Data from the
NATIONAL HEALTH SURVEY

Series 10
Number 93

Characteristics of Persons with Corrective Lenses

United States - 1971

Statistics on persons aged 3 years and over by selected demographic characteristics. Based on data collected in household interviews during 1971.

DHEW Publication No. (HRA) 75-1520

U.S. DEPARTMENT OF HEALTH, EDUCATION, AND WELFARE
Public Health Service

Health Resources Administration
National Center for Health Statistics
Rockville, Md. September 1974

Library of Congress Cataloging in Publication Data

Wilder, Mary H.
Characteristics of persons with corrective lenses, United States—1971.

(Vital and health statistics. Series 10: Data from the National Health Survey, no. 93) (DHEW publication no. (HRA) 75-1520)
"Statistics on persons aged 3 years and over by selected demographic characteristics, based on data collected in household interviews during the period 1971."
Supt. of Docs. no.: HE 20.6209: 10/93
1. Ophthalmic lenses—United States—Statistics. 2. United States—Statistics, Medical. I. Title. II. Series: United States. National Center for Health Statistics. Vital and health statistics. Series 10: Data from National Health Survey. Data from the Health Interview Survey no. 93. III. Series: United States. Dept. of Health, Education, and Welfare. DHEW publication no. (HRA) 75-1520. [DNLM: 1. Contact lenses—Statistics. 2. Eyeglasses—Statistics. W2A N148vj no. 93 1974]
RA407.3.A346 no. 93 [RE962] 312'.0973s
ISBN 0-8406-0020-8 [312'.3'04752] 74-8410

For sale by the Superintendent of Documents, U.S. Government Printing Office, Washington, D.C. 20402 - Price $1.05

NATIONAL CENTER FOR HEALTH STATISTICS

DIVISION OF HEALTH INTERVIEW STATISTICS

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 Health Interview Survey, the Bureau of the Census, under a contractual arrangement, participates in most aspects of survey planning, selects the sample, and collects the data.

Vital and Health Statistics-Series 10-No. 93

DHEW Publication No. (HRA) 75-1520

Library of Congress Catalog Card Number 74-8410

CONTENTS

SYMBOLS

Data not available	- - -
Category not applicable	. . .
Quantity zero	-
Quantity more than 0 but less than 0.05	0.0
Figure does not meet standards of reliability or precision (more than 30 percent relative standard error)	*

CHARACTERISTICS OF PERSONS WITH CORRECTIVE LENSES

Mary H. Wilder, *Division of Health Interview Statistics*

INTRODUCTION

This report from the Health Interview Survey presents data on the use of corrective lenses for persons 3 years of age and over. Estimates are derived from a survey during 1971 of the civilian, noninstitutionalized population of the United States. Corrective lenses include eyeglasses and contact lenses. The term "corrective lenses" is limited to visual aids worn to correct or improve vision and therefore excludes sunglasses worn only to filter light, safety glasses worn only for protection of the eyes, hand magnifying glasses, and other such devices. However, if the safety glasses are worn also for correction or improvement of vision, they are considered corrective lenses, as are prescription glasses. This report analyzes use of corrective lenses by various demographic characteristics.

An earlier report from the Health Interview Survey presented data on corrective lenses based on the July 1965-June 1966 survey. It contained information on age at which persons first obtained corrective lenses, type of prescription, usage, and the source of the optical examination if the individual was examined during the 2-year period prior to interview ("Characteristics of Persons with Corrective Lenses: United States, July 1965-June 1966," *Vital and Health Statistics,* Series 10, Number 53).

A later section of the present report compares demographic differences in the proportion of the population with corrective lenses for the two time periods.

SUMMARY

Approximately 94 million persons aged 3 years and over in the civilian, noninstitutionalized population had some type of corrective lens in 1971. This represented 49.2 percent of the population in this age group. About 2.1 percent had contact lenses.

The following statements summarize the data presented in this report:

1. The proportion of the population with corrective lenses increased with age.
2. The largest proportion of contact lens wearers were 17-24 years of age.
3. Females were more likely to have corrective lenses than were males.
4. Approximately half of the white population had corrective lenses compared to a third of all other persons.
5. Within each age group, as family income increased, the proportion of persons with corrective lenses also increased.
6. White-collar workers were more likely to have corrective lenses than were other persons in the labor force.

SOURCE AND LIMITATIONS OF THE DATA

The information from the Health Interview Survey presented in this report is based on data

collected in a continuing nationwide survey conducted by household interview. Each week a probability sample of households is interviewed by trained personnel of the U.S. Bureau of the Census to obtain information about the health and other characteristics of each member of the household in the civilian, noninstitutionalized population of the United States. During the 52 weeks in 1971 the sample was composed of approximately 42,000 households containing about 134,000 persons living at the time of the interview.

A description of the design of the survey, the methods used in estimation, and general qualifications of the data obtained from surveys are presented in appendix I. Since the estimates shown in this report are based on a sample of the population, they are subject to sampling error. Therefore particular attention should be paid to the section entitled "Reliability of Estimates." Sampling errors for most of the estimates are of relatively low magnitude. However, where an estimated number or the numerator or denominator of a rate or percentage is small, the sampling error may be high. Charts of relative sampling errors and instructions for their use are shown in appendix I.

Certain terms used in this report are defined in appendix II. Some of the terms have specialized meanings for the purpose of the survey.

The questionnaire used in the Health Interview Survey during 1971 is illustrated in the publication "Current Estimates from the Health Interview Survey, United States, 1971" (*Vital and Health Statistics,* Series 10, Number 79). The portion of the questionnaire used to obtain data for persons with corrective lenses is illustrated in appendix III. Although questions about corrective lenses were asked for persons of all ages, the data are restricted to persons 3 years of age and over, since very few children under age 3 have glasses.

The restriction of the survey to the civilian, noninstitutionalized population living at the time of the survey obviously produces an underestimation of persons with corrective lenses in the total population. The estimates of persons with corrective lenses in the age group 17-24 may not represent the true picture for males in this age group because of the exclusion of members of the Armed Forces. Likewise, the exclusion of the institutionalized population may distort estimates of the number of older persons wearing corrective lenses.

DEMOGRAPHIC CHARACTERISTICS

During 1971 an estimated one-half (49.2 percent) of the civilian, noninstitutionalized population aged 3 and over had corrective lenses, based on data collected by the U.S. Bureau of the Census for the Health Interview Survey (tables 1 and 2). This represents approximately 94 million persons, including 3,972,000 persons with contact lenses. The following discussion characterizes the population with corrective lenses by age, sex, geographic region, place of residence, color, family income, educational level of the head of each family unit, educational level of each individual 17 years and over, and occupational status of each individual 17 years and over in the labor force. Each of these characteristics is related to the use of corrective lenses. Other factors which produce a need for corrective lens usage, such as heredity, congenital abnormalities, illness, and injury, are not considered in this study.

Sex and Age

Data shown in figure 1 and table 2 indicate that the age pattern of persons who used corrective lenses is quite similar for males and females, although the level is higher at all age intervals among females. The age curve for each of the sexes displays two well-defined plateaus, the first encompassing the age intervals 17-24 and 25-44 years and the second spanning the intervals 55-64 and 65 years and over. This curve demonstrates the typical pattern of the need for visual correction. During early childhood and the teens, the need for visual correction usually becomes apparent when a person has difficulty in reading, complains of eyestrain, or has other problems related to school activities or employment. Usually by age 20 persons with myopia, strabismus, congenital eye defects, and other conditions causing visual impairment have been identified and corrective lenses have been obtained. As a rule, changes in visual acuity are at a

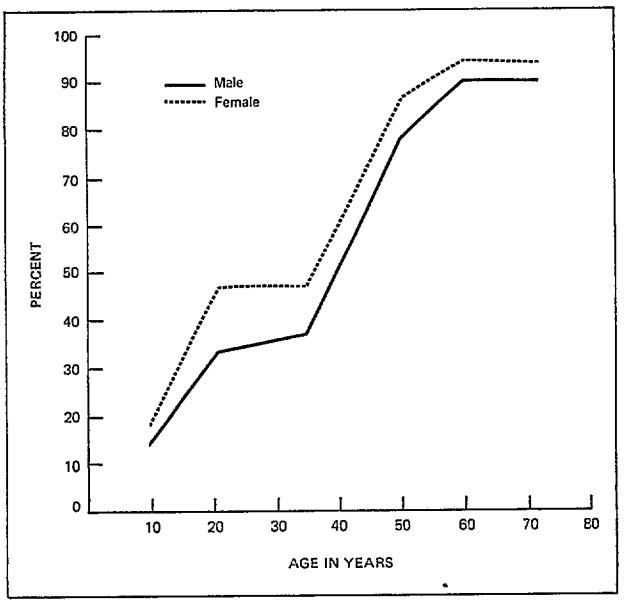


Figure 1. Percent of persons with corrective lenses, by age and sex.

minimum during the age interval 25-44 years; then, during the midforties, the gradual deterioration of near vision due to the aging process (presbyopia) leads to an increased proportion of persons in need of corrective lenses. The general prevalence of this condition causes a sharp rise

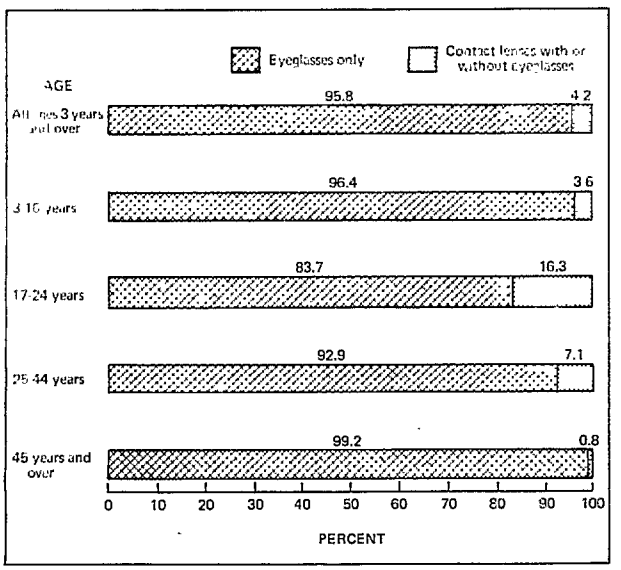


Figure 2. Percent distribution of persons with corrective lenses by type of lens, according to age.

during the forties and fifties, with another leveling off in the percentage of persons with corrective lenses beyond age 60.

Among persons with contact lenses, approximately 45.5 percent were 17-24 years of age, and 35.8 percent were 25-44 years of age. About 16.3 percent of all persons aged 17-24 with corrective lenses had contact lenses (figure 2). Approximately three-fourths of all contact lens owners were females. This predominance of females over males, particularly in the younger ages, is probably due to the cosmetic aspects of wearing contact lenses in preference to eyeglasses.

Geographic Region

A smaller proportion of the population living in the South Region (44.9 percent) reported having corrective lenses during 1971 than did persons living in the remaining regions (tables 3 and 4). About 48.2 percent of the population in the West Region, 51.6 percent in the North Central Region, and 52.7 percent in the Northeast Region reported the use of corrective lenses.

The lower proportion of the population in the South Region having corrective lenses probably reflects the larger proportion of persons other than white who reside in this region. This group has a comparatively lower rate of physician services (*Vital and Health Statistics*, Series 10, Number 75). The regional pattern of corrective lens use is consistent with the rate of persons who visited an ophthalmologist or optometrist during an average year (*Vital and Health Statistics*, Series 10, Number 28).

The regions having the largest proportion of persons wearing contact lenses were the West Region, where 2.8 percent of the population had "contacts" which were used with or without eyeglasses, and the North Central Region, where 2.5 percent of the population had this type of lens.

