

Dental Visits

Volume and Interval

Since Last Visit

United States - 1969

Statistics on the volume of dental visits and the time interval since the last dental visit, by age, sex, color, family income, education of the head of family, usual activity status, place of residence, and geographic region. Also, percent distribution of persons by frequency of visits in a year. Based on data collected in health interviews during 1969.

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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.

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DENTAL VISITS

VOLUME AND INTERVAL SINCE LAST VISIT

Charles S. Wilder, *Division of Health Interview Statistics*

INTRODUCTION

During 1969 about 45.0 percent of the civilian, noninstitutional population of the United States made a least one dental visit during the year prior to the week of interview. There were an estimated 293.3 million dental visits during the year—an annual average of 1.5 visits per person in the population. This rate is slightly less than that of 1.6 visits per person reported for July 1963-June 1964. A dental visit is defined as any visit to a dentist's office for treatment or advice even if the service was not provided directly by the dentist himself but by a technician or hygienist acting under the dentist's supervision.

This information was obtained in health interviews for the Health Interview Survey of a probability sample of the civilian, noninstitutional population. The sample is designed so that interviews are conducted during every week of the year. Information collected on the volume of dental visits and interval since last dental visit obtained during July 1963-June 1964 is published by the National Center for Health Statistics in Series 10 reports, numbers 23 and 29. During 1968 a half year of data was collected; this data was summarized in the Current Estimates report for that year, Series 10, No. 60.

The number of dental visits per person per year varied considerably by age, sex, color, family income, education of the head of family, place of residence, and geographic region in

which the population resided. These findings may be summarized in capsule form:

1. The number of dental visits per person per year was highest in the age group 5-24 years.
2. The annual number of dental visits per person was higher for females than for males.
3. The rate of dental visits was higher for white persons than for other persons.
4. The number of dental visits per person was highest in the largest family income category—\$15,000 or more.
5. The rate was highest for the group with the most education of the head of the family.
6. The annual number of dental visits was highest among residents of metropolitan areas.
7. The rate of dental visits was higher for residents of the Northeast and West Regions than for the North Central and South Regions.

SOURCE AND LIMITATIONS OF THE DATA

The information in this report is derived from data collected in household interviews in the Health Interview Survey. Each week trained personnel of the U.S. Bureau of the Census conduct interviews in a representative sample of households in the civilian, noninstitutional population to obtain information about the health and other characteristics of each person in the

Table A. Percent of population with 1 or more dental visits within a year of interview and number of dental visits per person per year, by selected characteristics: United States, July 1963-June 1964 and 1969

Characteristic	July 1963- June 1964	1969	July 1963- June 1964	1969
	<i>Percent of population with dental visit within a year</i>		<i>Number of dental visits per person per year</i>	
All persons ¹	42.0	45.0	1.6	1.5
<u>Sex</u>				
Male	40.1	43.8	1.4	1.4
Female	43.8	46.1	1.7	1.6
<u>Age</u>				
Under 5 years	11.1	11.0	0.3	0.3
5-14 years	54.9	58.8	1.9	1.8
15-24 years	55.1	55.6	2.0	1.7
25-44 years	48.5	49.5	1.9	1.6
45-64 years	38.4	42.3	1.7	1.6
65 years and over	20.8	23.2	0.8	1.0
<u>Color</u>				
White	44.6	47.3	1.7	1.6
All other	22.7	28.3	0.9	0.7
<u>Family income</u>				
Less than \$3,000	24.0	26.6	0.8	0.8
\$3,000-\$4,999	33.4	31.9	1.0	1.0
\$5,000-\$6,999	41.8	37.4	1.6	1.1
\$7,000-\$9,999	51.3	45.1	1.9	1.4
\$10,000-\$14,999	61.5	55.1	2.6	1.9
\$15,000 or more	71.2	66.7	3.4	2.5
<u>Education of head of family</u>				
Less than 5 years	18.5	21.0	0.6	0.6
5-8 years	29.0	29.9	1.1	0.9
9-12 years	43.9	45.3	1.6	1.5
13 years or more	62.6	62.9	2.6	2.2
<u>Usual activity</u>				
Preschool (under 6 years)	16.5	17.3	0.5	0.4
School-age (6-16 years)	56.9	60.1	2.0	1.9
Usually working (17 years and over)	43.7	46.1	1.7	1.6
Keeping house (female, 17 years and over)	41.1	42.0	1.6	1.5
Retired (45 years and over)	19.5	22.0	0.8	0.9
Other activity (17 years and over)	53.2	54.5	2.0	1.7
<u>Place of residence</u>				
All SMSA	44.7	47.2	1.8	1.6
Outside SMSA:				
Nonfarm	38.1	40.9	1.2	1.2
Farm	33.7	39.9	0.9	1.1
<u>Geographic region</u>				
Northeast	47.7	49.8	2.1	1.8
North Central	43.9	46.0	1.5	1.4
South	34.9	39.3	1.1	1.1
West	43.4	46.4	1.7	1.8

¹Includes unknown income and education.

household. During the 52 weeks of 1969 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, of the methods used in estimation, and of general qualifications of the data obtained from surveys is presented in appendix I. Since estimates shown in this report are based on a sample of the population rather than on the entire 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 the denominator of a rate or percentage is small, the sampling error may be high.

Another source of error in interview data is response error. Response error occurs when household respondents do not know the requested information, fail to recall accurately events occurring during the reference period, report events as having occurred during the reference period which actually happened outside the period, or withhold information.

Certain terms used in this report are defined in appendix II. Some of these terms have specialized meanings for the purpose of the survey, so it is desirable for the reader to be familiar with these definitions.

The questions used in 1969 to obtain data on dental visits and interval since last dental visit are illustrated in appendix III. Also presented are the questions employed in July 1963-June 1964 from which the comparison information in table A is derived. The entire questionnaire used during 1969 is illustrated in the Current Estimates report for 1969, Series 10-No. 63.

INTERVAL SINCE LAST DENTAL VISIT

An estimated 88.8 million persons in the civilian, noninstitutional population, or 45.0 percent of the population, made at least one dental visit during the year prior to interview (tables A and 1). The comparable figure from information collected in interviews during July 1963-June 1964 was 42.0 percent. Examination of table A shows that for each population characteristic except family income there was an increase from 1964 to 1969 in the percent of the population with one or more dental visits in the year prior to interview.

An increase in percentage with at least one dental visit in the past year occurred for the income group less than \$3,000, but for each of the higher income groups there was a decline in the percentage which ranged from 1.5 to 6.4 percentage points. The apparent incongruity of an increase in percentage with a visit during the

Table B. Civilian, noninstitutional population and percent distribution of persons by family income: United States, July 1963-June 1964, 1969, and 1970

Family income	July 1963- June 1964	1969	1970	July 1963- June 1964	1969	1970
	<i>Population in thousands</i>			<i>Percent distribution</i>		
All incomes	185,797	197,422	199,843	100.0	100.0	100.0
Less than \$3,000.	35,576	22,070	20,882	19.1	11.2	10.4
\$3,000-\$4,999	35,329	22,239	21,184	19.0	11.3	10.6
\$5,000-\$6,999	39,651	32,856	27,315	21.3	16.6	13.7
\$7,000-\$9,999	36,476	41,221	39,655	19.6	20.9	19.8
\$10,000-\$14,999	20,360	43,206	46,959	11.0	21.9	23.5
\$15,000 or more	8,465	24,834	30,259	4.6	12.6	15.1
Unknown	9,941	10,996	13,590	5.4	5.6	6.8

past year for all persons from 42.0 to 45.0 percent but a decline in the percentage for most of the individual income groups can be explained by the major shift to higher incomes that occurred in the population between 1964 and 1969. Table B shows the population and percent distribution by family income for these two periods. The shift in population to higher income groups resulted in sufficient numbers of persons with a visit in the past year in each of the higher income groups so that the overall percentage rose.

However, the above statements do not account for the decline in percentage with a visit within each income group other than the lowest between 1964 and 1969. Examination of the age-specific percentages for the income groups shows the same decline. For example, in the family income group \$15,000 or more the age-specific percentages for 1964 and 1969 were as follows:

	Percent with 1 or more visits in past year	
	July 1963- June 1964	1969
All ages	71.2	66.7
Under 5 years	27.4	23.0
5-14 years	85.4	80.8
15-24 years	80.1	71.2
25-44 years	73.3	67.5
45-64 years	68.8	63.1
65 years and over	48.9	46.6

Several possible explanations may account for the decline in percentages. If a sizable number of persons moved from one income level to another and the demand for dental services did not change appreciably, a drop in percentage with a visit could occur. For instance, persons in the income category \$10,000-\$14,999 in 1964 had an average percentage of 61.5; if they moved into the group \$15,000 or more in 1969, the percentage could have dropped from 71.2 to 66.7. Another explanation may be that persons who have employed dental preventive treatment such as fluorides for a pe-

riod of time may feel that it is not necessary to go to the dentist as often as in the past.

Information about the percentage of the population with one or more dental visits in the past year is also available from the Health Interview Survey data collection for 1970. A comparison of these percentages by family income for the three time periods is as follows:

	July 1963- June 1964	1969	1970
All incomes	42.0	45.0	46.8
Less than \$3,000	24.0	26.6	27.9
\$3,000-\$4,999	33.4	31.9	32.6
\$5,000-\$6,999	41.8	37.4	38.1
\$7,000-\$9,999	51.3	45.1	45.7
\$10,000-\$14,999	61.5	55.1	55.6
\$15,000 or more	71.2	66.7	67.6

As shown in table B, the 1970 income distribution of the population continued the shift to higher income categories.

