Virginia-m-----m--- | 58 | 1.11 | 64 |
| Wisconsin---------------- | 162 | 1.04 | 168 |
| Wyoming------------------ | 15 | 1.07 | 16 |

## APPENDIX II

## DEFINITIONS OF CERTAIN TERMS USED IN THIS REPORT

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

Clinical ophthalmology.-Signifies professional activity characterized by direct diagnosis and treatment of eye patients.

Geographic area.--The United States (the 50 States and the District of Columbia) is dividedinto regions and divisions as follows:

| Region and Division | States Included |
| :---: | :---: |
| Northeast |  |
| New England -------- | Maine, New Hampshire, Vermont, Massachusetts, Rhode Island, Connecticut |
| Middle |  |
| Atlantic ------------ | New York, New Jersey, Pennsylvania |
| North Central |  |
| East North |  |
| Central --..n-..-n--- | Ohio, Indiana, Illinois, Michigan, Wisconsin |
| West North |  |
| Central----------- | Minnesota, Iowa, Missouri, North Dakota, South Dakota, Nebraska, Kansas |
| South |  |
| South Atlantic ...--- | Delaware, Maryland, District of Columbia, Virginia, West Virginia, North Carolina, South Carolina, Georgia, Florida |


| East South |  |
| :---: | :---: |
| Central ---n------- | Kentucky, Tennessee, Alabama, Mississippi |
| West South |  |
| Central ----------- | Arkansas, Louisiana, Oklahoma, Texas |
| West |  |
| Mountain ---------- | Montana, Idaho, Wyoming, Colorado, New Mexico, Arizona, Utah, Nevada |
| Pacific------------ | Washington, Oregon, California, Alaska, Hawaii |

Group practice. -The delivery of medical services by three or more physicians formally organized to provide medical care, consultation, diagnosis, and/or treatment through the joint use of equipment and personnel and with the income from medical practice distributed in accordance with methods previously determined by members of the group.

## Salaried employment:

Hospital employment.--Salaried employment by nongovernmental hospitals and by city, county, State, and Federal hospitals.
Nonhospital employment.-_Salaried employment by medical school (or parent university); city, county, State, and Federal governments (other than hospitals); and by other employers (all types of insurance carriers, pharmaceutical companies, corporations, voluntary organizations, medical societies, associations, etc.).

## SURVEY QUESTIONNAIRES

## Questionnaire for Doctors of Medicine

FHS-T407-1
REV. 8-68

## U.S. DEPARTMENT OF COMMERCE

 BUREAU OF THE CENSUSACTING AS COLLECTING AGENT FOR THE
U.S. PUBLIC HEALTH SERVICE

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.
OPHTHALMOLOGISTS

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


If no, please enter the correct information below:

2. Where were you born? $\qquad$
3. In which States do you currently hold an ACTIVE LICENSE to practice medicine?
4. Are you CURRENTLY ACTIVE in medicine? (Include patient care, teaching, research, and administration.)
$1 \square$Yes, Full-time
$2 \square$Yes, Part-time
PROCEED TO

| $s \quad \square$ | No, Not active in medicine |
| :--- | :--- |
| $\qquad \square$ | No, Retired |

STOPI
REMAINDER OF QUESTIONNAIRE DOES NOT APPLY. PLEASE RETURN QUESTIONNAIRE IN THE ENYELOPE PROVIDED.

# 5. Which of the following categories best describes your PRINCIPAL form of practice or employment? (Check gne) <br> Solo practice <br> Partnership practice <br> If you have checked 02, 03, or 04, what is <br> 03Group practice <br> 04Arrangement with other physician(s): non-groupMedical school (or parent university) <br> 00Non-governmental hospital <br> 07City or county government hospital <br> 08City or county government other than hospital <br> 09State government hospital <br> 10State government other than hospital <br> 11Federal government hospital (Speci/y agency; <br> $\qquad$ ). <br> 12Federal government other than hospital (Speci/y agency: <br> $\qquad$ - <br> 15Other - Not listed above (all types of insurance carriers, pharmaceutical companies, copporations, voluntary organizations, medical societies, associations, etc.). 