Place of Residence

A slightly smaller percentage of persons living outside metropolitan areas had corrective lenses than did persons living in metropolitan areas (tables 5 and 6). Among residents of standard metropolitan statistical areas (SMSA's), pro-

portionately more persons residing within the central city of the area had corrective lenses than did persons living outside the central city. The age composition of central city residents is a slightly older one than that of residents outside the central city. When the data are age-adjusted[1] to the age distribution of the population 3 years and over, the relationship of residence and usage of corrective lenses is reversed.

	Unadjusted	*Age-adjusted*
	Percent	
Central city	50.2	48.8
Outside central city	49.4	50.5

Similarly for the populations living outside SMSA's, the farm population is older than the nonfarm population. Whereas nonfarm persons were less likely to have corrective lenses than the farm population, age adjusting the data to correct the age distribution shows the following results.

	Unadjusted	*Age-adjusted*
	Percent	
Nonfarm	47.9	48.3
Farm	50.9	47.0

About three-fourths of the persons with contact lenses resided in metropolitan areas. There was little difference in the proportion of the population with this type of lens among the two residential groups in metropolitan areas. About 93.4 percent of the population living outside SMSA's who had contact lenses were nonfarm residents.

Color

About one-half of the white population reported having some type of corrective lens compared with about one-third of all other persons (tables 7 and 8).[2] Since the white population is the older of the two color groups, age adjustment of the data for persons with corrective lenses decreased the difference between the two groups, although comparatively more white persons still had glasses than did others.

	Unadjusted	*Age-adjusted*
	Percent	
White	51.4	50.6
All other	33.6	38.4

About 96.2 percent of persons with contact lenses were white.

Family Income

The proportion of persons with corrective lenses was greater for members of family groups with annual income of less than $5,000 than it was for any other income group shown in tables 9 and 10. This finding largely reflects the age composition of the income groups, since within each age group the proportion of persons with corrective lenses increased as family income increased. The lowest income group contains the largest proportion of older persons, and these percentages are shown below.

	Percent of population 45 years and over
Less than $5,000	46.9
$5,000-$9,999	28.5
$10,000-$14,999	23.6
$15,000 or more	29.4

Age adjustment of the data produces a pattern that exhibits this relationship between increasing income and the probability of using corrective lenses which was not reflected in the unadjusted data.

	Unadjusted	*Age-adjusted*
	Percent	
Less than $5,000	54.7	45.2
$5,000-$9,999	46.1	48.0
$10,000-$14,999	46.2	51.1
$15,000 or more	51.5	52.9

[1] Age adjustment is computed by multiplying the specific rate for each age group by the population from the corresponding age group in the total civilian, noninstitutionalized population 3 years and over in 1971. The rate is obtained by dividing the cumulative figures previously computed by the total population 3 years and over.

[2] Data from the Health Examination Survey show that there is little difference in visual acuity between white population groups and other persons (*Vital and Health Statistics,* Series 11, Numbers 3 and 112).

There was a direct relationship between income and use of contact lenses. The proportion of persons using "contacts" ranged from 1.4 percent among the income group under $5,000 to 3.3 percent in the group $15,000 and over. In fact, 10.1 percent of persons aged 17-24 living in families with incomes over $15,000 wore contact lenses.

Education of Head of Family

Among persons classified by the educational level of the family head, proportionally more persons in family groups in which the family head had less than 9 years of formal education had corrective lenses than did persons in other groups (tables 11 and 12). However, in a pattern similar to that of income level, the proportion of persons in each age group who had corrective lenses increased as education of the family head increased. Groups in which the family head has less education tend to contain a larger proportion of elderly people. Age adjusting the data to correct the age distribution shows a direct relationship between educational level of the family head and the use of corrective lenses.

	Unadjusted	*Age-adjusted*
	Percent	
Less than 9 years	53.9	43.8
9-11 years	45.8	46.5
12 years	45.9	49.6
13 years or more	51.5	54.5

Approximately 4.1 percent of persons in families whose head had the highest level of educational attainment had contact lenses compared to 0.5 percent of those in families with the lowest level of educational achievement. In fact, 50.8 percent of the contact lens users were in this highest education group.

Education of Individual

Education of the family head is used by the Health Interview Survey primarily as an indication of family awareness and economic ability to afford health care. In the corrective lens data, it does not describe the population in terms of need for corrective lenses because of increased eyestrain in the pursuit of academic training. Tables 13 and 14 show data on corrective lenses by education of the individual. The data are restricted to persons 17 years and over.

The pattern of corrective lens usage by education of the individual is similar to that by education of the family head. For example, only 15.0 percent of the persons aged 17-24 with less than 9 years of education had corrective lenses compared with 53.8 percent of persons the same age with some college education. Adjustment of percentages to the age distribution of all persons 17 years and over produces a direct relationship between educational attainment and having corrective lenses.

	Unadjusted	*Age-adjusted*
	Percent	
Less than 9 years	71.0	51.2
9-11 years	55.7	58.3
12 years	59.2	63.5
13 years or more	66.3	70.6

There is a direct relationship between educational attainment and owning contact lenses. In fact, 85.6 percent of the contact lens wearers had completed high school.

Occupational Status

Among persons 17 years and over in the labor force, 58.9 percent had corrective lenses. A greater proportion of the population employed in white-collar jobs had some type of corrective lens (67.1 percent) than did persons employed in blue-collar jobs (49.0 percent). (See tables 15 and 16.) However, 59.3 percent of service workers and 54.4 percent of farm workers had corrective lenses.

In the white-collar category there was little variation between the percent of persons 17-24 and 25-44 years having corrective lenses (table A). Among those under 45 years of age, 55.6 percent of the professional group and 53.4 percent of the clerical group used corrective lenses compared with 46.4 percent of the managers and 47.1 percent of those in sales positions.

Approximately 68.4 percent of the contact lens wearers 17 years and over were in the white-collar category. As has been previously stated, the largest proportion of persons reporting the use of contact lenses with or without glasses is

Table A. Number of white-collar workers 17 years of age and over and percent distribution with or without corrective lenses by type of lens, according to occupation and age: United States, 1971

Type of white-collar worker and age	Number of persons 17 years and over in thousands[1]	Persons 17 years and over[1]	No corrective lenses	Corrective lenses		
				Total	Eyeglasses only	Contact lenses with or without eyeglasses
Professional workers		Percent distribution				
All ages 17 years and over	11,519	100.0	32.0	67.7	62.6	5.1
17-24 years	1,708	100.0	45.4	54.4	41.5	12.9
25-44 years	6,035	100.0	43.9	55.9	50.3	5.6
45 years and over	3,776	100.0	6.8	92.7	91.9	*
Managers						
All ages 17 years and over	9,097	100.0	30.5	69.1	67.1	2.0
17-24 years	556	100.0	55.6	43.9	35.6	8.3
25-44 years	3,881	100.0	52.7	46.7	43.9	2.9
45 years and over	4,660	100.0	8.9	90.8	90.2	*
Sales workers						
All ages 17 years and over	1,880	100.0	33.7	65.7	63.4	2.4
17-24 years	289	100.0	55.4	44.6	37.0	*
25-44 years	772	100.0	51.7	47.9	45.5	*
45 years and over	819	100.0	9.0	90.0	89.5	*
Clerical workers						
All ages 17 years and over	13,771	100.0	34.1	65.5	59.8	5.8
17-24 years	4,151	100.0	47.3	52.4	41.7	10.8
25-44 years	5,178	100.0	45.4	54.2	48.4	5.8
45 years and over	4,441	100.0	8.6	91.0	90.0	1.0

[1] Includes persons for whom no information on corrective lenses was available.

centered in the 17-24 age group. The proportion using "contacts" among white-collar workers in this age group (11.0 percent) was approximately twice that for service workers (5.5 percent) and about four times that of blue-collar workers (2.6 percent). Within the white-collar category more than 10 percent of the professional workers (12.9 percent) and clerical workers (10.8 percent) in the 17-24 age group were users of contact lenses (table A).

COMPARISON WITH EARLIER DATA

Data on persons with corrective lenses were collected in the Health Interview Survey during the period July 1965-June 1966. Approximately the same percentage of the civilian, noninstitutionalized population 3 years and over had corrective lenses in 1971 as did persons in the prior survey (table B). Children 3-16 years of age were

Table B. Percent of persons 3 years of age and over with corrective lenses, by type of lens and selected characteristics: United States, July 1965-June 1966 and 1971

Characteristic	July 1965-June 1966			1971		
	Total with corrective lenses	Eyeglasses only	Contact lenses with or without eyeglasses	Total with corrective lenses	Eyeglasses only	Contact lenses with or without eyeglasses
	Percent					
All persons 3 years and over[1]	48.1	47.1	1.0	49.2	47.1	2.1
Age						
3-16 years	15.0	14.7	0.3	16.6	16.0	0.6
17-24 years	41.6	37.8	3.7	40.7	34.1	6.6
25-44 years	41.9	40.5	1.3	42.1	39.1	3.0
45 years and over	88.0	87.7	0.3	88.3	87.6	0.7
Sex						
Male	42.8	42.2	0.6	44.2	43.1	1.2
Female	53.0	51.7	1.3	53.8	50.9	2.9
Geographic region						
Northeast	52.5	51.6	0.9	52.7	51.1	1.6
North Central	50.6	49.7	0.9	51.6	49.1	2.5
South	42.8	41.8	1.0	44.9	43.3	1.7
West	47.0	45.6	1.4	48.2	45.4	2.8
Place of residence						
SMSA	48.7	47.5	1.2	49.7	47.4	2.3
Outside SMSA	47.0	46.3	0.7	48.3	46.7	1.6
Color						
White	50.4	49.3	1.1	51.4	49.1	2.3
All other	30.7	30.5	*	33.6	32.9	0.6
Family income						
Less than $5,000	49.7	49.0	0.7	54.7	53.3	1.4
$5,000 or more	46.7	45.5	1.2	47.5	45.2	2.3
Education of head of family						
12 years or less	47.2	46.6	0.6	48.5	47.1	1.4
13 years or more	51.1	48.6	2.5	51.5	47.4	4.1

[1] Includes persons with unknown income and education.

Table C. Percent of persons 17 years of age and over in the labor force with corrective lenses, by type of lens and occupation class: United States, July 1965-June 1966 and 1971

Occupation class	July 1965-June 1966			1971		
	Total with corrective lenses	Eyeglasses only	Contact lenses with or without eyeglasses	Total with corrective lenses	Eyeglasses only	Contact lenses with or without eyeglasses
	Percent					
All occupation classes	58.9	57.5	1.4	58.9	56.0	2.8
White-collar workers	68.1	65.7	2.4	67.1	62.7	4.4
Blue-collar workers	48.8	48.4	0.4	49.0	47.9	1.1
Service workers	59.2	58.3	1.0	59.3	57.0	2.2
Farm workers	51.4	51.2	*	54.4	53.4	*

more likely to have both eyeglasses and contact lenses in 1971 than previously. Persons 17-24 years were less likely to wear eyeglasses and more likely to wear contact lenses. More males were wearing glasses in 1971 than in July 1965-June 1966. Other population groups showing an increase in use of corrective lenses were residents of the South Region, persons other than white, and persons in low income families (less than $5,000 annually). For each demographic characteristic shown in table B, the proportion of the population 3 years and over wearing contact lenses doubled from July 1965-June 1966 to 1971.

Among persons 17 years and over in the labor force, the proportion with corrective lenses did not change but the proportion of persons with contact lenses doubled (table C). Of the occupation groups shown in table B, farm workers were the only group showing a substantial increase in the proportion with corrective lenses.