During 1969 an estimated 13.3 percent of the population was reported as never having made a dental visit (table 2). The comparable percentage during July 1963-June 1964 was 16.6 (Series 10-No. 29). In 1969 about 59.0 percent of the 26.2 million persons who had never seen a dentist were under 5 years of age. Larger proportions of the persons who reported never having seen a dentist were found for the following demographic groups: people of races other than white, the lower income groups, and persons whose head of family had lower educational levels.

VOLUME OF DENTAL VISITS

During 1969 the civilian, noninstitutional population reported an estimated 293.3 million dental visits, or an average of 1.5 visits per persons per year (tables A and 3). The number of visits per person per year was slightly less than the 1.6 visits per person reported during July 1963-June 1964. Table A indicates that the decline in rate of dental visits was more pronounced among persons aged 15-44 years,

among persons other than white, in annual family income groups of \$5,000 or more, among persons whose head of family had some college education, and among persons who lived in the Northeast Region.

An estimate of the number of dental visits per person who had at least one visit during the year prior to interview may be computed by dividing the 293,337,000 dental visits in 1969 by the 88,754,000 with at least one visit. For 1969 this figure was 3.3 visits per person with a visit. The corresponding figure for July 1963-June 1964 was 3.8 visits (293,750,000 dental visits divided by the 78,069,000 persons with at least one visit in the year prior to interview).

Thus between 1964 and 1969 more people saw a dentist, but they had fewer visits per person. The decrease in the mean number of visits per person cannot be attributed to a decrease in the number of dental practitioners. According to dental manpower statistics published in the *Statistical Abstract*¹ there was 45 active nonfederal dentists per 100,000 civilian population during 1963 and 1964 and 47 such dentists in practice in 1969.

The lower rate of visits among users of dental services could reflect, however, the cumulative effect of preventive dental practice, especially the increasing number of fluoridated public water supplies and the wider use of fluoridated tooth pastes. Use of fluoride in one form or another has been shown to be an effective means of reducing the incidence of dental decay. From 1964 to 1969 the percent of the U.S. population using fluoridated water continued to grow, rising from 28.3 to 42.7 percent.²

It is also possible that the lower annual number of dental visits per person may reflect

¹U.S. Bureau of the Census, *Statistical Abstract of the United States*. Data for 1963 from the 1965 edition, for 1964 from the 1966 edition, and for 1969 from the 1970 edition

²U.S. Bureau of the Census, *Statistical Abstract of the United States*, 1965 and 1970 editions. Population using fluoridated water—States and Puerto Rico. Percent using fluoridation shown for the total population has been adjusted to delete the data for Puerto Rico.

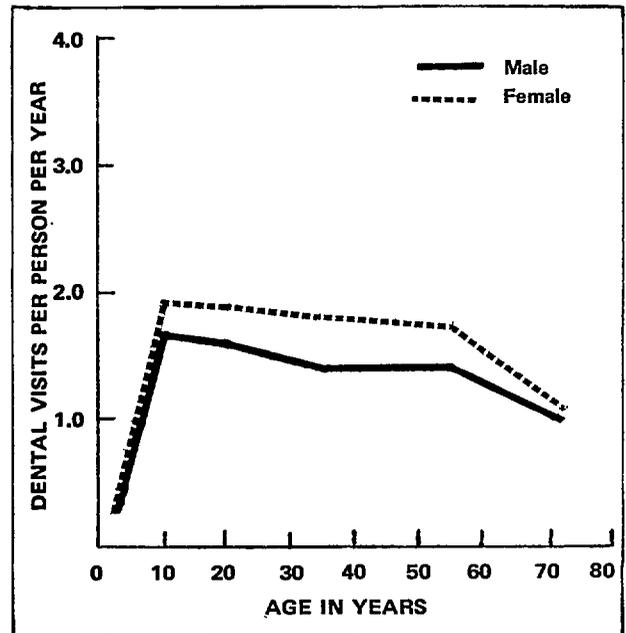


Figure 1. Number of dental visits per person per year, by sex and age.

changes that occurred in the productivity of dentists. For example, wider and more effective utilizations of chairside assistants by dentists has been occurring rapidly in recent years, and more efficient dental equipment and procedures have been developed. Thus dentists today can provide more services in less time than they could formerly.

During 1969 females utilized dentist's services at a higher rate than did males—1.6 dental visits per female per year compared with 1.4 visits per male (table 3). Figure 1 shows that the sex difference was quite uniform from age 10 to about age 60. For both sexes the annual number of visits per person was quite uniform during the age span from 5 years through 64 years with the highest rate of utilization between ages 5-24 years. The low rate of dental visits for persons under 5 years of age reflects the absence of teeth in the youngest members of this group as well as the presence of deciduous (baby) teeth, which are replaced by the permanent teeth. It is a popular belief that baby teeth require little care by a dentist. Correspondingly, the reduction in num-

ber of dental visits per person aged 65 years and over also reflects to some extent the absence of teeth in a portion of this population group. According to data collected in health examinations of persons 65-79 years, about half of this group were edentulous, that is, without teeth (Series 11, No. 7).

White persons made 1.6 visits per person per year compared with a rate of 0.7 for persons of other races. This difference in use of dental services occurred in all age groups and for each sex (figure 2, and table 3). When these data are examined by family income groups of under \$5,000 and \$5,000 or more, the number of visits per white person rose considerably in the higher income group (table 4). Among persons of other races the increase in rate was not as pronounced except in two age groups—5-14 years and 45-64 years—where the rate rose by 50 percent and 67 percent, respectively, in the higher income groups.

As family income rose the number of dental visits per person per year also increased (table

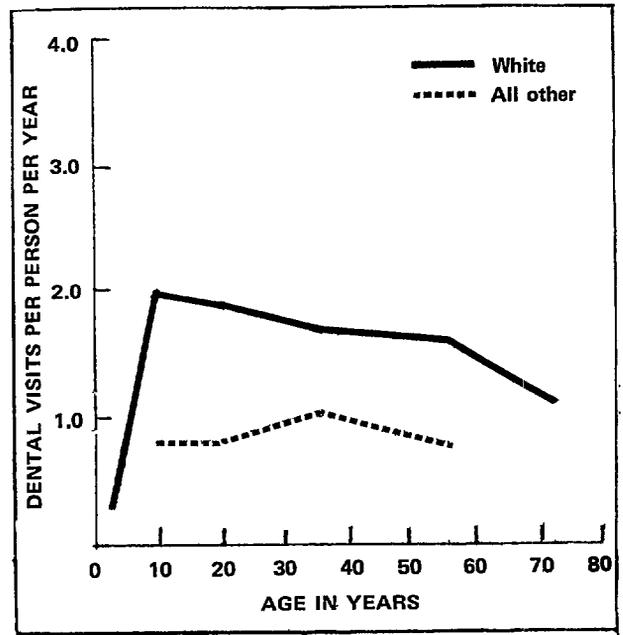


Figure 2. Number of dental visits per person per year, by color and age.

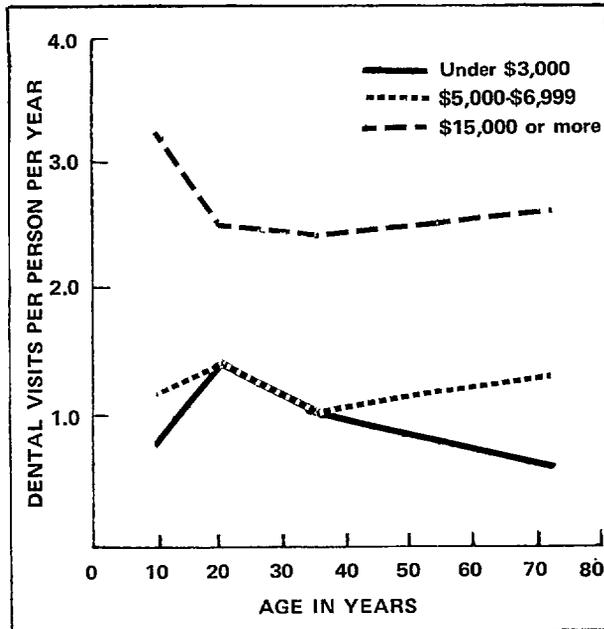


Figure 3. Number of dental visits per person per year, by family income and age.

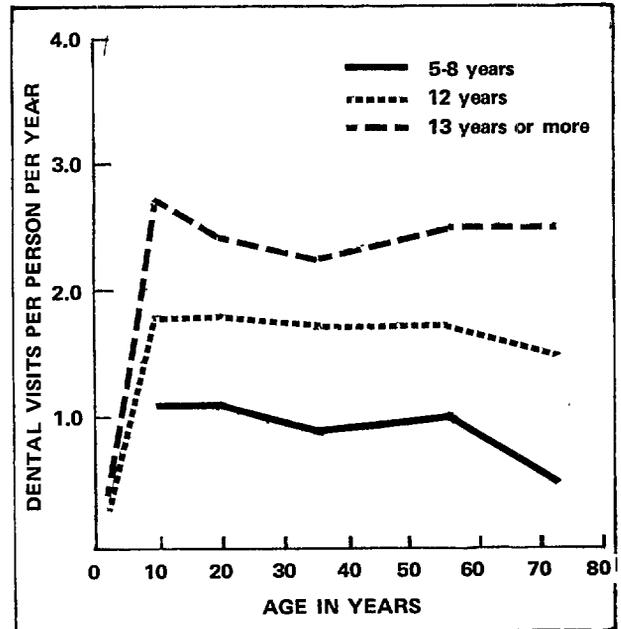


Figure 4. Number of dental visits per person per year, by education of head of family and age.