6. In your PRINCIPAL form of practice or employment indicated in ltem 5, are you PRIMARILY: (Check one)Self-employedSalaried employee (other than in training or in military service)In the military service (other than intern or resident)Intern - Civilian

0Intern - Military
-Resident or fellow - CivilianResident or fellow - Military
7. How many WEEKS per year do you usually practice medicine? (Include patient care, teaching, research, and administration. Do not count vacations as weeks worked).
(Weeks per year)
8. How many HOURS per week do you usually practice medicine? (Include patient care, teaching, research, and administration.)
(Hours per week)
9. APPROXIMATELY what PERCENT of the total number of hours per week, indicated in ltem 8 , do you usually spend in each of the following activities?
a. $\qquad$ \% Clinical ophthalmology
b. $\qquad$ \% Clinical otorhinolaryngology
c. $\qquad$ \% Other clinical medical activity
d. $\qquad$ $\%$ Teaching (Include hours spent in preparation)
e. $\qquad$ \% Medical research
f. $\qquad$ \% Administration, e.g., professional associations, hospital medical staffs, etc. (Administrative duties related to the medical care of your OWN patients should be excluded in / and included in $a, b$ or $c$.)
g. $\quad$ \% Other (Specily: $\qquad$ - 1 100 \% TOTAL
If $0 \%$ of your time is spent in CLINICAL OPHTHALMOLOGY (Item 9a above), STOP, ond return questionnaire in the envelope provided; otherwise continue.
10. A. In your CLINICAL OPHTHALOMOLOGY practice, APPROXIMATELY how many EYE patient VISITS do you have during a typical week? (Include office and hospifal outpatient visits)
(Approximate number of visils)
B. APPROXIMATELY how many EYE PATIENTS does this represent? (Patients with multiple visits should be counted only once.)
(Approximate number of patients)
11. In your CLINICAL OPHTHALMOLOGY practice, which of the services below are rendered to your patients by you or under your direction?
(Check gll that apply)
o1 $\square$ Diagnostic examination (includesrefractive procedures and tonometry)
02Medical treatment
03Eye surgery
04Visual field examination and medical interpretation
05
Fitting contact lenses
06Orthoptic training (any procedure to improve acuity or binocularity)
07Prescribing low vision aids (includes optical aids greater than +4.00 addition)
oaAniseikonic testing
09Tonography
10Other (Specify: $\qquad$
12. In your CLINICAL OPHTHALMOLOGY practice, which of the following categories best describes how you spend the GREATEST amouht of your time?
(Check one)
1General ophthalmology, medical and surgical
2Corneal surgery*
3Retinal surgery
-Pediatric ophthalmology
-Ophthalmic pathology
-Neuro-ophthalmology
$7 \square$ Other (Specify: $\qquad$ )
13. What is the total number of office locations at which you currently proctice CLINICAL OPHTHALMOLOGY?
(Number of locations)
14. In your PRINCIPAL FORM OF PRACTICE OR EMPLOYMENT, indicated in Item 5 above, do you have supplementary personnel to assist you?


NUMBER WHO WORK FULL-TIME
(35 bours or more per week) FOR YOU FOR YOU AND
AIONE ASSOCIATES

NUMBER WHO WORK PART-TIME
(Less than 35 hours per week)
FOR YOU FOR YOU AND ALONE ASSOCIATES
a. Secretaries, receptionists, and other administrative personnel
b. Registered nurses.
c. Licensed practical nurses (or L.V.N.'s) $\qquad$
d. Ophthalmic medical assistants-general. $\qquad$
e. Ophthalmic medical assistants-refractive $\qquad$

g. Contact lens technicians. . . . . . . . . _ . . . . . . . . . . . . . . . . . . . . . . .
h. Optical technicians (laboratory ophthalmic or contact Ienses). . . . . . .
i. Orthoptists. . . . . . . . . . . . . . . . . . . . . $\square$
j. Other clinical assistants. . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . .
k. Optometrists (perfoming refractions and prescribing lenses on $O W N$ authority).

15A. If you have made entries under FOR YOU AND ASSOCIATES in the full-time or part-time columns in liem 14 above, how many associates, COUNTING YOURSELF, share these personnel?
(Number of associates)
B. Of these associotes, how many are PHYSICIANS, COUNTING YOURSELF?
(Number of physicians)
C. Of these physicians, how many are OPHTHALMOLOGISTS, COUNTING YOURSELF?
(Number of ophthalmologist.s)
COMMENTS - General comments are invited as well as comments on specificitems:

PLEASE RETURN QUESTIONNAIRE IN THE STAMPED ENVELOPE PROVIDED.