LIST OF DETAILED TABLES

Table 1. Number of persons 3 years of age and over with or without corrective lenses, by type of lens, sex, and age: United States, 1971

[Data are based on household interviews of the civilian, noninstitutionalized population. The survey design, general qualifications, and information on the reliability of the estimates are given in appendix I. Definitions of terms are given in appendix II]

Sex and age	Persons 3 years and over[1]	No corrective lenses	Corrective lenses		
			Total	Eyeglasses only	Contact lenses with or without eyeglasses
	Number of persons in thousands				
Both sexes					
All ages 3 years and over	191,602	96,403	94,284	90,313	3,972
3-16 years	55,786	46,177	9,249	8,920	329
17-24 years	27,275	16,045	11,114	9,306	1,808
25-44 years	47,428	27,228	19,978	18,555	1,423
45 years and over	61,113	6,952	53,944	53,532	412
45-54 years	23,246	4,146	19,026	18,866	159
55-64 years	18,518	1,328	17,098	16,976	122
65 years and over	19,349	1,478	17,820	17,690	131
Male					
All ages 3 years and over	92,121	50,926	40,757	39,669	1,088
3-16 years	28,393	24,089	4,123	4,044	79
17-24 years	12,863	8,460	4,352	3,908	443
25-44 years	22,842	14,285	8,457	8,057	400
45 years and over	28,023	4,092	23,825	23,660	166
45-54 years	11,137	2,462	8,634	8,583	51
55-64 years	8,695	826	7,825	7,765	59
65 years and over	8,191	804	7,367	7,311	56
Female					
All ages 3 years and over	99,481	45,476	53,527	50,644	2,884
3-16 years	27,393	22,088	5,126	4,876	249
17-24 years	14,411	7,585	6,763	5,398	1,365
25-44 years	24,586	12,943	11,521	10,497	1,023
45 years and over	33,090	2,860	30,118	29,872	246
45-54 years	12,109	1,684	10,392	10,283	109
55-64 years	9,822	502	9,273	9,211	62
65 years and over	11,158	674	10,453	10,378	75

[1]Includes persons for whom no information on corrective lenses was available.

NOTE: Relative standard errors of estimates for this table are found on chart on page 32, code A4AN. A guide to the use of the relative standard error charts is on page 31.

Table 2. Percent distribution of persons 3 years of age and over with or without corrective lenses by type of lens, according to sex and age: United States, 1971

[Data are based on household interviews of the civilian, noninstitutionalized population. The survey design, general qualifications, and information on the reliability of the estimates are given in appendix I. Definitions of terms are given in appendix II]

Sex and age	Persons 3 years and over[1]	No corrective lenses	Corrective lenses		
			Total	Eyeglasses only	Contact lenses with or without eyeglasses
	Percent distribution				
Both sexes					
All ages 3 years and over	100.0	50.3	49.2	47.1	2.1
3-16 years	100.0	82.8	16.6	16.0	0.6
17-24 years	100.0	58.8	40.7	34.1	6.6
25-44 years	100.0	57.4	42.1	39.1	3.0
45 years and over	100.0	11.4	88.3	87.6	0.7
45-64 years	100.0	17.8	81.8	81.2	0.7
55-64 years	100.0	7.2	92.3	91.7	0.7
65 years and over	100.0	7.6	92.1	91.4	0.7
Male					
All ages 3 years and over	100.0	55.3	44.2	43.1	1.2
3-16 years	100.0	84.8	14.5	14.2	0.3
17-24 years	100.0	65.8	33.8	30.4	3.4
25-44 years	100.0	62.5	37.0	35.3	1.8
45 years and over	100.0	14.6	85.0	84.4	0.6
45-54 years	100.0	22.1	77.5	77.1	0.5
55-64 years	100.0	9.5	90.0	89.3	0.7
65 years and over	100.0	9.8	89.9	89.3	0.7
Female					
All ages 3 years and over	100.0	45.7	53.8	50.9	2.9
3-16 years	100.0	80.6	18.7	17.8	0.9
17-24 years	100.0	52.6	46.9	37.5	9.5
25-44 years	100.0	52.6	46.9	42.7	4.2
45 years and over	100.0	8.6	91.0	90.3	0.7
45-54 years	100.0	13.9	85.8	84.9	0.9
55-64 years	100.0	5.1	94.4	93.8	0.6
65 years and over	100.0	6.0	93.7	93.0	0.7

[1]Includes persons for whom no information on corrective lenses was available.

NOTE: Relative standard errors of estimates for this table are found on chart on page 33, code P4AN-M. A guide to the use of the relative standard error charts is on page 31.

Table 3. Number of persons 3 years of age and over with or without corrective lenses, by type of lens, geographic region, and age: United States, 1971

[Data are based on household interviews of the civilian, noninstitutionalized population. The survey design, general qualifications, and information on the reliability of the estimates are given in appendix I. Definitions of terms are given in appendix II]

Geographic region and age	Persons 3 years and over[1]	No corrective lenses	Corrective lenses		
			Total	Eyeglasses only	Contact lenses with or without eyeglasses
	Number of persons in thousands				
All geographic regions					
All ages 3 years and over	191,602	96,403	94,284	90,313	3,972
3-16 years	55,786	46,177	9,249	8,920	329
17-24 years	27,275	16,045	11,114	9,306	1,808
25-44 years	47,428	27,228	19,978	18,555	1,423
45 years and over	61,113	6,952	53,944	53,532	412
Northeast					
All ages 3 years and over	46,052	21,539	24,286	23,537	749
3-16 years	12,817	10,263	2,451	2,401	50
17-24 years	6,286	3,428	2,836	2,495	341
25-44 years	11,329	6,257	5,019	4,749	270
45 years and over	15,620	1,590	13,981	13,891	90
North Central					
All ages 3 years and over	53,035	25,450	27,376	26,064	1,312
3-16 years	15,796	12,645	3,072	2,952	121
17-24 years	7,467	4,027	3,414	2,766	648
25-44 years	13,018	7,133	5,831	5,392	439
45 years and over	16,754	1,645	15,059	14,955	104
South					
All ages 3 years and over	59,496	32,451	26,723	25,734	989
3-16 years	17,451	14,992	2,347	2,254	93
17-24 years	8,665	5,695	2,924	2,487	437
25-44 years	14,649	9,173	5,395	5,054	340
45 years and over	18,731	2,591	16,058	15,938	120
West					
All ages 3 years and over	33,019	16,963	15,899	14,978	921
3-16 years	9,722	8,276	1,379	1,313	66
17-24 years	4,857	2,895	1,941	1,558	383
25-44 years	8,432	4,665	3,733	3,359	374
45 years and over	10,007	1,126	8,846	8,747	98

[1] Includes persons for whom no information on corrective lenses was available.

NOTE: Relative standard errors of estimates for this table are found on chart on page 32, code A4AN. A guide to the use of the relative standard error charts is on page 31.

Table 4. Percent distribution of persons 3 years of age and over with or without corrective lenses by type of lens, according to geographic region and age: United States, 1971

[Data are based on household interviews of the civilian, noninstitutionalized population. The survey design, general qualifications, and information on the reliability of the estimates are given in appendix I. Definitions of terms are given in appendix II]

Geographic region and age	Persons 3 years and over[1]	No corrective lenses	Corrective lenses		
			Total	Eyeglasses only	Contact lenses with or without eyeglasses
	Percent distribution				
All geographic regions					
All ages 3 years and over	100.0	50.3	49.2	47.1	2.1
3-16 years	100.0	82.8	16.6	16.0	0.6
17-24 years	100.0	58.8	40.7	34.1	6.6
25-44 years	100.0	57.4	42.1	39.1	3.0
45 years and over	100.0	11.4	88.3	87.6	0.7
Northeast					
All ages 3 years and over	100.0	46.8	52.7	51.1	1.6
3-16 years	100.0	80.1	19.1	18.7	0.4
17-24 years	100.0	54.5	45.1	39.7	5.4
25-44 years	100.0	55.2	44.3	41.9	2.4
45 years and over	100.0	10.2	89.5	88.9	0.6
North Central					
All ages 3 years and over	100.0	48.0	51.6	49.1	2.5
3-16 years	100.0	80.1	19.4	18.7	0.8
17-24 years	100.0	53.9	45.7	37.0	8.7
25-44 years	100.0	54.8	44.8	41.4	3.4
45 years and over	100.0	9.8	89.9	89.3	0.6
South					
All ages 3 years and over	100.0	54.5	44.9	43.3	1.7
3-16 years	100.0	85.9	13.4	12.9	0.5
17-24 years	100.0	65.7	33.7	28.7	5.0
25-44 years	100.0	62.6	36.8	34.5	2.3
45 years and over	100.0	13.8	85.7	85.1	0.6
West					
All ages 3 years and over	100.0	51.4	48.2	45.4	2.8
3-16 years	100.0	85.1	14.2	13.5	0.7
17-24 years	100.0	59.6	40.0	32.1	7.9
25-44 years	100.0	55.3	44.3	39.8	4.4
45 years and over	100.0	11.3	88.4	87.4	1.0

[1]Includes persons for whom no information on corrective lenses was available.

NOTE: Relative standard errors of estimates for this table are found on chart on page 33, code P4AN-M. A guide to the use of the relative standard error charts is on page 31.

Table 5. Number of persons 3 years of age and over with or without corrective lenses, by type of lens, place of residence, and age: United States, 1971

[Data are based on household interviews of the civilian, noninstitutionalized population. The survey design, general qualifications, and information on the reliability of the estimates are given in appendix I. Definitions of terms are given in appendix II]

Place of residence and age	Persons 3 years and over[1]	No corrective lenses	Corrective lenses		
			Total	Eyeglasses only	Contact lenses with or without eyeglasses
ALL PLACES OF RESIDENCE	Number of persons in thousands				
All ages 3 years and over	191,602	96,403	94,284	90,313	3,972
3-16 years	55,786	46,177	9,249	8,920	329
17-24 years	27,275	16,045	11,114	9,306	1,808
25-44 years	47,428	27,228	19,978	18,555	1,423
45 years and over	61,113	6,952	53,944	53,532	412
SMSA					
All ages 3 years and over	122,944	61,157	61,156	58,271	2,884
3-16 years	35,114	29,000	5,854	5,625	229
17-24 years	17,773	10,289	7,416	6,149	1,267
25-44 years	31,322	17,666	13,495	12,401	1,094
45 years and over	38,735	4,202	34,390	34,096	294
Central city					
All ages 3 years and over	55,516	27,327	27,870	26,703	1,167
3-16 years	14,917	12,382	2,409	2,333	77
17-24 years	8,473	4,968	3,464	2,926	537
25-44 years	13,494	7,853	5,562	5,136	426
45 years and over	18,633	2,125	16,435	16,308	127
Outside central city					
All ages 3 years and over	67,428	33,830	33,286	31,568	1,718
3-16 years	20,197	16,618	3,445	3,292	153
17-24 years	9,300	5,321	3,952	3,223	729
25-44 years	17,828	9,813	7,933	7,265	668
45 years and over	20,103	2,077	17,956	17,788	167
OUTSIDE SMSA					
All ages 3 years and over	68,658	35,246	33,129	32,042	1,087
3-16 years	20,673	17,178	3,395	3,296	100
17-24 years	9,502	5,756	3,698	3,157	542
25-44 years	16,106	9,563	6,482	6,154	329
45 years and over	22,378	2,750	19,553	19,436	117
Nonfarm					
All ages 3 years and over	60,711	31,381	29,081	28,065	1,015
3-16 years	18,376	15,295	2,987	2,898	89
17-24 years	8,577	5,144	3,393	2,887	506
25-44 years	14,528	8,592	5,883	5,567	316
45 years and over	19,229	2,350	16,817	16,713	103
Farm					
All ages 3 years and over	7,947	3,865	4,048	3,976	72
3-16 years	2,296	1,882	408	398	*
17-24 years	924	612	305	270	35
25-44 years	1,578	971	599	587	*
45 years and over	3,149	400	2,737	2,723	*

[1] Includes persons for whom no information on corrective lenses was available.

NOTE: Relative standard errors of estimates for this table are found on chart on page 32, code A4AN. A guide to the use of the relative standard error charts is on page 31.