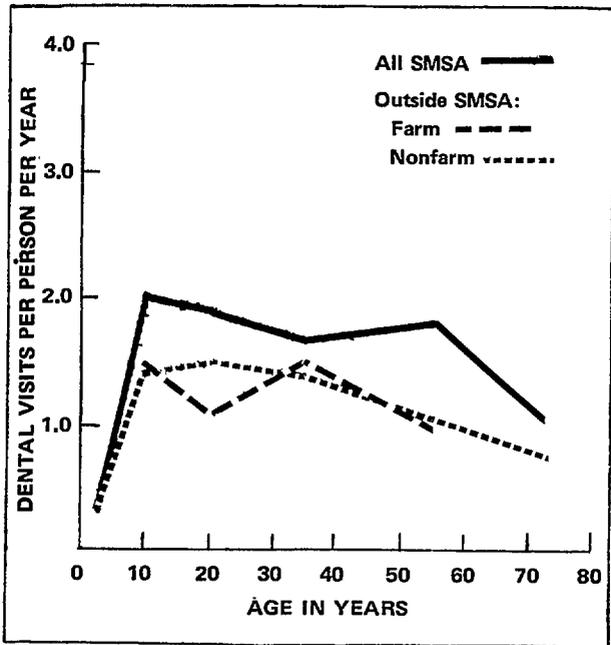


Figure 5. Number of dental visits per person per year, by place of residence and age.

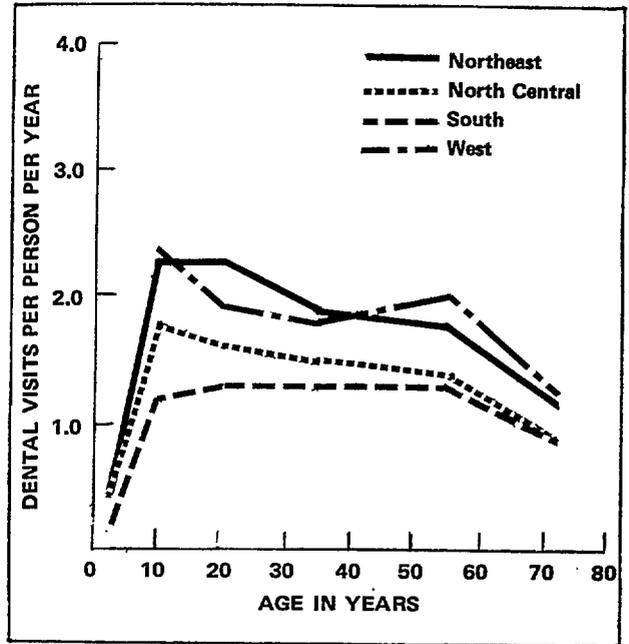


Figure 6. Number of dental visits per person per year, by geographic region and age.

5). The annual number of visits per person for those with family income of \$15,000 or more (2.5 visits) was about three times as high as the rate for the lowest income group. The rise in rate with gain in income occurred in each sex and age group. Figure 3 illustrates the income differential by age in use of services for the highest income group compared with the two lower income groups.

When the effect of the education of the head of the family on the use of dental services is considered, it can be seen in table 6 and figure 4 that as educational level rose so did the number of dental visits per person per year. When these data are examined further by two family income classes in table 7, it can be seen that as educational level increased there was greater utilization of dental services when more income was available.

Table 8 shows the annual number of dental visits per person by usual activity status. As expected, the highest rate occurred among the school-age population ages 6-16 years with 1.9 visits per person per year. Among the usually working groups, females had a substantially higher rate of visits than did male workers, notably in the age group from 17-44 years.

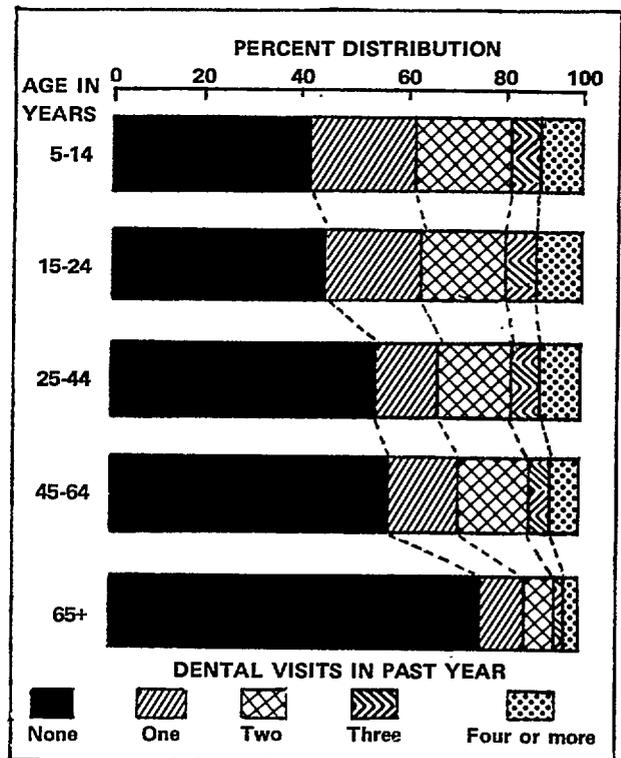


Figure 7. Percent distribution of persons 5 years and older by number of dental visits in past year, according to age.

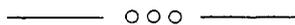
Persons living in metropolitan areas had a larger number of dental visits per person per year than did residents of other areas (table 9). The rate of visits for farm and nonfarm residents outside metropolitan areas was about the same (figure 5). Persons living in the Northeast and West Regions had the highest rates of dental visits with 1.8 visits per person per year (table 10). Residents of the South Region had the lowest rate of visits with 1.1 visits per person. Figure 6 shows that the number of visits per person in the Northeast and West Regions were closely comparable in each age group and that the age-specific rates in the South Region were lowest, notably in the ages 5-44 years.

Table 11 shows that 16.2 percent of the population had one dental visit per person per year. An estimated 14.4 percent had two visits per person, and about 13.9 percent had three or more visits per person. Figure 7 shows that the percentage of the population with no visits dur-

ing the year increased from a low of 41.2 percent at ages 5-14 years to 76.8 percent at ages 65 years and over. The percentages with one and two visits became progressively smaller as age increased. The percentages with three or more visits were much alike for the age groups 5-64 years.

Among persons with more than one visit per year, a larger proportion of white persons had more visits than did persons of other races. The persons in higher income groups, those persons whose head of family had more education, those living in metropolitan areas, and persons residing in the Northeast and West Regions also had larger numbers of visits per person per year. Persons with three or more visits per person per year probably include persons obtaining orthodontic treatment, denture work, and filling of a number of cavities.

Tables 12-15 present population data for the characteristics shown in the other tables.



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Table 1. Number of persons, by time interval since last dental visit and selected characteristics: United States, 1969

[Data are based on household interviews of the civilian, noninstitutional 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]

Characteristic	Total population	Time interval since last dental visit						
		Less than 6 months	6-11 months	1 year	2-4 years	5 years or more	Never	Unknown
Number of persons in thousands								
All persons ¹ -----	197,422	63,426	25,328	23,291	28,040	26,107	26,247	4,984
<u>Sex</u>								
Male-----	95,002	29,435	12,132	11,439	13,597	12,242	13,537	2,620
Female-----	102,420	33,991	13,195	11,853	14,443	13,865	12,710	2,363
<u>Age</u>								
Under 5 years-----	18,052	1,421	573	289	77	...	15,486	205
5-14 years-----	41,153	17,250	6,952	5,065	3,342	458	7,377	710
15-24 years-----	32,462	12,592	5,472	5,071	5,185	1,426	1,948	768
25-44 years-----	46,355	16,264	6,672	7,056	8,889	5,577	735	1,163
45-64 years-----	40,742	12,697	4,536	4,474	7,529	9,901	411	1,194
65 years and over-----	18,658	3,201	1,124	1,337	3,018	8,745	289	944
<u>Color</u>								
White-----	173,207	59,057	22,833	20,351	24,156	23,042	19,718	4,050
All other-----	24,215	4,370	2,495	2,940	3,884	3,064	6,529	934
<u>Family income</u>								
Less than \$3,000-----	22,070	3,879	1,987	2,029	3,617	6,231	3,638	689
\$3,000-\$4,999-----	22,239	4,816	2,278	2,456	3,767	4,248	4,188	487
\$5,000-\$6,999-----	32,856	8,375	3,908	4,098	5,273	4,689	5,729	785
\$7,000-\$9,999-----	41,221	13,027	5,583	5,197	6,190	4,385	5,959	880
\$10,000-\$14,999-----	43,206	17,239	6,588	5,472	5,336	3,507	4,196	868
\$15,000 or more-----	24,834	12,699	3,863	2,738	2,376	1,303	1,315	541
<u>Education of head of family</u>								
Less than 5 years-----	10,211	1,367	773	898	1,685	2,564	2,507	417
5-8 years-----	39,898	8,124	3,810	4,561	7,126	9,442	5,674	1,160
9-11 years-----	36,322	9,697	4,270	4,620	5,974	5,427	5,457	877
12 years-----	60,174	21,227	8,519	7,652	8,092	5,609	7,716	1,359
13 years or more-----	47,805	22,396	7,663	5,201	4,722	2,522	4,445	856
<u>Usual activity</u>								
Preschool (under 6 years)-----	22,083	2,818	1,008	562	190	*	17,251	250
School-age (6-16 years)-----	44,783	19,100	7,832	5,909	4,141	674	6,328	799
Usually working (17 years and over)-----	71,220	23,518	9,307	10,049	13,269	11,601	1,226	2,250
Usually keeping house (females, 17 years and over)-----	37,979	11,473	4,469	4,400	7,094	8,994	662	887
Retired (45 years and over)-----	7,429	1,192	440	504	1,331	3,489	138	335
Other activity (17 years and over)-----	13,929	5,325	2,273	1,867	2,016	1,345	642	462
Going to school-----	9,741	4,279	1,849	1,419	1,248	309	434	202
Something else-----	4,189	1,045	424	448	768	1,036	208	260
<u>Place of residence</u>								
All SMSA-----	129,590	43,983	17,119	15,410	18,179	15,314	16,151	3,434
Outside SMSA:								
Nonfarm-----	59,109	17,057	7,117	6,826	8,584	9,296	8,873	1,356
Farm-----	8,723	2,386	1,092	1,056	1,277	1,497	1,222	194
<u>Geographic region</u>								
Northeast-----	49,071	17,855	6,563	5,596	6,360	6,087	5,204	1,407
North Central-----	55,455	18,417	7,094	7,112	7,611	7,762	6,266	1,193
South-----	60,315	16,752	6,947	6,756	9,076	8,580	10,554	1,650
West-----	32,582	10,403	4,724	3,827	4,993	3,678	4,223	733