## Questionnaire for Doctors of Osteopathy

PHS-T407-2
REV. 8-68
U.S. DEPA RTM ENT OF COMMERCE BUREAL OF THE CENSUS
ACTING AS COLLECTING AGENT FOR THE U.S. PUBLIC HEALTH SERVICE

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 OPHTHALMOLOGISTS

1. Is your name correct, and is the address above your PRIMARY PiLACE OF PRACTICE?
2 $\square$ $\dagger^{\text {No }}$
If no, please enter the correct information below:

2. Where were you born? $\qquad$
(State or /oreign country)
3. Are you a citizen of the United States? (Please check appropriate box)

- $\square$
Yes, Native Born
2Yes, Naturalized

4. What degrees have you earned OTHER THAN Doctor of Osteopathy or Doctor of Medicine? (Check all that apply)

5. In which States do you currently hold an ACTIVE LICENSE to practice osteopathic medicine?
6. Are you CURRENTLY ACTIVE in osteopathic medicine? (Include patient care, teaching, research and administration).

| $:$ | Ycs, Full-time |
| :--- | :--- | :--- |
| 2 | Yes, Part-time |

3No, Not active in osteopathic medicine
$\square$
STOP!
Remainder of questionnaire does not apply. Please
return questionnaire in the envelope provided.
7. Which of the following categories best describes your PRINCIPAL form of practice or employment? (Check one)
$0:$Solo practice
$02 \square$Partnership practice $\quad$ If you have checked 02, 03, or 04, what isGroup practice

04Arrangement with other physician(s): non-group the nome of your GROUP, PARTNERSHIP $5 \square$Osteopathic medical school (or parent universtty)
00Non-governmental hospital

07City or county govemment hospital
08City or county government other than hospital
09State goveroment hospital

10State government other than hospital

1 :Federal government hospital (Specify agency: $\qquad$ _)Federal government other than hospital (Specify agency:_)Other-Not listed above (all types of insurance carriers, pharmaceutical companies, corporations, voluntary organizations, medical societies, assoctations, etc.).
8. In your PRINCIPAL form of practice or employment indicated in Item 7, are you PRIMARILY:

## (Check one)

1Self- employedSalaried employee (Other than in training or in military service)
$ง$In the military service (Other than intern or resident)
4Intera - Civilian
sIntern - Military
-Resident or fellow - Civilian
7Resident or fellow - Military
9. How many WEEKS per year do you usually practice osteopathic medicine? (Include patient care, teaching, research, or administration. Do not count vacations as weeks worked.)
(Weeks per year)
10. How many HOURS per week do you usually practice osteopathic medicine? (Include patient care, teaching, research, or administration.)
(Hours per week)
11. APPROXIMATELY what PERCENT of the total number of hours per week, indicated in Item 10 , do you usvally spend in each of the following activities?
a. $\qquad$ $\%$ Clinical ophthalmology
b. $\%$ Clinical otorhinolaryngology
c. $\quad$ \% Other clinical osteopathic medical activity
d. $\%$ Teaching (Include bours spent in preparation.)
e. __ Osteopathic medical research
f. $\%$ Administration, e.g., professional associations, hospital medical staffs, ete. (Adminnstrative duties related to the medical care of your OWN pattents should be excluded in $f$ and included in $a, b$, or $c$.)
$\qquad$

If $0 \%$ of your time is spent in CLINICAL OPHTHALMOLOGY (item lla. above) STOP, and return questionnaire in the envelope provided; otherwise continue.
12. A. In your CLINICAL OPHTHALMOLOGY practice, APPROXIMATELY how many EYE patient VISITS do you have during a typical week? (Include office and hospital outpatient visits.)
(Approximate number of visits)
B. APPROXIMATELY how many EYE PATIENTS does this represent? (Patients with multiple visits should be counted only once.)

> (Approximate number of patients)
13. In your CLINICAL OPHTHALMOLOGY practice, which of the services below are rendered to your patients by you or under your direction?
(Check all that apply)
or $\square$ Diagnostic examination (Includes refractive procedures and tonometry)
$02 \square$ Medical treatment
03Eye surgery
$04 \square$Visual field examination and medical interpretation
05Fitting contact lenses
05Orthoptic training (Any procedure to improve acuity or binocularity)
07Prescribing low vision aids (Includes optical aids greater than +4.00 addition)
08Aniseikonic testing