Table 6. Percent distribution of persons 3 years of age and over with or without corrective lenses by type of lens, according to place of residence and age: United States, 1971

[Data are based on household interviews of the civilian, noninstitutionalized population. The survey design, general qualifications, and information on the reliability of the estimates are given in appendix I. Definitions of terms are given in appendix II]

Place of residence and age	Persons 3 years and over[1]	No corrective lenses	Corrective lenses		
			Total	Eyeglasses only	Contact lenses with or without eyeglasses
	Percent distribution				
ALL PLACES OF RESIDENCE					
All ages 3 years and over	100.0	50.3	49.2	47.1	2.1
3-16 years	100.0	82.8	16.6	16.0	0.6
17-24 years	100.0	58.8	40.7	34.1	6.6
25-44 years	100.0	57.4	42.1	39.1	3.0
45 years and over	100.0	11.4	88.3	87.6	0.7
SMSA					
All ages 3 years and over	100.0	49.7	49.7	47.4	2.3
3-16 years	100.0	82.6	16.7	16.0	0.7
17-24 years	100.0	57.9	41.7	34.6	7.1
25-44 years	100.0	56.4	43.1	39.6	3.5
45 years and over	100.0	10.8	88.8	88.0	0.8
Central city					
All ages 3 years and over	100.0	49.2	50.2	48.1	2.1
3-16 years	100.0	83.0	16.1	15.6	0.5
17-24 years	100.0	58.6	40.9	34.5	6.3
25-44 years	100.0	58.2	41.2	38.1	3.2
45 years and over	100.0	11.4	88.2	87.5	0.7
Outside central city					
All ages 3 years and over	100.0	50.2	49.4	46.8	2.5
3-16 years	100.0	82.3	17.1	16.3	0.8
17-24 years	100.0	57.2	42.5	34.7	7.8
25-44 years	100.0	55.0	44.5	40.8	3.7
45 years and over	100.0	10.3	89.3	88.5	0.8
OUTSIDE SMSA					
All ages 3 years and over	100.0	51.3	48.3	46.7	1.6
3-16 years	100.0	83.1	16.4	15.9	0.5
17-24 years	100.0	60.6	38.9	33.2	5.7
25-44 years	100.0	59.4	40.2	38.2	2.0
45 years and over	100.0	12.3	87.4	86.9	0.5
Nonfarm					
All ages 3 years and over	100.0	51.7	47.9	46.2	1.7
3-16 years	100.0	83.2	16.3	15.8	0.5
17-24 years	100.0	60.0	39.6	33.7	5.9
25-44 years	100.0	59.1	40.5	38.3	2.2
45 years and over	100.0	12.2	87.5	86.9	0.5
Farm					
All ages 3 years and over	100.0	48.6	50.9	50.0	0.9
3-16 years	100.0	82.0	17.8	17.3	*
17-24 years	100.0	66.2	33.0	29.2	3.8
25-44 years	100.0	61.5	38.0	37.2	*
45 years and over	100.0	12.7	86.9	86.5	*

[1] Includes persons for whom no information on corrective lenses was available.

NOTE: Relative standard errors of estimates for this table are found on chart on page 33, code P4AN-M. A guide to the use of the relative standard error charts is on page 31.

Table 7. Number of persons 3 years of age and over with or without corrective lenses, by type of lens, color, and age: United States, 1971

[Data are based on household interviews of the civilian, noninstitutionalized population. The survey design, general qualifications, and information on the reliability of the estimates are given in appendix I. Definitions of terms are given in appendix II]

Color and age	Persons 3 years and over[1]	No corrective lenses	Corrective lenses		
			Total	Eyeglasses only	Contact lenses with or without eyeglasses
	Number of persons in thousands				
Total					
All ages 3 years and over-	191,602	96,403	94,284	90,313	3,972
3-16 years	55,786	46,177	9,249	8,920	329
17-24 years	27,275	16,045	11,114	9,306	1,808
25-44 years	47,428	27,228	19,978	18,555	1,423
45 years and over	61,113	6,952	53,944	53,532	412
White					
All ages 3 years and over-	168,174	80,961	86,422	82,600	3,822
3-16 years	47,121	38,576	8,230	7,914	316
17-24 years	23,657	13,458	10,105	8,349	1,756
25-44 years	41,884	23,542	18,148	16,785	1,363
45 years and over	55,512	5,385	49,939	49,552	387
All other					
All ages 3 years and over-	23,428	15,442	7,862	7,713	149
3-16 years	8,665	7,601	1,019	1,006	*
17-24 years	3,617	2,587	1,009	957	52
25-44 years	5,545	3,686	1,830	1,770	60
45 years and over	5,601	1,567	4,005	3,980	*

[1] Includes persons for whom no information on corrective lenses was available.

NOTE: Relative standard errors of estimates for this table are found on chart on page 32, code A4AN. A guide to the use of the relative standard error charts is on page 31.

Table 8. Percent distribution of persons 3 years of age and over with or without corrective lenses by type of lens, according to color and age: United States, 1971

[Data are based on household interviews of the civilian, noninstitutionalized population. The survey design, general qualifications, and information on the reliability of the estimates are given in appendix I. Definitions of terms are given in appendix II]

Color and age	Persons 3 years and over[1]	No corrective lenses	Corrective lenses		
			Total	Eyeglasses only	Contact lenses with or without eyeglasses
	Percent distribution				
Total					
All ages 3 years and over-	100.0	50.3	49.2	47.1	2.1
3-16 years	100.0	82.8	16.6	16.0	0.6
17-24 years	100.0	58.8	40.7	34.1	6.6
25-44 years	100.0	57.4	42.1	39.1	3.0
45 years and over	100.0	11.4	88.3	87.6	0.7
White					
All ages 3 years and over-	100.0	48.1	51.4	49.1	2.3
3-16 years	100.0	81.9	17.5	16.8	0.7
17-24 years	100.0	56.9	42.7	35.3	7.4
25-44 years	100.0	56.2	43.3	40.1	3.3
45 years and over	100.0	9.7	90.0	89.3	0.7
All other					
All ages 3 years and over-	100.0	65.9	33.6	32.9	0.6
3-16 years	100.0	87.7	11.8	11.6	*
17-24 years	100.0	71.5	27.9	26.5	1.4
25-44 years	100.0	66.5	33.0	31.9	1.1
45 years and over	100.0	28.0	71.5	71.1	*

[1] Includes persons for whom no information on corrective lenses was available.

NOTE: Relative standard errors of estimates for this table are found on chart on page 33, code P4AN-M. A guide to the use of the relative standard error charts is on page 31.

Table 9. Number of persons 3 years of age and over with or without corrective lenses, by type of lens, family income, and age: United States, 1971

[Data are based on household interviews of the civilian, noninstitutionalized population. The survey design, general qualifications, and information on the reliability of the estimates are given in appendix I. Definitions of terms are given in appendix II]

Family income and age	Persons 3 years and over[1]	No corrective lenses	Corrective lenses		
			Total	Eyeglasses only	Contact lenses with or without eyeglasses
	Number of persons in thousands				
All incomes[2]					
All ages 3 years and over-	191,602	96,403	94,284	90,313	3,972
3-16 years	55,786	46,177	9,249	8,920	329
17-24 years	27,275	16,045	11,114	9,306	1,808
25-44 years	47,428	27,228	19,978	18,555	1,423
45 years and over	61,113	6,952	53,944	53,532	412
Less than $5,000					
All ages 3 years and over-	38,765	17,369	21,205	20,665	539
3-16 years	8,608	7,492	1,056	1,036	*
17-24 years	6,431	3,959	2,444	2,079	365
25-44 years	5,554	3,615	1,907	1,840	67
45 years and over	18,172	2,303	15,797	15,710	87
$5,000-$9,999					
All ages 3 years and over-	60,185	32,149	27,764	26,768	996
3-16 years	18,178	15,163	2,894	2,834	61
17-24 years	9,130	5,508	3,580	3,121	459
25-44 years	15,717	9,435	6,216	5,839	377
45 years and over	17,161	2,043	15,073	14,975	99
$10,000-$14,999					
All ages 3 years and over-	46,045	24,571	21,267	20,166	1,100
3-16 years	15,313	12,558	2,672	2,582	90
17-24 years	5,719	3,143	2,554	2,084	470
25-44 years	14,167	7,817	6,287	5,835	452
45 years and over	10,846	1,054	9,753	9,666	88
$15,000 or more					
All ages 3 years and over-	34,435	16,554	17,744	16,603	1,141
3-16 years	10,447	8,298	2,095	1,956	139
17-24 years	4,339	2,412	1,913	1,477	437
25-44 years	9,517	4,893	4,589	4,124	465
45 years and over	10,132	952	9,147	9,046	101

[1] Includes persons for whom no information on corrective lenses was available.
[2] Includes unknown income.

NOTE: Relative standard errors of estimates for this table are found on chart on page 32, code A4AN. A guide to the use of the relative standard error charts is on page 31.

Table 10. Percent distribution of persons 3 years of age and over with or without corrective lenses by type of lens, according to family income and age: United States, 1971

[Data are based on household interviews of the civilian, noninstitutionalized population. The survey design, general qualifications, and information on the reliability of the estimates are given in appendix I. Definitions of terms are given in appendix II]

Family income and age	Persons 3 years and over[1]	No corrective lenses	Corrective lenses		
			Total	Eyeglasses only	Contact lenses with or without eyeglasses
	Percent distribution				
All incomes[2]					
All ages 3 years and over-	100.0	50.3	49.2	47.1	2.1
3-16 years	100.0	82.8	16.6	16.0	0.6
17-24 years	100.0	58.8	40.7	34.1	6.6
25-44 years	100.0	57.4	42.1	39.1	3.0
45 years and over	100.0	11.4	88.3	87.6	0.7
Less than $5,000					
All ages 3 years and over-	100.0	44.8	54.7	53.3	1.4
3-16 years	100.0	87.0	12.3	12.0	*
17-24 years	100.0	61.6	38.0	32.3	5.7
25-44 years	100.0	65.1	34.3	33.1	1.2
45 years and over	100.0	12.7	86.9	86.5	0.5
$5,000-$9,999					
All ages 3 years and over-	100.0	53.4	46.1	44.5	1.7
3-16 years	100.0	83.4	15.9	15.6	0.3
17-24 years	100.0	60.3	39.2	34.2	5.0
25-44 years	100.0	60.0	39.5	37.2	2.4
45 years and over	100.0	11.9	87.8	87.3	0.6
$10,000-$14,999					
All ages 3 years and over-	100.0	53.4	46.2	43.8	2.4
3-16 years	100.0	82.0	17.4	16.9	0.6
17-24 years	100.0	55.0	44.7	36.4	8.2
25-44 years	100.0	55.2	44.4	41.2	3.2
45 years and over	100.0	9.7	89.9	89.1	0.8
$15,000 or more					
All ages 3 years and over-	100.0	48.1	51.5	48.2	3.3
3-16 years	100.0	79.4	20.1	18.7	1.3
17-24 years	100.0	55.6	44.1	34.0	10.1
25-44 years	100.0	51.4	48.2	43.3	4.9
45 years and over	100.0	9.4	90.3	89.3	1.0

[1] Includes persons for whom no information on corrective lenses was available.
[2] Includes unknown income.

NOTE: Relative standard errors of estimates for this table are found on chart on page 33, code P4AN-M. A guide to the use of the relative standard error charts is on page 31.