¹Includes unknown income and education.

Table 2. Percent distribution of persons by time interval since last dental visit, according to selected characteristics: United States, 1969

[Data are based on household interviews of the civilian, noninstitutional 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]

Characteristic	Total population	Time interval since last dental visit						
		Less than 6 months	6-11 months	1 year	2-4 years	5 years or more	Never	Unknown
All persons ¹ -----	100.0	32.1	12.8	11.8	14.2	13.2	13.3	2.5
Percent distribution								
Sex								
Male-----	100.0	31.0	12.8	12.0	14.3	12.9	14.2	2.8
Female-----	100.0	33.2	12.9	11.6	14.1	13.5	12.4	2.3
Age								
Under 5 years-----	100.0	7.9	3.2	1.6	0.4	...	85.8	1.1
5-14 years-----	100.0	41.9	16.9	12.3	8.1	1.1	17.9	1.7
15-24 years-----	100.0	38.8	16.9	15.6	16.0	4.4	6.0	2.4
25-44 years-----	100.0	35.1	14.4	15.2	19.2	12.0	1.6	2.5
45-64 years-----	100.0	31.2	11.1	11.0	18.5	24.3	1.0	2.9
65 years and over-----	100.0	17.2	6.0	7.2	16.2	46.9	1.5	5.1
Color								
White-----	100.0	34.1	13.2	11.7	13.9	13.3	11.4	2.3
All other-----	100.0	18.0	10.3	12.1	16.0	12.7	27.0	3.9
Family income								
Less than \$3,000-----	100.0	17.6	9.0	9.2	16.4	28.2	16.5	3.1
\$3,000-\$4,999-----	100.0	21.7	10.2	11.0	16.9	19.1	18.8	2.2
\$5,000-\$6,999-----	100.0	25.5	11.9	12.5	16.0	14.3	17.4	2.4
\$7,000-\$9,999-----	100.0	31.6	13.5	12.6	15.0	10.6	14.5	2.1
\$10,000-\$14,999-----	100.0	39.9	15.2	12.7	12.4	8.1	9.7	2.0
\$15,000 or more-----	100.0	51.1	15.6	11.0	9.6	5.2	5.3	2.2
Education of head of family								
Less than 5 years-----	100.0	13.4	7.6	8.8	16.5	25.1	24.6	4.1
5-8 years-----	100.0	20.4	9.5	11.4	17.9	23.7	14.2	2.9
9-11 years-----	100.0	26.7	11.8	12.7	16.4	14.9	15.0	2.4
12 years-----	100.0	35.3	14.2	12.7	13.4	9.3	12.8	2.3
13 years or more-----	100.0	46.8	16.0	10.9	9.9	5.3	9.3	1.8
Usual activity								
Preschool (under 6 years)-----	100.0	12.8	4.6	2.5	0.9	*	78.1	1.1
School-age (6-16 years)-----	100.0	42.7	17.5	13.2	9.2	1.5	14.1	1.8
Usually working (17 years and over)-----	100.0	33.0	13.1	14.1	18.6	16.3	1.7	3.2
Usually keeping house (females, 17 years and over)-----	100.0	30.2	11.8	11.6	18.7	23.7	1.7	2.3
Retired (45 years and over)-----	100.0	16.0	5.9	6.8	17.9	47.0	1.9	4.5
Other activity (17 years and over)-----	100.0	38.2	16.3	13.4	14.5	9.7	4.6	3.3
Going to school-----	100.0	43.9	19.0	14.6	12.8	3.2	4.5	2.1
Something else-----	100.0	24.9	10.1	10.7	18.3	24.7	5.0	6.2
Place of residence								
All SMSA-----	100.0	33.9	13.2	11.9	14.0	11.8	12.5	2.6
Outside SMSA:								
Nonfarm-----	100.0	28.9	12.0	11.5	14.5	15.7	15.0	2.3
Farm-----	100.0	27.4	12.5	12.1	14.6	17.2	14.0	2.2
Geographic region								
Northeast-----	100.0	36.4	13.4	11.4	13.0	12.4	10.6	2.9
North Central-----	100.0	33.2	12.8	12.8	13.7	14.0	11.3	2.2
South-----	100.0	27.8	11.5	11.2	15.0	14.2	17.5	2.7
West-----	100.0	31.9	14.5	11.7	15.3	11.3	13.0	2.2

¹Includes unknown income and education.

Table 3. Number of dental visits and number of dental visits per person per year, by color, sex, and age: United States, 1969

[Data are based on household interviews of the civilian, noninstitutional 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	Total	White	All other	Total	White	All other
<u>Both sexes</u>	Number of visits in thousands			Number of visits per person per year		
All ages-----	293,337	275,841	17,496	1.5	1.6	0.7
Under 5 years-----	5,267	5,089	*	0.3	0.3	*
5-14 years-----	74,759	69,949	4,810	1.8	2.0	0.8
15-24 years-----	56,340	52,765	3,575	1.7	1.9	0.8
25-44 years-----	74,053	68,950	5,103	1.6	1.7	1.0
45-64 years-----	63,899	60,808	3,091	1.6	1.6	0.8
65 years and over-----	19,018	18,278	*	1.0	1.1	*
<u>Male</u>						
All ages-----	130,214	122,645	7,568	1.4	1.5	0.7
Under 5 years-----	2,801	2,703	*	0.3	0.4	*
5-14 years-----	36,612	34,207	2,405	1.7	1.9	0.8
15-24 years-----	24,306	22,933	1,373	1.6	1.7	0.7
25-44 years-----	31,465	29,561	1,904	1.4	1.5	0.8
45-64 years-----	27,431	26,087	1,344	1.4	1.5	0.7
65 years and over-----	7,598	7,154	*	1.0	1.0	*
<u>Female</u>						
All ages-----	163,123	153,195	9,928	1.6	1.7	0.8
Under 5 years-----	2,466	2,387	*	0.3	0.3	*
5-14 years-----	38,147	35,742	2,405	1.9	2.1	0.8
15-24 years-----	32,034	29,832	2,202	1.9	2.0	1.0
25-44 years-----	42,588	39,389	3,199	1.8	1.9	1.1
45-64 years-----	36,468	34,722	1,747	1.7	1.8	0.8
65 years and over-----	11,420	11,125	*	1.1	1.1	*

Table 4. Number of dental visits and number of dental visits per person per year, by color, family income, and age: United States, 1969

[Data are based on household interviews of the civilian, noninstitutional 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	Total	White	All other	Total	White	All other
<u>All incomes¹</u>	Number of visits in thousands			Number of visits per person per year		
All ages-----	293,337	275,841	17,496	1.5	1.6	0.7
Under 5 years-----	5,267	5,089	*	0.3	0.3	*
5-14 years-----	74,759	69,949	4,810	1.8	2.0	0.8
15-24 years-----	56,340	52,765	3,575	1.7	1.9	0.8
25-44 years-----	74,053	68,950	5,103	1.6	1.7	1.0
45-64 years-----	63,899	60,808	3,091	1.6	1.6	0.8
65 years and over-----	19,018	18,278	*	1.0	1.1	*
<u>Less than \$5,000</u>						
All ages-----	40,258	33,988	6,270	0.9	1.0	0.6
Under 5 years-----	*	*	*	*	*	*
5-14 years-----	6,705	5,032	1,673	0.9	1.2	0.6
15-24 years-----	10,087	8,547	1,540	1.3	1.4	0.8
25-44 years-----	6,476	5,018	1,458	1.1	1.2	0.8
45-64 years-----	8,611	7,507	1,104	1.0	1.1	0.6
65 years and over-----	7,806	7,348	*	0.7	0.7	*
<u>\$5,000 or more</u>						
All ages-----	236,159	226,312	9,847	1.7	1.7	0.8
Under 5 years-----	4,476	4,379	*	0.3	0.4	*
5-14 years-----	64,175	61,439	2,736	2.0	2.1	0.9
15-24 years-----	43,649	42,008	1,641	1.9	2.0	0.8
25-44 years-----	64,133	60,889	3,244	1.7	1.7	1.0
45-64 years-----	50,008	48,162	1,846	1.7	1.8	1.0
65 years and over-----	9,718	9,435	*	1.6	1.6	*

¹Includes unknown income.