09Tonography
10Other (Specify: $\qquad$
14. In your CLINICAL OPHTHALMOLOGY practice, which of the following categories best describes how you spend the GREATEST amount of your time?
(Check one)General ophthalmology, medical and surgical
2Comeal surgery
ง $\square$Retinal surgery
4Pediatric ophthalmology
-Ophthalmic pathology
-Neuro-ophthalmology
7Other (Specify: $\qquad$ )
15. What is the total number of office locations at which you currently practice CLINICAL OPHTHALMOLOGY?
(Number of locations)
16. In your PRINCIPAL FORM OF PRACTICE OR EMPLOYMENT, indicated in Item 7 above, do you have supplementary personnel to assist you?
$1 \square$ Yes $\quad \square$ No
Please indicate the NUMBER in each category belaw for ALL offices combined which are related to your principal form of practice or employment. Include hospital personnel ONLY if your principal form of practice or employment is hospital-based.
(Persons who spend less than $75 \%$ of their time in any one category below should be counted in category d , ophthalmic medical assistant-general.)
NUMBER WHO WORK FULL-TIME
(35 hours or more per week)
FOR YOU FOR YOU AND
ALONE $\quad$ ASSOCIATES
$\frac{\text { NUMBER WHO WORK PART-TIME }}{\text { (Less than } 35 \text { bours per week) }}$
Less than 35 bours per week)
FOR YOU FOR YOU AND
a. Secretaries, receptionists, and other administrative personnel
b. Registered nurses. $\qquad$
c. Licensed practical nurses (or L.V.N.'s)
$\qquad$
ALONE ASSOCIATES
d. Ophthalmic medical assistants-general. $\qquad$ ....
$\qquad$ . . . . . . . $\qquad$
e. Ophthalmic medical assistants-refractive $\qquad$ ...
$\qquad$ -••••••
$\qquad$
f. Optical fitters (including opticians) . . .__ . . . . . . . . . . . . . . . . . . . . . .
g. Contact lens technicians. . . . . . . . . . . - . . . $\qquad$ . . . . . . . $\qquad$
h. Optical technicians (laboratory ophthalmic or contact lenses) . . . . . . . . . . $\qquad$ . . . . . . . $\qquad$ . . . . $\qquad$
i. Orthoptists. . . . . . . . . . . . . . . . . . . $\square$ ....... $\square$
j. Other clinical assistants. . . . . . . . . _ . . . . . . . . . . . . . . . . . . .
k. Optometrists (performing refractions and prescribing lenses on OWN authority) . . ._. . . . . . . . . . . . . . . . . . . .

17A. If you have made entries under FOR YOU AND ASSOCIATES in the full-time or part-time columns in ltem 16 above, how many associates, COUNTING YOURSELF, share these personnel?
(Number of associates)
B. Of these associates, how many are PHYSICIANS, COUNTING YOURSELF?
(Number of physicians)
C. Of these physicians, how many are OPHTHALMOLOGISTS, COUNTING YOURSELF?
(Number of ophthalmologists)
COMMENTS - General comments are invited as well as comments on specific items:

PLEASE RETURN QUESTIONNAIRE IN THE STAMPED ENVELOPE PROVIDED.

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Health Services and Mental Health Administration
5600 Fishers Lane
Rockville, Maryland 20852

BLK. Rt.


[^0]:    U.S. DEPARTMENT OF HEALTH, EDUCATION, AND WELFARE Public Health Service

    Health Services and Mental Health Administration
    National Center for Health Statistics
    Rockville, Md. December 1972

[^1]:    ${ }^{1}$ Census estimates for July 1, 1968, from U.S. Bureau of the Census, "Population Estimates," Current Population Reports, Series P-25, No. 436, January 7,1970.

[^2]:    ${ }^{1}$ Census estimates for July 1, 1968, in U.S. Bureau of the Census, "Population Estimates," Current Population Reports, Series P-25, No. 436, Jan. 7, 1970.

[^3]:    ${ }^{1}$ Includes nongovernment hospitals；and city，county，State，and Federal Government hospitals．
    ＂Includes medical schools；city，county，State，and Federal Government agencies；and other（all types of insurance carriers，pharmaceutical companies，corporations，voluntary organizations，medical societies，as－ sociations，etc．）．
    \＃FData suppressed to comply with confidentiality requirements．

[^4]:    ${ }^{\text {I Includes }}$ nongovernment hospitals and city, county, State, and Federal Government hospitals.
    Includes medical schools; city, county, State, and Federal Government agencies; and other (all types of insurance carries, pharmaceutical companies, corporation, voluntary organization, medical societies, associations, etc.)

[^5]:    ${ }^{1}$ Includes professional associations，hospital staffs，etc．Administrative duties related to the medical care of respondent＇s own patients are excluded．here and included under clinical activ－ ities．
    \＃Data suppressed to comply with confidentiality requirements．

[^6]:    ${ }^{1}$ Includes all types of insurance carriers, pharmaceutical companies, corporations, voluntary associations, medical societies, associations, etc.

[^7]:    ${ }^{1}$ Includes all types of insurance carriers, pharmaceutical companies, corporations, voluntary associations, medical societies, associations, etc.

[^8]:    ${ }^{1}$ Includes all types of insurance carriers, pharmaceutical companies, corporations, voluntary associations, medical societies, associations, etc.

[^9]:    ${ }^{1}$ Includes professional associations, hospital medical staffs, etc. Administrative duties related to the medical care of the respondent's own patients are excluded here and included under specific clinical activity engaged in.
    ${ }^{2}$ Includes all types of insurance carriers, pharmaceutical companies, corporations, voluntary associations, medical societies, associations, etc.