Table 11. Number of persons 3 years of age and over with or without corrective lenses, by type of lens, education of head of family, and age: United States, 1971

[Data are based on household interviews of the civilian, noninstitutionalized population. The survey design, general qualifications, and information on the reliability of the estimates are given in appendix I. Definitions of terms are given in appendix II]

Education of head of family and age	Persons 3 years and over[1]	No corrective lenses	Corrective lenses		
			Total	Eyeglasses only	Contact lenses with or without eyeglasses
	Number of persons in thousands				
All educational levels[2]					
All ages 3 years and over-	191,602	96,403	94,284	90,313	3,972
3-16 years	55,786	46,177	9,249	8,920	329
17-24 years	27,275	16,045	11,114	9,306	1,808
25-44 years	47,428	27,228	19,978	18,555	1,423
45 years and over	61,113	6,952	53,944	53,532	412
Less than 9 years					
All ages 3 years and over-	44,957	20,487	24,252	24,010	241
3-16 years	11,003	9,363	1,556	1,539	*
17-24 years	4,639	3,276	1,344	1,260	84
25-44 years	7,257	4,830	2,381	2,337	44
45 years and over	22,058	3,017	18,971	18,874	97
9-11 years					
All ages 3 years and over-	33,050	17,762	15,126	14,755	370
3-16 years	10,289	8,581	1,639	1,596	44
17-24 years	4,912	3,207	1,676	1,514	161
25-44 years	7,541	4,820	2,695	2,593	102
45 years and over	10,308	1,154	9,116	9,052	64
12 years					
All ages 3 years and over-	61,167	32,823	28,064	26,746	1,318
3-16 years	19,238	15,841	3,285	3,172	114
17-24 years	9,748	5,574	4,137	3,479	658
25-44 years	16,740	9,876	6,801	6,377	424
45 years and over	15,441	1,532	13,841	13,718	123
13 years or more					
All ages 3 years and over-	49,377	23,762	25,429	23,413	2,017
3-16 years	14,453	11,716	2,664	2,517	147
17-24 years	7,590	3,729	3,839	2,942	897
25-44 years	15,286	7,315	7,911	7,060	851
45 years and over	12,048	1,001	11,016	10,893	123

[1]Includes persons for whom no information on corrective lenses was available.
[2]Includes unknown education.

NOTE: Relative standard errors of estimates for this table are found on chart on page 32, code A4AN. A guide to the use of the relative standard error charts is on page 31.

Table 12. Percent distribution of persons 3 years of age and over with or without corrective lenses by type of lens, according to education of head of family and age: United States, 1971

[Data are based on household interviews of the civilian, noninstitutionalized population. The survey design, general qualifications, and information on the reliability of the estimates are given in appendix I. Definitions of terms are given in appendix II]

Education of head of family and age	Persons 3 years and over[1]	No corrective lenses	Corrective lenses		
			Total	Eyeglasses only	Contact lenses with or without eyeglasses
	Percent distribution				
All educational levels[2]					
All ages 3 years and over	100.0	50.3	49.2	47.1	2.1
3-16 years	100.0	82.8	16.6	16.0	0.6
17-24 years	100.0	58.8	40.7	34.1	6.6
25-44 years	100.0	57.4	42.1	39.1	3.0
45 years and over	100.0	11.4	88.3	87.6	0.7
Less than 9 years					
All ages 3 years and over	100.0	45.6	53.9	53.4	0.5
3-16 years	100.0	85.1	14.1	14.0	*
17-24 years	100.0	70.6	29.0	27.2	1.8
25-44 years	100.0	66.6	32.8	32.2	0.6
45 years and over	100.0	13.7	86.0	85.6	0.4
9-11 years					
All ages 3 years and over	100.0	53.7	45.8	44.6	1.1
3-16 years	100.0	83.4	15.9	15.5	0.4
17-24 years	100.0	65.3	34.1	30.8	3.3
25-44 years	100.0	63.9	35.7	34.4	1.4
45 years and over	100.0	11.2	88.4	87.8	0.6
12 years					
All ages 3 years and over	100.0	53.7	45.9	43.7	2.2
3-16 years	100.0	82.3	17.1	16.5	0.6
17-24 years	100.0	57.2	42.4	35.7	6.8
25-44 years	100.0	59.0	40.6	38.1	2.5
45 years and over	100.0	9.9	89.6	88.8	0.8
13 years or more					
All ages 3 years and over	100.0	48.1	51.5	47.4	4.1
3-16 years	100.0	81.1	18.4	17.4	1.0
17-24 years	100.0	49.1	50.6	38.8	11.8
25-44 years	100.0	47.9	51.8	46.2	5.6
45 years and over	100.0	8.3	91.4	90.4	1.0

[1] Includes persons for whom no information on corrective lenses was available.
[2] Includes unknown education.

NOTE: Relative standard errors of estimates for this table are found on chart on page 33, code P4AN-M. A guide to the use of the relative standard error charts is on page 31.

Table 13. Number of persons 17 years of age and over with or without corrective lenses, by type of lens, education of individual, and age: United States, 1971

[Data are based on household interviews of the civilian, noninstitutionalized population. The survey design, general qualifications, and information on the reliability of the estimates are given in appendix I. Definitions of terms are given in appendix II]

Education of individual and age	Persons 17 years and over[1]	No corrective lenses	Corrective lenses		
			Total	Eyeglasses only	Contact lenses with or without eyeglasses
	Number of persons in thousands				
All educational levels[2]					
All ages 17 years and over--	135,815	50,225	85,035	81,393	3,643
17-24 years	27,275	16,045	11,114	9,306	1,808
25-44 years	47,428	27,228	19,978	18,555	1,423
45 years and over	61,113	6,952	53,944	53,532	412
Less than 9 years					
All ages 17 years and over--	28,075	8,017	19,937	19,826	111
17-24 years	1,375	1,155	206	202	*
25-44 years	5,438	3,899	1,496	1,477	*
45 years and over	21,262	2,962	18,234	18,147	87
9-11 years					
All ages 17 years and over--	26,111	11,463	14,537	14,169	368
17-24 years	7,538	5,051	2,453	2,214	239
25-44 years	7,999	5,246	2,724	2,656	68
45 years and over	10,573	1,166	9,360	9,298	62
12 years					
All ages 17 years and over--	47,466	19,159	28,123	26,800	1,323
17-24 years	10,646	6,190	4,411	3,793	618
25-44 years	19,680	11,294	8,306	7,746	560
45 years and over	17,140	1,675	15,407	15,261	146
13 years or more					
All ages 17 years and over--	31,534	10,525	20,918	19,123	1,795
17-24 years	7,116	3,272	3,831	2,911	919
25-44 years	13,702	6,411	7,245	6,478	767
45 years and over	10,717	842	9,842	9,733	109

[1] Includes persons for whom no information on corrective lenses was available.
[2] Includes unknown education.

NOTE: Relative standard errors of estimates for this table are found on chart on page 32, code A4AN. A guide to the use of the relative standard error charts is on page 31.

Table 14. Percent distribution of persons 17 years of age and over with ' ithout corrective lenses by type of lens, according to education of indi idual a age: United States, 1971

[Data are based on household interviews of the civilian, noninstitutionalized population. The survey design, ge l qualifications, and information on the reliability of the estimates are given in appendix I. Definitions of terms are given i ppendix II]

Education of individual and age	Persons 17 years and over[1]	No corrective lenses	Corrective enses		
			Total	Eyeglasses only	Contact lenses with or without eyeglasses
All educational levels[2]	Percent distribution				
All ages 17 years and over--	100.0	37.0	62.6	59.9	2.7
17-24 years	100.0	58.8	40.7	34.1	6.6
25-44 years	100.0	57.4	42.1	39.1	3.0
45 years and over	100.0	11.4	88.3	87.6	0.7
Less than 9 years					
All ages 17 years and over--	100.0	28.6	71.0	70.6	0.4
17-24 years	100.0	84.0	15.0	14.7	*
25-44 years	100.0	71.7	27.5	27.2	*
45 years and over	100.0	13.9	85.8	85.3	0.4
9-11 years					
All ages 17 years and over--	100.0	43.9	55.7	54.3	1.4
17-24 years	100.0	67.0	32.5	29.4	3.2
25-44 years	100.0	65.6	34.1	33.2	0.9
45 years and over	100.0	11.0	88.5	87.9	0.6
12 years					
All ages 17 years and over--	100.0	40.4	59.2	56.5	2.8
17-24 years	100.0	58.1	41.4	35.6	5.8
25-44 years	100.0	57.4	42.2	39.4	2.8
45 years and over	100.0	9.8	89.9	89.0	0.9
13 years or more					
All ages 17 years and over--	100.0	33.4	66.3	60.6	5.7
17-24 years	100.0	46.0	53.8	40.9	12.9
25-44 years	100.0	46.8	52.9	47.3	5.6
45 years and over	100.0	7.9	91.8	90.8	1.0

[1]Includes persons for whom no information on corrective lenses was available.
[2]Includes unknown education.

NOTE: Relative standard errors of estimates for this table are found on chart on page 33, code P4AN-M. A guide to the use of the relative standard error charts is on page 31.

Table 15. Number of persons 17 years of age and over in the labor force with or without corrective lenses, by type of lens, occupation class, and age: United States, 1971

[Data are based on household interviews of the civilian, noninstitutionalized population. The survey design, general qualifications, and information on the reliability of the estimates are given in appendix I. Definitions of terms are given in appendix II]

Occupation class and age	Persons 17 years and over[1]	No corrective lenses	Corrective lenses		
			Total	Eyeglasses only	Contact lenses with or without eyeglasses
	Number of persons in thousands				
All occupation classes[2]					
All ages 17 years and over--	83,072	33,868	48,892	46,536	2,356
17-24 years	17,734	10,459	7,214	6,045	1,169
25-44 years	33,697	19,432	14,129	13,153	977
45 years and over	31,640	3,977	27,549	27,338	211
White-collar workers					
All ages 17 years and over--	36,266	11,783	24,350	22,740	1,611
17-24 years	6,704	3,207	3,478	2,743	735
25-44 years	15,866	7,445	8,363	7,596	767
45 years and over	13,697	1,131	12,509	12,401	108
Blue-collar workers					
All ages 17 years and over--	28,474	14,415	13,958	13,650	308
17-24 years	6,149	4,320	1,804	1,645	160
25-44 years	11,986	8,375	3,568	3,476	92
45 years and over	10,338	1,720	8,586	8,529	57
Service workers					
All ages 17 years and over--	11,052	4,454	6,551	6,303	248
17-24 years	2,845	1,686	1,151	994	157
25-44 years	3,527	2,131	1,372	1,305	67
45 years and over	4,680	637	4,028	4,004	*
Farm workers					
All ages 17 years and over--	2,684	1,210	1,459	1,433	*
17-24 years	427	299	124	109	*
25-44 years	797	596	197	194	*
45 years and over	1,461	316	1,139	1,130	*

[1]Includes persons for whom no information on corrective lenses was available.
[2]Includes unknown occupation.

NOTE: Relative standard errors of estimates for this table are found on chart on page 32, code A4AN. A guide to the use of the relative standard error charts is on page 31.

Table 16. Percent distribution of persons 17 years of age and over in the labor force with or without corrective lenses by type of lens, according to occupation class and age: United States, 1971

[Data are based on household interviews of the civilian, noninstitutionalized population. The survey design, general qualifications, and information on the reliability of the estimates are given in appendix I. Definitions of terms are given in appendix II]

Occupation class and age	Persons 17 years and over[1]	No corrective lenses	Corrective lenses		
			Total	Eyeglasses only	Contact lenses with or without eyeglasses
	Percent distribution				
All occupation classes[2]					
All ages 17 years and over--	100.0	40.8	58.9	56.0	2.8
17-24 years	100.0	59.0	40.7	34.1	6.6
25-44 years	100.0	57.7	41.9	39.0	2.9
45 years and over	100.0	12.6	87.1	86.4	0.7
White-collar workers					
All ages 17 years and over--	100.0	32.5	67.1	62.7	4.4
17-24 years	100.0	47.8	51.9	40.9	11.0
25-44 years	100.0	46.9	52.7	47.9	4.8
45 years and over	100.0	8.3	91.3	90.5	0.8
Blue-collar workers					
All ages 17 years and over--	100.0	50.6	49.0	47.9	1.1
17-24 years	100.0	70.3	29.3	26.8	2.6
25-44 years	100.0	69.9	29.8	29.0	0.8
45 years and over	100.0	16.6	83.1	82.5	0.6
Service workers					
All ages 17 years and over--	100.0	40.3	59.3	57.0	2.2
17-24 years	100.0	59.3	40.5	34.9	5.5
25-44 years	100.0	60.4	38.9	37.0	1.9
45 years and over	100.0	13.6	86.1	85.6	*
Farm workers					
All ages 17 years and over--	100.0	45.1	54.4	53.4	*
17-24 years	100.0	70.0	29.0	25.5	*
25-44 years	100.0	74.8	24.7	24.3	*
45 years and over	100.0	21.6	78.0	77.3	*

[1]Includes persons for whom no information on corrective lenses was available.
[2]Includes unknown occupation.