Table 5. Number of dental visits and number of dental visits per person per year, by family income, sex, and age: United States, 1969

[Data are based on household interviews of the civilian, noninstitutional 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	All incomes ¹	Family income					
		Less than \$3,000	\$3,000-\$4,999	\$5,000-\$6,999	\$7,000-\$9,999	\$10,000-\$14,999	\$15,000 or more
<u>Both sexes</u>		Number of visits in thousands					
All ages-----	293,337	17,267	22,991	35,075	58,835	79,997	62,251
Under 5 years-----	5,267	*	*	*	1,466	1,622	*
5-14 years-----	74,759	2,195	4,510	8,026	16,248	22,630	17,270
15-24 years-----	56,340	5,426	4,661	7,665	11,966	13,449	10,568
25-44 years-----	74,053	2,285	4,191	7,918	15,675	25,119	15,422
45-64 years-----	63,899	3,240	5,371	7,507	10,908	15,571	16,022
65 years and over-----	19,018	3,978	3,828	3,024	2,572	1,606	2,516
<u>Male</u>							
All ages-----	130,214	6,498	8,375	14,941	27,039	36,642	28,941
Under 5 years-----	2,801	*	*	*	*	*	*
5-14 years-----	36,612	1,205	2,150	3,770	7,792	11,695	8,034
15-24 years-----	24,306	2,627	1,646	3,486	5,410	4,965	4,989
25-44 years-----	31,465	*	1,131	2,983	7,322	11,056	7,045
45-64 years-----	27,431	*	1,556	3,118	4,694	7,197	7,646
65 years and over-----	7,598	1,509	1,607	1,155	1,031	*	*
<u>Female</u>							
All ages-----	163,123	10,769	14,616	20,134	31,796	43,356	33,310
Under 5 years-----	2,466	*	*	*	*	*	*
5-14 years-----	38,147	*	2,361	4,257	8,456	10,935	9,236
15-24 years-----	32,034	2,799	3,016	4,179	6,556	8,484	5,579
25-44 years-----	42,588	1,690	3,060	4,935	8,353	14,063	8,376
45-64 years-----	36,468	2,679	3,815	4,388	6,214	8,374	8,376
65 years and over-----	11,420	2,469	2,221	1,869	1,541	*	1,601
		Number of visits per person per year					
<u>Both sexes</u>							
All ages-----	1.5	0.8	1.0	1.1	1.4	1.9	2.5
Under 5 years-----	0.3	*	*	*	0.3	0.4	*
5-14 years-----	1.8	0.8	1.0	1.2	1.7	2.2	3.2
15-24 years-----	1.7	1.4	1.2	1.4	1.9	2.0	2.5
25-44 years-----	1.6	1.0	1.1	1.0	1.4	2.0	2.4
45-64 years-----	1.6	0.8	1.2	1.2	1.4	1.8	2.5
65 years and over-----	1.0	0.6	1.0	1.3	1.7	1.3	2.6
<u>Male</u>							
All ages-----	1.4	0.7	0.8	0.9	1.3	1.7	2.3
Under 5 years-----	0.3	*	*	*	*	*	*
5-14 years-----	1.7	0.8	1.0	1.1	1.6	2.2	2.8
15-24 years-----	1.6	1.4	0.9	1.4	1.8	1.6	2.4
25-44 years-----	1.4	*	0.7	0.8	1.3	1.8	2.3
45-64 years-----	1.4	*	0.9	1.0	1.2	1.6	2.2
65 years and over-----	1.0	0.6	0.9	1.0	1.5	*	*
<u>Female</u>							
All ages-----	1.6	0.8	1.2	1.2	1.5	2.0	2.7
Under 5 years-----	0.3	*	*	*	*	*	*
5-14 years-----	1.9	*	1.1	1.3	1.8	2.1	3.6
15-24 years-----	1.9	1.4	1.4	1.3	1.9	2.4	2.6
25-44 years-----	1.8	1.1	1.4	1.2	1.5	2.2	2.5
45-64 years-----	1.7	0.9	1.5	1.3	1.7	2.1	2.7
65 years and over-----	1.1	0.6	1.1	1.5	1.8	*	3.3

¹Includes unknown income.

Table 6. Number of dental visits and number of dental visits per person per year, by education of head of family, sex, and age: United States, 1969

[Data are based on household interviews of the civilian, noninstitutional 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	All educational groups ¹	Education of head of family				
		Less than 5 years	5-8 years	9-11 years	12 years	13 years or more
<u>Both sexes</u>		Number of visits in thousands				
All ages-----	293,337	6,342	35,688	46,416	95,749	106,048
Under 5 years-----	5,267	*	*	*	2,126	1,994
5-14 years-----	74,759	*	8,010	13,128	24,934	27,245
15-24 years-----	56,340	1,059	5,954	9,181	19,412	20,333
25-44 years-----	74,053	*	6,154	10,098	26,681	29,748
45-64 years-----	63,899	1,869	11,485	10,840	17,932	20,404
65 years and over-----	19,018	1,519	3,929	2,181	4,663	6,324
<u>Male</u>						
All ages-----	130,214	3,231	16,253	19,982	41,043	48,436
Under 5 years-----	2,801	*	*	*	*	1,144
5-14 years-----	36,612	*	3,930	6,494	12,034	13,346
15-24 years-----	24,306	*	2,998	3,813	7,980	8,811
25-44 years-----	31,465	*	2,435	3,839	11,085	13,516
45-64 years-----	27,431	1,095	4,777	4,146	7,854	9,209
65 years and over-----	7,598	*	1,992	*	1,519	2,410
<u>Female</u>						
All ages-----	163,123	3,111	19,435	26,434	54,706	57,613
Under 5 years-----	2,466	*	*	*	1,285	*
5-14 years-----	38,147	*	4,079	6,634	12,900	13,899
15-24 years-----	32,034	*	2,956	5,368	11,432	11,522
25-44 years-----	42,588	*	3,719	6,259	15,596	16,232
45-64 years-----	36,468	*	6,708	6,694	10,348	11,196
65 years and over-----	11,420	*	1,937	1,185	3,145	3,914
<u>Both sexes</u>		Number of visits per person per year				
All ages-----	1.5	0.6	0.9	1.3	1.6	2.2
Under 5 years-----	0.3	*	*	*	0.3	0.4
5-14 years-----	1.8	*	1.1	1.6	1.8	2.7
15-24 years-----	1.7	0.8	1.1	1.6	1.8	2.4
25-44 years-----	1.6	*	0.9	1.2	1.7	2.2
45-64 years-----	1.6	0.8	1.0	1.4	1.7	2.5
65 years and over-----	1.0	0.6	0.5	0.8	1.5	2.5
<u>Male</u>						
All ages-----	1.4	0.7	0.9	1.2	1.4	2.1
Under 5 years-----	0.3	*	*	*	*	0.5
5-14 years-----	1.7	*	1.1	1.6	1.7	2.6
15-24 years-----	1.6	*	1.1	1.4	1.7	2.2
25-44 years-----	1.4	*	0.8	1.0	1.5	2.0
45-64 years-----	1.4	1.0	0.9	1.2	1.5	2.2
65 years and over-----	1.0	*	0.6	*	1.3	2.4
<u>Female</u>						
All ages-----	1.6	0.6	0.9	1.4	1.7	2.4
Under 5 years-----	0.3	*	*	*	0.4	*
5-14 years-----	1.9	*	1.2	1.6	1.9	2.9
15-24 years-----	1.9	*	1.1	1.7	2.0	2.6
25-44 years-----	1.8	*	1.1	1.4	1.9	2.3
45-64 years-----	1.7	*	1.1	1.7	1.9	2.7
65 years and over-----	1.1	*	0.5	0.7	1.6	2.6

¹Includes unknown education.