NOTE: Relative standard errors of estimates for this table are found on chart on page 33, code P4AN-M. A guide to the use of the relative standard error charts is on page 31.

APPENDIX I

TECHNICAL NOTES ON METHODS

Background of This Report

This report is one of a series of statistical reports prepared by the National Center for Health Statistics (NCHS). It is based on information collected in a continuing nationwide sample of households in the Health Interview Survey (HIS).

The Health Interview Survey utilizes a questionnaire which obtains information on personal and demographic characteristics, illnesses, injuries, impairments, chronic conditions, and other health topics. As data relating to each of these various broad topics are tabulated and analyzed, separate reports are issued which cover one or more of the specific topics. The present report is based on data collected in household interviews during 1971.

The population covered by the sample for the Health Interview Survey is the civilian, noninstitutionalized population of the United States living at the time of the interview. The sample does not include members of the Armed Forces or U.S. nationals living in foreign countries. It should also be noted that the estimates shown do not represent a complete measure of any given topic during the specified calendar period since data are not collected in the interview for persons who died during the reference period. For many types of statistics collected in the survey, the reference period covers the 2 weeks prior to the interview week. For such a short period, the contribution by decedents to a total inventory of conditions or services should be very small. However, the contribution by decedents during a long reference period (e.g., 1 year) might be sizable, especially for older persons.

Statistical Design of the Health Interview Survey

General plan.—The sampling plan of the survey follows a multistage probability design which permits a continuous sampling of the civilian, noninstitutionalized population of the United States. The sample is designed in such a way that the sample of households interviewed each week is representative of the target population and that weekly samples are additive over time. This feature of the design permits both continuous measurement of characteristics of samples and more detailed analysis of less common characteristics and smaller categories of health-related items. The continuous collection has administrative and operational advantages as well as technical assets since it permits fieldwork to be handled with an experienced, stable staff.

The overall sample was designed so that tabulations can be provided for each of the four major geographic regions and for urban and rural sectors of the United States.

The first stage of the sample design consists of drawing a sample of 357 primary sampling units (PSU's) from approximately 1,900 geographically defined PSU's. A PSU consists of a county, a small group of contiguous counties, or a standard metropolitan statistical area. The PSU's collectively cover the 50 States and the District of Columbia.

With no loss in general understanding, the remaining stages can be combined and treated in this discussion as an ultimate stage. Within PSU's, then, ultimate stage units called segments are defined in such a manner that each segment contains an expected six households. Three general types of segments are used.

Area segments which are defined geographically.

List segments, using 1960 census registers as the frame.

Permit segments, using updated lists of building permits issued in sample PSU's since 1960.

Census address listings were used for all areas of the country where addresses were well defined and could be used to locate housing units. In general the list frame included the larger urban areas of the United States from which about two-thirds of the HIS sample was selected.

The usual HIS sample consists of approximately 8,000 segments containing 57,000 assigned households, of which 11,000 were vacant, demolished, or occupied by persons not in the scope of the survey. The 46,000 eligible occupied households yield a probability sample of about 134,000 persons in 44,000 interviewed households in a year.

Descriptive material on data collection, field procedures, and questionnaire development in the HIS has been published[3] as well as a detailed description of the sample design[4] and a report on the estimation procedure and the method used to calculate sampling errors of estimates derived from the survey.[5]

Collection of data.—Field operations for the survey are performed by the U.S. Bureau of the Census under specifications established by the National Center for Health Statistics. In accordance with these specifications the Bureau of the Census participates in survey planning, selects the sample, and conducts the field interviewing as an agent of NCHS. The data are coded, edited, and tabulated by NCHS.

Estimating procedures.—Since the design of the HIS is a complex multistage probability sample, it is necessary to use complex procedures in the derivation of estimates. Four basic operations are involved:

1. *Inflation by the reciprocal of the probability of selection.*—The probability of selection is the product of the probabilities of selection from each step of selection in the design (PSU, segment, and household).
2. *Nonresponse adjustment.*—The estimates are inflated by a multiplication factor which has as its numerator the number of sample households in a given segment and as its denominator the number of households interviewed in that segment.
3. *First-stage ratio adjustment.*—Sampling theory indicates that the use of auxiliary information which is highly correlated with the variables being estimated improves the reliability of the estimates. To reduce the variability between PSU's within a region, the estimates are ratio adjusted to the 1960 populations within six color-residence classes.
4. *Poststratification by age-sex-color.*—The estimates are ratio adjusted within each of 60 age-sex-color cells to an independent estimate of the population of each cell for the survey period. These independent estimates are prepared by the Bureau of the Census. Both the first-stage and poststratified ratio adjustments take the form of multiplication factors applied to the weight of each elementary unit (person, household, condition, and hospitalization).

The effect of the ratio-estimating process is to make the sample more closely representative of the civilian, noninstitutionalized population by age, sex, color, and residence, which thereby reduces sampling variance.

---

[3] National Center for Health Statistics: Health survey procedure: concepts, questionnaire development, and definitions in the Health Interview Survey. *Vital and Health Statistics.* PHS Pub. No. 1000-Series 1-No. 2. Public Health Service. Washington. U.S. Government Printing Office, May 1964.

[4] U.S. National Health Survey: The statistical design of the health household interview survey. *Health Statistics.* PHS Pub. No. 584-A2. Public Health Service. Washington, D.C., July 1958.

[5] National Center for Health Statistics: Estimation and sampling variance in the Health Interview Survey. *Vital and Health Statistics.* PHS Pub. No. 1000-Series 2-No. 38. Public Health Service. Washington. U.S. Government Printing Office, June 1970.

As noted, each week's sample represents the population living during that week and characteristics of the population. Consolidation of samples over a time period, e.g., a calendar quarter, produces estimates of average characteristics of the U.S. population for the calendar quarter. Similarly, population data for a year are averages of the four quarterly figures.

For prevalence statistics, such as number of persons with speech impairments or number of persons classified by time interval since last physician visit, figures are first calculated for each calendar quarter by averaging estimates for all weeks of interviewing in the quarter. Prevalence data for a year are then obtained by averaging the four quarterly figures.

For other types of statistics—namely those measuring the number of occurrences during a specified time period—such as incidence of acute conditions, number of disability days, or number of visits to a doctor or dentist, a similar computational procedure is used, but the statistics are interpreted differently. For these items, the questionnaire asks for the respondent's experience over the 2 calendar weeks prior to the week of interview. In such instances the estimated quarterly total for the statistic is 6.5 times the average 2-week estimate produced by the 13 successive samples taken during the period. The annual total is the sum of the four quarters. Thus the experience of persons *interviewed during a year*—experience which actually occurred for each person in a 2-calendar-week interval prior to week of interview—is treated as though it measured the total of such experience *during the year*. Such interpretation leads to no significant bias.

General Qualifications

Nonresponse.—Data were adjusted for nonresponse by a procedure which imputes to persons in a household which was not interviewed the characteristics of persons in households in the same segment which were interviewed. The total noninterview rate, the ratio of the total noninterviewed eligible households to the total eligible households, was 3.6 percent, including a 1.1-percent refusal rate with the remainder primarily due to the failure to find an eligible respondent at home after repeated calls.

The interview process.—The statistics presented in this report are based on replies obtained in interviews with persons in the sample households. Each person 19 years of age and over present at the time of interview was interviewed individually. For children and for adults not present in the home at the time of the interview, the information was obtained from a related household member such as a spouse or the mother of a child.

There are limitations to the accuracy of diagnostic and other information collected in household interviews. For diagnostic information, the household respondent can usually pass on to the interviewer only the information the physician has given to the family. For conditions not medically attended, diagnostic information is often no more than a description of symptoms. However, other facts, such as the number of disability days caused by the condition, can be obtained more accurately from household members than from any other source since only the persons concerned are in a position to report this information.

Rounding of numbers.—The original tabulations on which the data in this report are based show all estimates to the nearest whole unit. All consolidations were made from the original tabulations using the estimates to the nearest unit. In the final published tables, the figures are rounded to the nearest thousand, although these are not necessarily accurate to that detail. Devised statistics such as rates and percent distributions are computed after the estimates on which these are based have been rounded to the nearest thousand.

Population figures.—Some of the published tables include population figures for specified categories. Except for certain overall totals by age, sex, and color, which are adjusted to independent estimates, these figures are based on the sample of households in the HIS. These are given primarily to provide denominators for rate computation, and for this purpose are more appropriate for use with the accompanying measures of health characteristics than other population data that may be available. With the exception of the overall totals by age, sex, and color

mentioned above, the population figures differ from figures (which are derived from different sources) published in reports of the Bureau of the Census. Official population estimates are presented in Bureau of the Census reports in Series P-20, P-25, and P-60.

Reliability of Estimates

Since the statistics presented in this report are based on a sample, they will differ somewhat from the figures that would have been obtained if a complete census had been taken using the same schedules, instructions, and interviewing personnel and procedures.

As in any survey, the results are also subject to reporting and processing errors and errors due to nonresponse. To the extent possible, these types of errors were kept to a minimum by methods built into survey procedures. Although it is very difficult to measure the extent of bias in the Health Interview Survey, a number of studies have been conducted to study this problem. The results have been published in several reports.[6-10]

---

[6]National Center for Health Statistics: Reporting of hospitalization in the Health Interview Survey. *Vital and Health Statistics.* PHS Pub. No. 1000-Series 2-No.6. Public Health Service. Washington. U.S. Government Printing Office, July 1965.

[7]National Center for Health Statistics: Health interview responses compared with medical records. *Vital and Health Statistics.* PHS Pub. No. 1000-Series 2-No. 7. Public Health Service. Washington. U.S. Government Printing Office, July 1965.

[8]National Center for Health Statistics: Comparison of hospitalization reporting in three survey procedures. *Vital and Health Statistics.* PHS Pub. No. 1000-Series 2-No. 8. Public Health Service. Washington. U.S. Government Printing Office, July 1965.

[9]National Center for Health Statistics: Interview data on chronic conditions compared with information derived from medical records. *Vital and Health Statistics.* PHS Pub. No. 1000-Series 2-No. 23. Public Health Service. Washington. U.S. Government Printing Office, May 1967.

[10]National Center for Health Statistics: The influence of interviewer and respondent psychological and behavioral variables on the reporting in household interviews. *Vital and Health Statistics.* PHS Pub. No. 1000-Series 2-No. 26. Public Health Service. Washington. U.S. Government Printing Office, Mar. 1968.

The standard error is primarily a measure of sampling variability, that is, the variations that might occur by chance because only a sample of the population is surveyed. As calculated for this report, the standard error also reflects part of the variation which arises in the measurement process. It does not include estimates of any biases which might be in the data. The chances are about 68 out of 100 that an estimate from the sample would differ from a complete census by less than the standard error. The chances are about 95 out of 100 that the difference would be less than twice the standard error and about 99 out of 100 that it would be less than 2½ times as large.

The relative standard error of an estimate is obtained by dividing the standard error of the estimate by the estimate itself and is expressed as a percentage of the estimate. For this report, asterisks are shown for any cell with more than a 30-percent relative standard error. Included in this appendix are charts from which the relative standard errors can be determined for estimates shown in the report. In order to derive relative errors which would be applicable to a wide variety of health statistics and which could be prepared at a moderate cost, a number of approximations were required. As a result, the charts provide an estimate of the approximate relative standard error rather than the precise error for any specific aggregate or percentage.

Three classes of statistics for the health survey are identified for purposes of estimating variances.

Narrow range.—This class consists of (1) statistics which estimate a population attribute, e.g., the number of persons in a particular income group, and (2) statistics for which the measure for a single individual during the reference period used in data collection is usually either 0 or 1 or on occasion may take on the value 2 or very rarely 3.

Medium range.—This class consists of other statistics for which the measure for a single individual during the reference period used in data collection will rarely lie outside the range 0 to 5.

Wide range.—This class consists of statistics for which the measure for a single individual during

the reference period used in data collection can range from 0 to a number in excess of 5, e.g., the number of days of bed disability.

In addition to classifying variables according to whether they are narrow-, medium-, or wide-range, statistics in the survey are further defined as:

Type A. Statistics on prevalence and incidence for which the period of reference in the questionnaire is 12 months.

Type B. Incidence-type statistics for which the period of reference in the questionnaire is 2 weeks.

Type C. Statistics for which the reference period is 6 months.

Only the charts on sampling error applicable to data contained in this report are presented.

General rules for determining relative sampling errors.—The "guide" on page 31, together with the following rules, will enable the reader to determine approximate relative standard errors from the charts for estimates presented in this report.

Rule 1. *Estimates of aggregates:* Approximate relative standard errors for estimates of aggregates such as the number of persons with a given characteristic are obtained from appropriate curves on page 32. The number of persons in the total U.S. population or in an age-sex-color class of the total population is adjusted to official Bureau of the Census figures and is not subject to sampling error.

Rule 2. *Estimates of percentages in a percent distribution:* Relative standard errors for percentages in a percent distribution of a total are obtained from appropriate curves on page 33. For values which do not fall on one of the curves presented in the chart, visual interpolation will provide a satisfactory approximation.

Rule 3. *Estimates of rates where the numerator is a subclass of the denominator:* This rule applies for prevalence rates or where a unit of the numerator occurs, with few exceptions, only once in the year for any one unit in the denominator. For example, in computing the rate of visual impairments per 1,000 population, the numerator consisting of persons with the impairment is a subclass of the denominator, which includes all persons in the population. Such rates if converted to rates per 100 may be treated as though they were percentages and the relative standard errors obtained from the chart P4AN-M. Rates per 1,000, or on any other base, must first be converted to rates per 100; then the percentage chart will provide the relative standard error per 100.

Rule 4. *Estimates of rates where the numerator is not a subclass of the denominator:* This rule applies where a unit of the numerator often occurs more than once for any one unit in the denominator. For example, in the computation of the number of persons injured per 100 currently employed persons per year, it is possible that a person in the denominator could have sustained more than one of the injuries included in the numerator. Approximate relative standard errors for rates of this kind may be computed as follows:

(a) Where the denominator is the total U.S. population or includes all persons in one or more of the age-sex-color groups of the total population, the relative error of the rate is equivalent to the relative error of the numerator, which can be obtained directly from the appropriate chart.

(b) In other cases the relative standard error of the numerator and of the denominator can be obtained from the appropriate curve. Square each of these relative errors, add the resulting values, and extract the square root of the sum. This procedure will result in an upper

bound on the standard error and often will overstate the error.

Rule 5. *Estimates of difference between two statistics (mean, rate, total, etc.):* The standard error of a difference is approximately the square root of the sum of the squares of each standard error considered separately. A formula for the standard error of a difference,

$$d = X_1 - X_2$$

is

$$\sigma_d = \sqrt{(X_1 V_{x1})^2 + (X_2 V_{x2})^2}$$

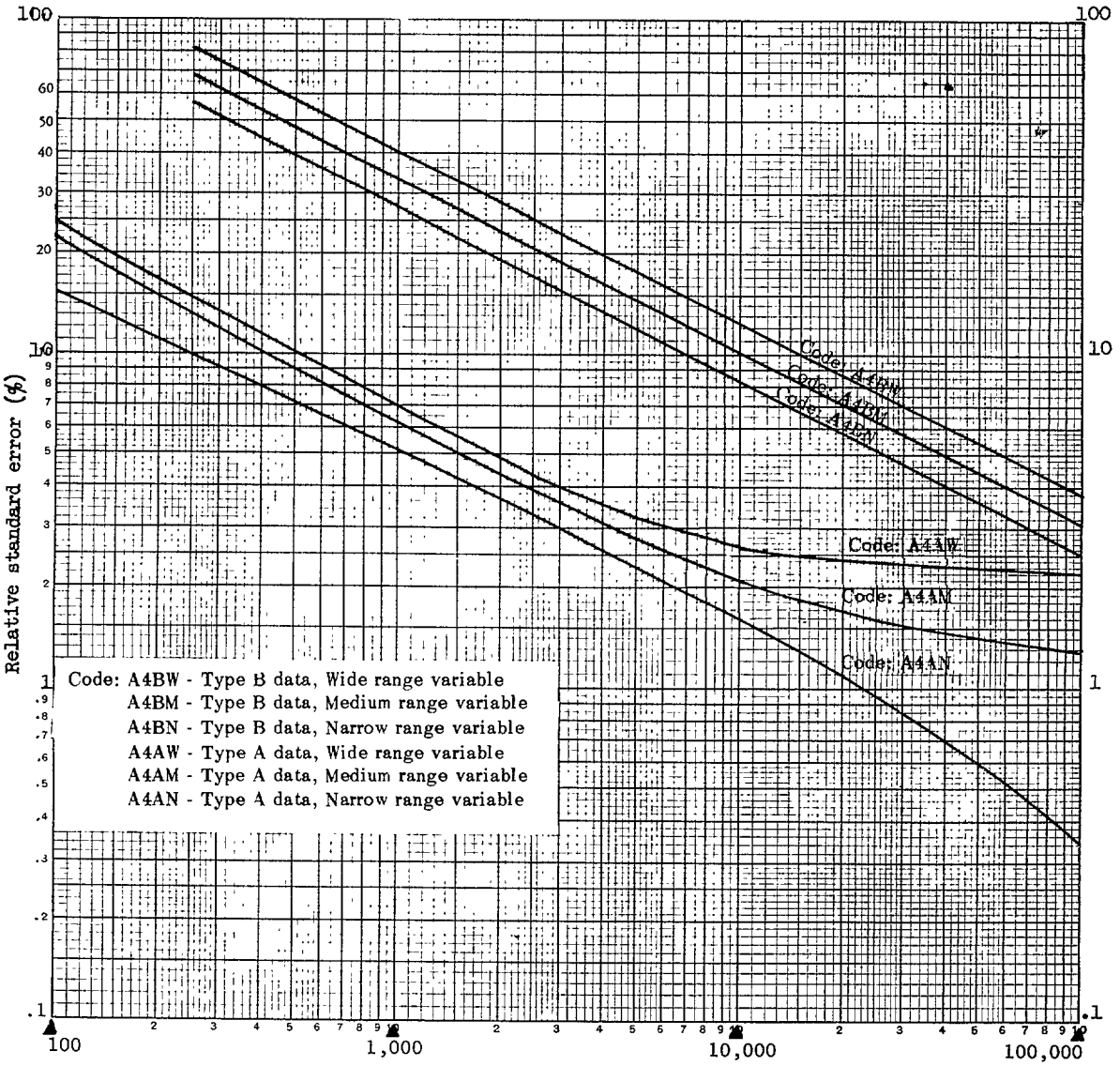
where X_1 is the estimate for class 1, X_2 is the estimate for class 2, and V_{x1} and V_{x2} are the relative errors of X_1 and X_2 respectively. This formula will represent the actual standard error quite accurately for the difference between separate and uncorrelated characteristics although it is only a rough approximation in most other cases. The relative standard error of each estimate involved in such a difference can be determined by one of the four rules above, whichever is appropriate.

Guide to Use of Relative Standard Error Charts

The code shown below identifies the appropriate curve to be used in estimating the relative standard error of the statistic described. The four components of each code describe the statistic as follows: (1) A = aggregate, P = percentage; (2) the number of calendar quarters of data collection; (3) the type of statistic as described on page 30; and (4) the range of the statistic as described on page 29-30.

Statistic	Use:		
	Rule	Code	On page
Number of:			
Persons in the U.S. population or total number of persons in any age-sex cagegory	Not subject to sampling error		
Persons in any other population group	1	A4AN	32
Persons with corrective lenses	1	A4AN	32
Percent distribution of:			
Persons with corrective lenses by characteristic	2	P4AN-M	33

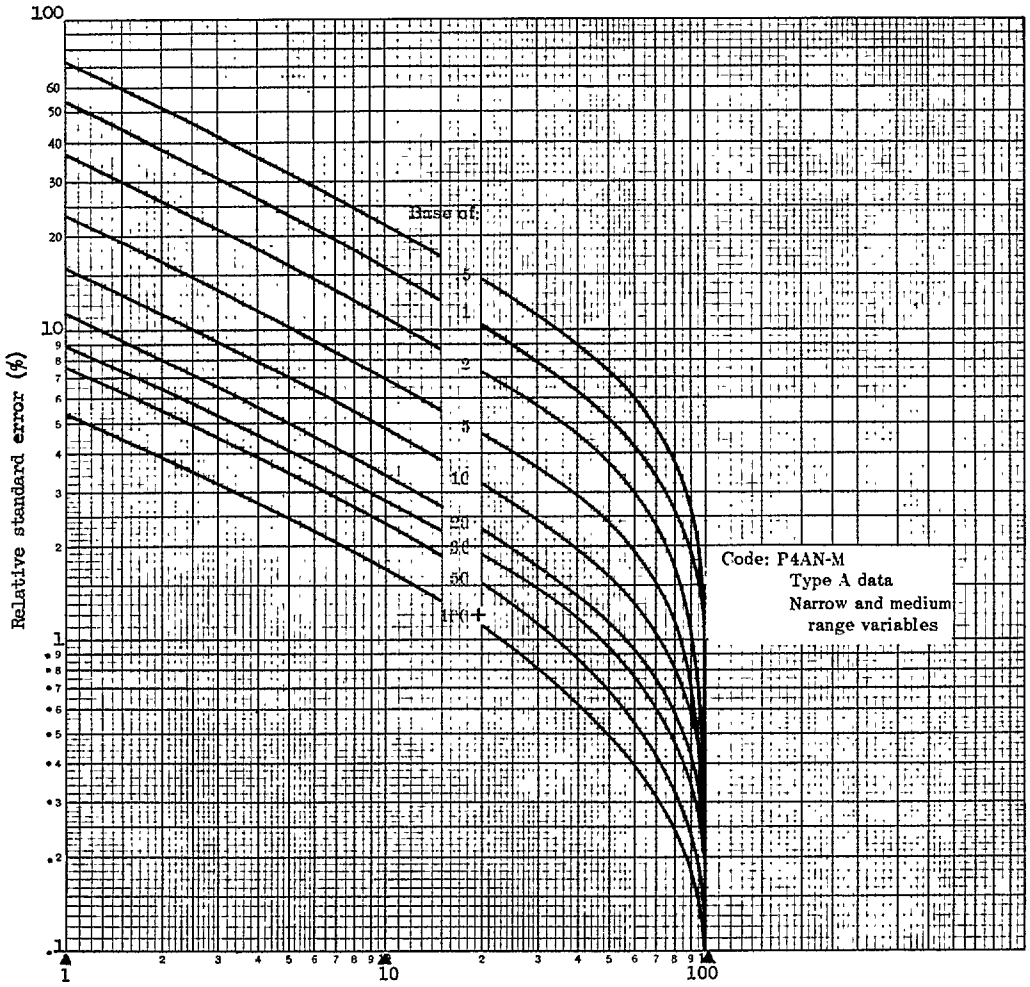
Relative standard errors for aggregates based on four quarters of data collection for data of all types and ranges



Example of use of chart: An aggregate of 2,000,000 (on scale at bottom of chart) for a Narrow range Type A statistic (code: A4AN) has a relative standard error of 3.6 percent, (read from scale at left side of chart), or a standard error of 72,000 (3.6 percent of 2,000,000). For a Wide range Type B statistic (code: A4BW), an aggregate of 6,000,000 has a relative error of 16.0 percent or a standard error of 960,000 (16 percent of 6,000,000).