Table 7. Number of dental visits and number of dental visits per person per year, by education of head of family, family income, and age: United States, 1969

[Data are based on household interviews of the civilian, noninstitutional 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	All educational groups ¹	Education of head of family				
		Less than 5 years	5-8 years	9-11 years	12 years	13 years or more
<u>All incomes²</u>		Number of visits in thousands				
All ages-----	293,337	6,342	35,688	46,416	95,749	106,048
Under 5 years-----	5,267	*	*	*	2,126	1,994
5-14 years-----	74,759	*	8,010	13,128	24,934	27,245
15-24 years-----	56,340	1,059	5,954	9,181	19,412	20,333
25-44 years-----	74,053	*	6,154	10,098	26,681	29,748
45-64 years-----	63,899	1,869	11,485	10,840	17,932	20,404
65 years and over-----	19,018	1,519	3,929	2,181	4,663	6,324
<u>Less than \$5,000</u>						
All ages-----	40,258	3,481	10,389	8,309	10,097	7,597
Under 5 years-----	*	*	*	*	*	*
5-14 years-----	6,705	*	2,164	1,986	1,590	*
15-24 years-----	10,087	*	*	1,939	2,937	3,720
25-44 years-----	6,476	*	1,531	1,375	1,812	1,268
45-64 years-----	8,611	*	3,378	2,094	1,681	*
65 years and over-----	7,806	1,291	2,281	*	1,752	1,669
<u>\$5,000 or more</u>						
All ages-----	236,159	2,393	22,257	35,565	80,651	93,414
Under 5 years-----	4,476	*	*	*	1,727	1,923
5-14 years-----	64,175	*	5,291	10,565	22,378	25,210
15-24 years-----	43,649	*	4,381	6,940	15,405	16,069
25-44 years-----	64,133	*	4,036	7,983	23,761	27,610
45-64 years-----	50,008	*	7,094	8,164	14,874	18,222
65 years and over-----	9,718	*	1,334	1,209	2,506	4,380
<u>All incomes²</u>		Number of visits per person per year				
All ages-----	1.5	0.6	0.9	1.3	1.6	2.2
Under 5 years-----	0.3	*	*	*	0.3	0.4
5-14 years-----	1.8	*	1.1	1.6	1.8	2.7
15-24 years-----	1.7	0.8	1.1	1.6	1.8	2.4
25-44 years-----	1.6	*	0.9	1.2	1.7	2.2
45-64 years-----	1.6	0.8	1.0	1.4	1.7	2.5
65 years and over-----	1.0	0.6	0.5	0.8	1.5	2.5
<u>Less than \$5,000</u>						
All ages-----	0.9	0.6	0.7	0.9	1.2	1.7
Under 5 years-----	*	*	*	*	*	*
5-14 years-----	0.9	*	0.9	1.1	1.1	*
15-24 years-----	1.3	*	*	1.3	1.5	1.9
25-44 years-----	1.1	*	0.8	1.0	1.3	2.0
45-64 years-----	1.0	*	0.9	1.3	1.3	*
65 years and over-----	0.7	0.7	0.5	*	1.4	2.1
<u>\$5,000 or more</u>						
All ages-----	1.7	0.7	1.0	1.4	1.6	2.3
Under 5 years-----	0.3	*	*	*	0.3	0.4
5-14 years-----	2.0	*	1.2	1.7	1.9	2.7
15-24 years-----	1.9	*	1.3	1.7	1.9	2.6
25-44 years-----	1.7	*	0.9	1.3	1.7	2.2
45-64 years-----	1.7	*	1.1	1.5	1.7	2.5
65 years and over-----	1.6	*	0.8	1.2	1.7	2.9

¹Includes unknown education.

²Includes unknown income.

Table 8. Number of dental visits and number of dental visits per person per year, by sex, usual activity, and age: United States, 1969

[Data are based on household interviews of the civilian, noninstitutional 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]

Usual activity and age	Number of visits in thousands			Number of visits per person per year		
	Both sexes	Male	Female	Both sexes	Male	Female
All activities-----	293,337	130,214	163,123	1.5	1.4	1.6
Under 6 years-----	9,881	5,100	4,780	0.4	0.5	0.4
6-16 years-----	85,771	42,127	43,644	1.9	1.9	2.0
17-24 years-----	40,714	16,493	24,222	1.6	1.4	1.8
25-44 years-----	74,053	31,465	42,588	1.6	1.4	1.8
45-64 years-----	63,899	27,431	36,468	1.6	1.4	1.7
65 years and over-----	19,018	7,598	11,420	1.0	1.0	1.1
Preschool (under 6 years)-----	9,881	5,100	4,780	0.4	0.5	0.4
School-age (6-16 years)-	85,771	42,127	43,644	1.9	1.9	2.0
Usually working (17 years and over)-----	111,413	63,978	47,436	1.6	1.4	1.9
17-24 years-----	17,055	6,511	10,544	1.6	1.2	2.1
25-44 years-----	48,924	29,957	18,967	1.6	1.4	2.0
45-64 years-----	41,863	25,141	16,722	1.6	1.4	1.8
65 years and over-----	3,572	2,369	1,203	1.2	1.2	1.4
Usually keeping house (female, 17 years and over)-----	56,074	...	56,074	1.5	...	1.5
17-24 years-----	4,823	...	4,823	1.3	...	1.3
25-44 years-----	23,023	...	23,023	1.6	...	1.6
45-64 years-----	18,763	...	18,763	1.6	...	1.6
65 years-----	9,465	...	9,465	1.1	...	1.1
Retired (45 years and over)-----	7,025	6,281	*	0.9	0.9	*
45-64 years-----	1,468	1,130	*	1.2	1.0	*
65 years and over-----	5,556	5,150	*	0.9	0.9	*
Other activity-going to school (17 years and over)-----	17,187	9,249	7,938	1.8	1.7	1.8
17-24 years-----	16,661	8,874	7,788	1.8	1.7	1.9
25-44 years-----	*	*	*	*	*	*
45 years and over-----	*	*	*	*	*	*
Other activity-something else (17 years and over--	5,986	3,479	2,507	1.4	1.3	1.6
17-24 years-----	2,175	1,108	1,067	1.8	1.4	2.7
25-44 years-----	1,581	1,133	*	1.9	1.9	*
45-64 years-----	1,805	1,159	*	1.5	1.3	*
65 years and over-----	*	*	*	*	*	*

Table 9. Number of dental visits and number of dental visits per person per year, by place of residence, sex, and age: United States, 1969

[Data are based on household interviews of the civilian, noninstitutional 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	All areas	All SMSA	Outside SMSA		All areas	All SMSA	Outside SMSA	
			Nonfarm	Farm			Nonfarm	Farm
<u>Both sexes</u>	Number of visits in thousands				Number of visits per person per year			
All ages -----	293,337	213,272	70,056	10,009	1.5	1.6	1.2	1.1
Under 5 years -----	5,267	3,681	1,477	*	0.3	0.3	0.3	*
5-14 years -----	74,759	54,382	17,241	3,135	1.8	2.0	1.4	1.5
15-24 years -----	56,340	39,889	14,953	1,498	1.7	1.9	1.5	1.1
25-44 years -----	74,053	52,945	18,813	2,295	1.6	1.7	1.4	1.5
45-64 years -----	63,899	49,259	12,516	2,124	1.6	1.8	1.1	1.0
65 years and over ---	19,018	13,115	5,055	*	1.0	1.1	0.8	*
<u>Male</u>								
All ages -----	130,214	94,117	31,471	4,626	1.4	1.5	1.1	1.0
Under 5 years -----	2,801	1,925	*	*	0.3	0.3	*	*
5-14 years -----	36,612	26,419	8,699	1,495	1.7	1.9	1.4	1.5
15-24 years -----	24,306	16,971	6,515	*	1.6	1.7	1.4	*
25-44 years -----	31,465	22,967	7,802	*	1.4	1.5	1.2	*
45-64 years -----	27,431	20,982	5,548	*	1.4	1.6	1.0	*
65 years and over ---	7,598	4,853	2,106	*	1.0	1.0	0.8	*
<u>Female</u>								
All ages -----	163,123	119,155	38,585	5,383	1.6	1.8	1.3	1.3
Under 5 years -----	2,466	1,756	*	*	0.3	0.3	*	*
5-14 years -----	38,147	27,964	8,542	1,640	1.9	2.2	1.4	1.6
15-24 years -----	32,034	22,918	8,437	*	1.9	2.0	1.6	*
25-44 years -----	42,588	29,977	11,012	1,599	1.8	1.8	1.6	1.9
45-64 years -----	36,468	28,277	6,968	1,223	1.7	2.0	1.1	1.2
65 years and over ---	11,420	8,263	2,949	*	1.1	1.2	0.8	*

Table 10. Number of dental visits and number of dental visits per person per year, by geographic region, sex, and age: United States, 1969