Relative standard errors for percentages based on four quarters of data collection for type A data, Narrow and Medium range

(Base of percentage shown on curves in millions)



Example of use of chart: An estimate of 20 percent (on scale at bottom of chart) based on an estimate of 10,000,000 has a relative standard error of 3.2 percent (read from the scale at the left side of the chart), the point at which the curve for a base of 10,000,000 intersects the vertical line for 20 percent. The standard error in percentage points is equal to 20 percent X 3.2 percent or 0.64 percentage points.

APPENDIX II

DEFINITIONS OF CERTAIN TERMS USED IN THIS REPORT

Corrective lenses.—Corrective lenses include eyeglasses and contact lenses. The term is limited to visual aids worn to correct or improve vision and therefore excludes sunglasses worn only to filter light, safety glasses worn only for protection of the eyes, hand magnifying glasses, and other such devices. However, if the safety glasses are worn also for correction or improvement of vision, they are considered corrective lenses as are prescription sunglasses.

Age.—The age recorded for each person is the age at last birthday. Age is recorded in single years and grouped in a variety of distributions depending on the purpose of the table.

Color.—The population is divided into two color groups, "white" and "all other." "All other" includes Negro, American Indian, Chinese, Japanese, and any other race. Mexican persons are included with "white" unless definitely known to be Indian or of another race.

Income of family or of unrelated individuals.—Each member of a family is classified according to the total income of the family of which he is a member. Within the household all persons related to each other by blood, marriage, or adoption constitute a family. Unrelated individuals are classified according to their own income.

The income recorded is the total of all income received by members of the family (or by an unrelated individual) in the 12-month period preceding the week of interview. Income from all sources is included, e.g., wages, salaries, rents from property, pensions, and help from relatives.

Education.—The categories of education status show the years of school completed. Only years completed in regular schools, where persons are given a formal education, are included. A "regular" school is one which advances a person toward an elementary or high school diploma or a college, university, or professional school degree. Thus education in vocational, trade, or business schools outside the regular school system is not counted in determining the highest grade of school completed.

Education of head of family or of unrelated individuals.—Each member of a family is classified according to the education of the head of the family of which he is a member. Within the household all persons related to each other by blood, marriage, or adoption constitute a family. Unrelated individuals are classified according to their own education.

Education of individual.—Each person aged 17 years or older is classified by education in terms of the highest grade of school completed.

Geographic region.—For the purpose of classifying the population by geographic area, the States are grouped into four regions. These regions, which correspond to those used by the U.S. Bureau of the Census, are shown in figure I.

Place of residence.—The place of residence of a member of the civilian, noninstitutionalized population is classified as inside a standard metropolitan statistical area (SMSA) or outside an SMSA and either farm or nonfarm.

Region	*States Included*
Northeast	Maine, New Hampshire, Vermont, Massachusetts, Rhode Island, Connecticut, New York, New Jersey, Pennsylvania
North Central . .	Michigan, Ohio, Indiana, Illinois, Wisconsin, Minnesota, Iowa, Missouri, North Dakota, South Dakota, Kansas, Nebraska
South	Delaware, Maryland, District of Columbia, Virginia, West Virginia, North Carolina, South Carolina, Georgia, Florida, Kentucky, Texas, Tennessee, Alabama, Mississippi, Arkansas, Louisiana, Oklahoma
West	Montana, Idaho, Wyoming, Colorado, New Mexico, Arizona, Utah, Nevada, Washington, Alaska, Oregon, California, Hawaii

Figure I.

Standard metropolitan statistical areas.—The definitions and titles of SMSA's are established by the U.S. Office of Management and Budget with the advice of the Federal Committee on Standard Metropolitan Statistical Areas. There were 212 SMSA's defined for the 1960 decennial census.

The definition of an individual SMSA involves two considerations: first, a city or cities of specified population which constitute the central city and identify the county in which it is located as the central county; second, economic and social relationships with contiguous counties (except in New England) which are metropolitan in character so that the periphery of the specific metropolitan area may be determined. SMSA's are not limited by State boundaries. In New England SMSA's consist of towns and cities, rather than counties. The metropolitan population in this report is based on SMSA's as defined in the 1960 census and does not include any subsequent additions or changes.

Central cities.—Each SMSA must include at least one central city. The complete title of an SMSA identifies the central city or cities. If only one central city is designated, then it must have 50,000 inhabitants or more. The area title may include, in addition to the largest city, up to two city names on the basis and in the order of the following criteria: (1) the additional city has at least 250,000 inhabitants or (2) the additional city has a population of one-third or more of that of the largest city and a minimum population of 25,000. An exception occurs where two cities have contiguous boundaries and constitute, for economic and social purposes, a single community of at least 50,000, the smaller of which must have a population of at least 15,000.

Farm and nonfarm residence.—The population residing outside SMSA's is subdivided into the farm population, which comprises all non-SMSA residents living on farms, and the nonfarm population, which comprises the remaining outside SMSA population. The farm population includes persons living on places of 10 acres or more from which sales of farm products amounted to $50 or more during the previous 12 months or on places of less than 10 acres from which sales of farm products amounted to $250 or more during the preceding 12 months. Other persons living outside an SMSA were classified as nonfarm if their household paid rent for the house but their rent did not include any land used for farming.

Sales of farm products refer to the gross receipts from the sale of field crops, vegetables, fruits, nuts, livestock and livestock products (milk, wool, etc.), poultry and poultry products, and nursery and forest products produced on the place and sold at any time during the preceding 12 months.

Occupation.—A person's occupation may be defined as his principal job or business. For

the purposes of this survey, the principal job or business is defined in one of the following ways. If the person worked during the 2-week reference period of the interview, or had a job or business, the question concerning his occupation (or what kind of work he was doing) applies to his job during that period. If the respondent held more than one job, the question is directed to the one at which he spent the most time. For an unemployed person, this question refers to the last full-time civilian job he had. A person who has a job to which he has not yet reported, and has never had a previous job or business, is classified as a "new worker."

The occupation classes presented in this report and their code numbers as found in the *Classified Index of Occupations and Industries* of the U.S. Bureau of the Census are shown in figure II.

Occupation Classification	*Census Code*
White-collar workers	
Professional, technical, and kindred workers	001-195, N
Managers and administrators, except farm	201-245
Sales workers	260-280
Clerical and kindred workers	301-395, P, Q
Blue-collar workers	
Craftsmen and kindred workers	401-580, R, S
Operatives, except transport	601-696, T
Transport equipment operatives	701-715, U
Laborers, except farm	740-785, V
Farm workers	
Farmers and farm managers	801-802, W
Farm laborers and farm foremen	821-824
Service workers	
Service workers, except private household	901-965, X, Y
Private household workers	980-984, Z
Unknown	990, 995

Figure II.

Industry.—The industry in which a person was reportedly working is classified by the major activity of the establishment in which he worked. The only exceptions, the few establishments classified according to the major activity of the parent organization, are as follows: laboratories, warehouses, repair shops, and storage facilities.

The industry categories presented in this report are shown in figure III with the corresponding codes found in the *Classified Index of Occupations and Industries,* U.S. Bureau of the Census, and the *Standard Industrial Classification Manual* (SIC), U.S. Office of Management and Budget.

Industry Classification	*Census Code*	*SIC Code*
Agriculture	017-019, A	01, 07 (except 0713)
Forestry and fisheries	027-028	08, 09
Mining	047-057	10-14
Construction	067-077, B	15-17
Manufacturing	107-398, C	19-39, 0713
Transportation and public utilities	407-479, D	40-49
Wholesale and retail trade	507-698, E, F, G	50-59
Finance, insurance, and real estate	707-718	60-67
Services and miscellaneous	727-897, H, J, K	70-89
Public administration	907-937, L, M	91-94
Unknown	996-999	99

Figure III.

In labor force.—All persons 17 years and older who worked at or had a job or business or were looking for work or on layoff from work during the 2-week period prior to the week of interview are in the labor force.

———o o o———

APPENDIX III

FORM FOR RECORDING INFORMATION ON CORRECTIVE LENSES

37a. Does anyone in the family use – If "Yes," ask b and c	1. Contact lenses? . . Y	N 1 2 3 4 5 6 7 8 9 10
b. Who is this? Circle person's number	2. Eyeglasses? . . . . Y	N 1 2 3 4 5 6 7 8 9 10
c. Anyone else?	3. A hearing aid? . . . Y	N 1 2 3 4 5 6 7 8 9 10

For "hearing aid," with no hearing problem reported, ask:
For what condition does he need this?
Enter condition in item C

VITAL AND HEALTH STATISTICS PUBLICATION SERIES

Originally Public Health Service Publication No. 1000

Series 1. Programs and collection procedures.—Reports which describe the general programs of the National Center for Health Statistics and its offices and divisions, data collection methods used, definitions, and other material necessary for understanding the data.

Series 2. Data evaluation and methods research.—Studies of new statistical methodology including: experimental tests of new survey methods, studies of vital statistics collection methods, new analytical techniques, objective evaluations of reliability of collected data, contributions to statistical theory.

Series 3. Analytical studies.—Reports presenting analytical or interpretive studies based on vital and health statistics, carrying the analysis further than the expository types of reports in the other series.

Series 4. Documents and committee reports.—Final reports of major committees concerned with vital and health statistics, and documents such as recommended model vital registration laws and revised birth and death certificates.

Series 10. Data from the Health Interview Survey.—Statistics on illness, accidental injuries, disability, use of hospital, medical, dental, and other services, and other health-related topics, based on data collected in a continuing national household interview survey.

Series 11. Data from the Health Examination Survey.—Data from direct examination, testing, and measurement of national samples of the civilian, noninstitutional population provide the basis for two types of reports: (1) estimates of the medically defined prevalence of specific diseases in the United States and the distributions of the population with respect to physical, physiological, and psychological characteristics; and (2) analysis of relationships among the various measurements without reference to an explicit finite universe of persons.

Series 12. Data from the Institutional Population Surveys.—Statistics relating to the health characteristics of persons in institutions, and their medical, nursing, and personal care received, based on national samples of establishments providing these services and samples of the residents or patients.

Series 13. Data from the Hospital Discharge Survey.—Statistics relating to discharged patients in short-stay hospitals, based on a sample of patient records in a national sample of hospitals.

Series 14. Data on health resources: manpower and facilities.—Statistics on the numbers, geographic distribution, and characteristics of health resources including physicians, dentists, nurses, other health occupations, hospitals, nursing homes, and outpatient facilities.

Series 20. Data on mortality.—Various statistics on mortality other than as included in regular annual or monthly reports—special analyses by cause of death, age, and other demographic variables, also geographic and time series analyses.

Series 21. Data on natality, marriage, and divorce.—Various statistics on natality, marriage, and divorce other than as included in regular annual or monthly reports—special analyses by demographic variables, also geographic and time series analyses, studies of fertility.

Series 22. Data from the National Natality and Mortality Surveys.—Statistics on characteristics of births and deaths not available from the vital records, based on sample surveys stemming from these records, including such topics as mortality by socioeconomic class, hospital experience in the last year of life, medical care during pregnancy, health insurance coverage, etc.

For a list of titles of reports published in these series, write to:

Office of Information
National Center for Health Statistics
Public Health Service, HRA
Rockville, Md. 20852

DHEW Publication No. (HRA) 75-1520
Series 10- No. 93

U.S. DEPARTMENT OF
HEALTH, EDUCATION, AND WELFARE

Public Health Service

HEALTH RESOURCES ADMINISTRATION
5600 Fishers Lane
Rockville, Md. 20852

OFFICIAL BUSINESS
Penalty for Private Use, $300

POSTAGE AND FEES PAID
U.S. DEPARTMENT OF H.E.W.

HEW 390

THIRD CLASS
BLK. RATE