[Data are based on household interviews of the civilian, noninstitutional 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	All regions	Northeast	North Central	South	West
<u>Both sexes</u>					
Number of visits in thousands					
All ages-----	293,337	88,785	78,015	68,557	57,979
Under 5 years-----	5,267	1,508	1,849	1,004	*
5-14 years-----	74,759	21,666	21,468	15,304	16,321
15-24 years-----	56,340	17,302	14,682	13,764	10,593
25-44 years-----	74,053	21,994	19,363	18,435	14,262
45-64 years-----	63,899	20,115	16,058	15,135	12,592
65 years and over-----	19,018	6,201	4,596	4,915	3,306
<u>Male</u>					
All ages-----	130,214	38,203	35,457	30,291	26,262
Under 5 years-----	2,801	*	1,005	*	*
5-14 years-----	36,612	10,941	10,476	7,575	7,620
15-24 years-----	24,306	7,236	6,489	6,140	4,441
25-44 years-----	31,465	8,217	8,785	7,683	6,780
45-64 years-----	27,431	8,516	6,872	6,683	5,359
65 years and over-----	7,598	2,635	1,830	1,661	1,472
<u>Female</u>					
All ages-----	163,123	50,582	42,558	38,266	31,717
Under 5 years-----	2,466	*	*	*	*
5-14 years-----	38,147	10,725	10,992	7,729	8,701
15-24 years-----	32,034	10,065	8,192	7,624	6,152
25-44 years-----	42,588	13,777	10,578	10,752	7,481
45-64 years-----	36,468	11,599	9,186	8,451	7,233
65 years and over-----	11,420	3,566	2,766	3,255	1,833
<u>Both sexes</u>					
Number of visits per person per year					
All ages-----	1.5	1.8	1.4	1.1	1.8
Under 5 years-----	0.3	0.4	0.4	0.2	*
5-14 years-----	1.8	2.3	1.8	1.2	2.4
15-24 years-----	1.7	2.3	1.6	1.3	1.9
25-44 years-----	1.6	1.9	1.5	1.3	1.8
45-64 years-----	1.6	1.8	1.4	1.3	2.0
65 years and over-----	1.0	1.2	0.9	0.9	1.3
<u>Male</u>					
All ages-----	1.4	1.6	1.3	1.0	1.7
Under 5 years-----	0.3	*	0.4	*	*
5-14 years-----	1.7	2.2	1.7	1.2	2.2
15-24 years-----	1.6	2.0	1.5	1.3	1.7
25-44 years-----	1.4	1.5	1.4	1.1	1.8
45-64 years-----	1.4	1.6	1.3	1.2	1.7
65 years and over-----	1.0	1.2	0.8	0.7	1.3
<u>Female</u>					
All ages-----	1.6	2.0	1.5	1.2	1.9
Under 5 years-----	0.3	*	*	*	*
5-14 years-----	1.9	2.3	1.9	1.2	2.6
15-24 years-----	1.9	2.5	1.7	1.4	2.0
25-44 years-----	1.8	2.3	1.6	1.4	1.8
45-64 years-----	1.7	2.0	1.6	1.3	2.2
65 years and over-----	1.1	1.2	0.9	1.0	1.2

Table 11. Percent distribution of persons by number of dental visits in past year, according to selected characteristics: United States, 1969

[Data are based on household interviews of the civilian, noninstitutional 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]

Characteristic	Population in thousands	Total	Number of dental visits in past year							
			0	1	2	3	4	5-12	13 or more	Unknown
Percent distribution										
All persons ¹ -----	197,422	100.0	55.0	16.2	14.4	4.8	3.0	5.3	0.8	0.6
<u>Sex</u>										
Male-----	95,002	100.0	56.2	16.7	14.0	4.6	2.7	4.5	0.6	0.6
Female-----	102,420	100.0	53.9	15.7	14.7	4.9	3.3	6.0	1.0	0.5
<u>Age</u>										
Under 5 years-----	18,052	100.0	89.0	6.9	2.7	0.5	*	0.4	*	*
5-14 years-----	41,153	100.0	41.2	22.2	19.3	5.9	3.6	6.1	1.1	0.6
15-24 years-----	32,462	100.0	44.4	19.5	17.4	5.9	3.6	7.3	1.2	0.8
25-44 years-----	46,355	100.0	50.5	16.9	15.4	5.5	3.6	6.6	0.8	0.6
45-64 years-----	40,742	100.0	57.7	14.3	14.1	4.6	3.1	5.0	0.6	0.6
65 years and over-----	18,658	100.0	76.8	8.5	7.5	2.7	1.7	2.2	0.3	0.3
<u>Color</u>										
White-----	173,207	100.0	52.7	16.5	15.5	5.1	3.2	5.7	0.8	0.6
All other-----	24,215	100.0	71.7	14.2	6.4	2.5	1.5	2.8	0.4	0.6
<u>Family income</u>										
Less than \$3,000-----	22,070	100.0	73.4	11.7	6.9	2.6	1.6	3.1	0.2	0.5
\$3,000-\$4,999-----	22,239	100.0	68.1	13.3	8.6	3.1	2.2	3.6	0.5	0.6
\$5,000-\$6,999-----	32,856	100.0	62.6	14.9	10.8	4.0	2.5	4.3	0.5	0.5
\$7,000-\$9,999-----	41,221	100.0	54.9	16.5	14.1	5.1	3.1	5.4	0.6	0.5
\$10,000-\$14,999-----	43,206	100.0	44.9	19.3	18.4	5.7	3.7	6.6	1.0	0.5
\$15,000 or more-----	24,834	100.0	33.3	19.2	24.8	7.3	4.7	8.4	1.7	0.7
<u>Education of head of family</u>										
Less than 5 years-----	10,211	100.0	79.0	9.8	4.4	2.1	1.4	2.5	*	0.5
5-8 years-----	39,898	100.0	70.1	12.4	7.8	3.1	2.1	3.5	0.4	0.6
9-11 years-----	36,322	100.0	61.5	14.9	11.0	3.9	2.6	4.9	0.5	0.5
12 years-----	60,174	100.0	50.6	17.6	16.0	5.4	3.3	5.8	0.9	0.5
13 years or more-----	47,805	100.0	37.1	20.3	22.8	6.6	4.2	7.2	1.2	0.6
<u>Usual activity</u>										
Preschool (under 6 years)----	22,083	100.0	82.7	9.7	4.8	1.1	0.6	0.9	*	0.3
School-age (6-16 years)-----	44,783	100.0	39.9	21.7	19.7	6.0	3.8	6.9	1.3	0.6
Usually working (17 years and over)-----	71,220	100.0	53.9	16.2	14.6	5.2	3.3	5.6	0.6	0.6
Usually keeping house (female, 17 years and over)-----	37,979	100.0	58.0	13.8	13.3	4.7	3.2	5.7	0.8	0.5
Retired (45 years and over)-----	7,429	100.0	78.0	8.9	6.3	2.2	1.6	2.4	*	*
Other activity (17 years and over)-----	13,929	100.0	45.5	19.0	18.6	5.6	3.2	6.2	1.1	0.9
Going to school-----	9,741	100.0	37.1	21.9	22.3	6.5	3.4	7.0	1.2	0.6
Something else-----	4,189	100.0	64.9	12.4	9.8	3.7	2.6	4.4	*	1.6
<u>Place of residence</u>										
All SMSA-----	129,590	100.0	52.8	16.3	14.9	5.0	3.3	6.1	0.9	0.6
Outside SMSA:										
Nonfarm-----	59,109	100.0	59.1	15.8	13.5	4.3	2.5	3.9	0.5	0.5
Farm-----	8,723	100.0	60.1	17.0	13.2	3.8	2.0	2.8	*	0.8
<u>Geographic region</u>										
Northeast-----	49,071	100.0	50.2	15.4	15.1	5.8	4.0	7.6	1.2	0.6
North Central-----	55,455	100.0	54.0	17.4	15.5	4.6	2.8	4.6	0.6	0.4
South-----	60,315	100.0	60.7	15.2	13.1	4.0	2.4	3.7	0.5	0.4
West-----	32,582	100.0	53.6	17.1	13.8	4.8	3.0	5.9	0.8	0.9

¹Includes unknown income and education.

Table 12. Population used in obtaining rates shown in this publication, by color, education of head of family, sex, family income, and age: United States, 1969

Data are based on household interviews of the civilian, noninstitutional 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, family income, and age	All persons ¹	Color		Education of head of family				
		White	All other	Less than 5 years	5-8 years	9-11 years	12 years	13 years or more
Population in thousands								
<u>Both sexes</u>								
All ages ² -----	197,422	173,207	24,215	10,211	39,898	36,322	60,174	47,805
Under 5 years -----	18,052	14,957	3,095	671	2,525	3,458	6,469	4,742
5-14 years -----	41,153	34,994	6,159	1,813	7,048	8,332	13,509	9,985
15-24 years -----	32,462	28,198	4,264	1,399	5,609	5,919	10,556	8,493
25-44 years -----	46,355	41,047	5,308	1,434	6,524	8,220	15,850	13,800
45-64 years -----	40,742	36,855	3,887	2,454	10,968	7,603	10,720	8,245
65 years and over -----	18,658	17,156	1,502	2,440	7,224	2,791	3,070	2,539
<u>Male</u>								
All ages -----	95,002	83,544	11,458	4,892	19,031	17,311	28,734	23,577
Under 5 years -----	9,211	7,651	1,559	323	1,274	1,745	3,239	2,524
5-14 years -----	20,930	17,848	3,082	889	3,614	4,179	6,878	5,139
15-24 years -----	15,271	13,291	1,979	725	2,812	2,814	4,699	3,980
25-44 years -----	22,198	19,832	2,366	656	3,013	3,847	7,618	6,818
45-64 years -----	19,402	17,602	1,800	1,121	5,043	3,602	5,170	4,104
65 years and over -----	7,990	7,320	670	1,177	3,276	1,123	1,130	1,012
<u>Female</u>								
All ages -----	102,420	89,663	12,757	5,320	20,867	19,011	31,439	24,228
Under 5 years -----	8,841	7,306	1,536	348	1,252	1,713	3,230	2,218
5-14 years -----	20,223	17,146	3,077	924	3,434	4,152	6,631	4,846
15-24 years -----	17,191	14,907	2,285	674	2,798	3,105	5,856	4,512
25-44 years -----	24,157	21,215	2,942	778	3,511	4,373	8,232	6,983
45-64 years -----	21,339	19,253	2,086	1,333	5,925	4,000	5,550	4,141
65 years and over -----	10,667	9,836	832	1,263	3,947	1,667	1,939	1,527
<u>Less than \$5,000</u>								
All ages -----	44,309	33,541	10,768	5,995	15,752	8,985	8,254	4,423
Under 5 years -----	3,779	2,358	1,420	325	1,110	1,095	946	255
5-14 years -----	7,182	4,303	2,879	1,042	2,429	1,815	1,428	312
15-24 years -----	7,822	5,952	1,871	642	1,732	1,452	1,896	1,933
25-44 years -----	6,073	4,283	1,790	655	1,822	1,439	1,423	639
45-64 years -----	8,552	6,834	1,718	1,387	3,674	1,582	1,269	475
65 years and over -----	10,901	9,811	1,090	1,945	4,984	1,603	1,292	810
<u>\$5,000 or more</u>								
All ages -----	142,117	130,234	11,883	3,519	21,463	25,462	49,041	41,388
Under 5 years -----	13,546	12,052	1,493	289	1,259	2,239	5,333	4,347
5-14 years -----	32,219	29,253	2,966	704	4,249	6,167	11,541	9,332
15-24 years -----	22,934	20,877	2,057	640	3,489	4,191	8,174	6,245
25-44 years -----	38,122	34,916	3,206	662	4,284	6,385	13,821	12,689
45-64 years -----	29,189	27,324	1,865	877	6,491	5,509	8,722	7,253
65 years and over -----	6,108	5,812	296	346	1,691	972	1,452	1,523

¹Includes unknown education.

²Includes unknown income.

NOTE: For official population estimates for more general use, see U.S. Bureau of the Census reports on the civilian population of the United States in Current Population Reports, Series P-20, P-25, and P-60.

Table 13. Population used in obtaining rates shown in this publication, by family income, sex, and age: United States, 1969

[Data are based on household interviews of the civilian, noninstitutional 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	All incomes ¹	Family income					
		Less than \$3,000	\$3,000-\$4,999	\$5,000-\$6,999	\$7,000-\$9,999	\$10,000-\$14,999	\$15,000 or more
<u>Both sexes</u>		Population in thousands					
All ages-----	197,422	22,070	22,239	32,856	41,221	43,206	24,834
Under 5 years-----	18,052	1,588	2,190	3,781	4,649	3,775	1,341
5-14 years-----	41,153	2,841	4,341	6,716	9,670	10,378	5,455
15-24 years-----	32,462	3,908	3,915	5,668	6,359	6,724	4,183
25-44 years-----	46,355	2,331	3,742	7,781	11,345	12,610	6,386
45-64 years-----	40,742	4,238	4,314	6,510	7,651	8,513	6,516
65 years and over----	18,658	7,164	3,737	2,400	1,547	1,206	954
<u>Male</u>							
All ages-----	95,002	9,142	10,164	15,806	20,476	21,755	12,589
Under 5 years-----	9,211	795	1,097	1,965	2,318	1,974	704
5-14 years-----	20,930	1,426	2,187	3,327	4,948	5,291	2,866
15-24 years-----	15,271	1,918	1,807	2,555	2,930	3,188	2,041
25-44 years-----	22,198	853	1,585	3,804	5,642	6,224	3,076
45-64 years-----	19,402	1,409	1,685	3,040	3,948	4,508	3,437
65 years and over----	7,990	2,741	1,803	1,115	690	570	466
<u>Female</u>							
All ages-----	102,420	12,927	12,076	17,050	20,745	21,452	12,244
Under 5 years-----	8,841	793	1,093	1,816	2,331	1,802	637
5-14 years-----	20,223	1,415	2,154	3,389	4,722	5,087	2,589
15-24 years-----	17,191	1,989	2,108	3,113	3,429	3,537	2,142
25-44 years-----	24,157	1,478	2,157	3,976	5,703	6,386	3,310
45-64 years-----	21,339	2,829	2,629	3,470	3,703	4,004	3,078
65 years and over----	10,667	4,423	1,934	1,285	858	636	488

¹Includes unknown income.

NOTE: For official population estimates for more general use, see U.S. Bureau of the Census reports on the civilian population of the United States in Current Population Reports, Series P-20, P-25, and P-60.

Table 14. Population used in obtaining rates shown in this publication, by sex, usual activity, and age: United States, 1969

[Data are based on household interviews of the civilian, noninstitutional 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]

Usual activity and age	Both sexes	Male	Female
	Population in thousands		
All activities-----	197,422	95,002	102,420
Under 6 years-----	22,083	11,318	10,765
6-16 years-----	44,783	22,698	22,085
17-24 years-----	24,801	11,395	13,406
25-44 years-----	46,355	22,198	24,157
45-64 years-----	40,742	19,402	21,339
65 years and over-----	18,658	7,990	10,667
Preschool (under 6 years)-----	22,083	11,318	10,765
School-age (6-16 years)-----	44,783	22,698	22,085
Usually working (17 years and over)-----	71,220	46,195	25,025
17-24 years-----	10,529	5,514	5,015
25-44 years-----	30,933	21,291	9,643
45-64 years-----	26,888	17,396	9,492
65 years and over-----	2,870	1,994	876
Usually keeping house (female, 17 years and over)-----	37,979	...	37,979
17-24 years-----	3,795	...	3,795
25-44 years-----	14,163	...	14,163
45-64 years-----	11,469	...	11,469
65 years and over-----	8,552	...	8,552
Retired (45 years and over)---	7,429	6,799	630
45-64 years-----	1,197	1,105	92
65 years and over-----	6,232	5,694	538
Other activity-going to school (17 years and over)---	9,741	5,399	4,341
17-24 years-----	9,276	5,071	4,205
25-44 years-----	433	309	125
45 years and over-----	*	*	*
Other activity-something else (17 years and over)-----	4,189	2,593	1,595
17-24 years-----	1,201	810	392
25-44 years-----	826	599	227
45-64 years-----	1,165	888	277
65 years and over-----	996	297	700

NOTE: For official population estimates for more general use, see U.S. Bureau of the Census reports on the civilian population of the United States in Current Population Reports, Series P-20, P-25, and P-60.

Table 15. Population used in obtaining rates shown in this publication, by place of residence, geographic region, sex, and age: United States, 1969

[Data are based on household interviews of the civilian, noninstitutional 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	All areas	Place of residence			Geographic region			
		All SMSA	Outside SMSA		Northeast	North Central	South	West
			Nonfarm	Farm				
<u>Both sexes</u>		Population in thousands						
All ages-----	197,422	129,590	59,109	8,723	49,071	55,455	60,315	32,582
Under 5 years-----	18,052	11,973	5,540	538	4,277	5,067	5,614	3,094
5-14 years-----	41,153	26,556	12,545	2,051	9,606	12,053	12,642	6,852
15-24 years-----	32,462	21,332	9,738	1,392	7,686	8,908	10,218	5,650
25-44 years-----	46,355	31,428	13,368	1,560	1,405	12,890	14,126	7,934
45-64 years-----	40,742	26,892	11,651	2,199	10,956	11,257	12,094	6,436
65 years and over-----	18,658	11,409	6,266	983	5,139	5,280	5,623	2,616
<u>Male</u>								
All ages-----	95,002	62,203	28,372	4,427	23,545	26,762	28,923	15,772
Under 5 years-----	9,211	6,069	2,879	262	2,165	2,533	2,887	1,626
5-14 years-----	20,930	13,562	6,353	1,015	4,916	6,159	6,383	3,472
15-24 years-----	15,271	9,981	4,540	750	3,638	4,193	4,860	2,579
25-44 years-----	22,198	15,099	6,369	730	5,469	6,220	6,683	3,825
45-64 years-----	19,402	12,742	5,514	1,146	5,170	5,385	5,701	3,146
65 years and over-----	7,990	4,750	2,718	523	2,187	2,272	2,409	1,122
<u>Female</u>								
All ages-----	102,420	67,387	30,737	4,296	25,526	28,692	31,392	16,810
Under 5 years-----	8,841	5,904	2,661	276	2,112	2,534	2,727	1,469
5-14 years-----	20,223	12,995	6,193	1,035	4,690	5,893	6,259	3,380
15-24 years-----	17,191	11,351	5,198	642	4,049	4,715	5,357	3,071
25-44 years-----	24,157	16,329	6,998	830	5,936	6,670	7,443	4,108
45-64 years-----	21,339	14,149	6,138	1,053	5,786	5,872	6,393	3,289
65 years and over-----	10,667	6,659	3,549	460	2,952	3,008	3,213	1,493

NOTE: For official population estimates for more general use, see U.S. Bureau of the Census reports on the civilian population of the United States in Current Population Reports, Series P-20, P-25, and P-60.

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 1969.

The population covered by the sample for the Health Interview Survey is the civilian, non-institutionalized 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, noninstitutional 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 total HIS sample of approximately 8,000 segments yields a probability sample of about 134,000 persons in 42,000 interviewed households in a year.

Descriptive material on data collection, field procedures, and questionnaire development in the HIS has been published³ as well as a detailed description of the sample design⁴ 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.

³National 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.

⁴U.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.

⁵National 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.

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 1960 population 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 adjustment take the form of multiplication factors applied to the weight of each elementary unit (person, household, conditions, and hospitalization).

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

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 statistics 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 was about 5 percent—1 percent was refusal, and the remainder was 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. 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 computations, 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 corresponding figures (which are derived from different sources) published in reports of the Bureau of the Census. (For population data for general use, see the official estimates presented in Bureau of the Census reports in the P-20, P-25, and P-60 series.)

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.⁶⁻⁹

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 lie 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

⁶National 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.

⁷National 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.

⁸National 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.

⁹National 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.

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 data 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 represents 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.

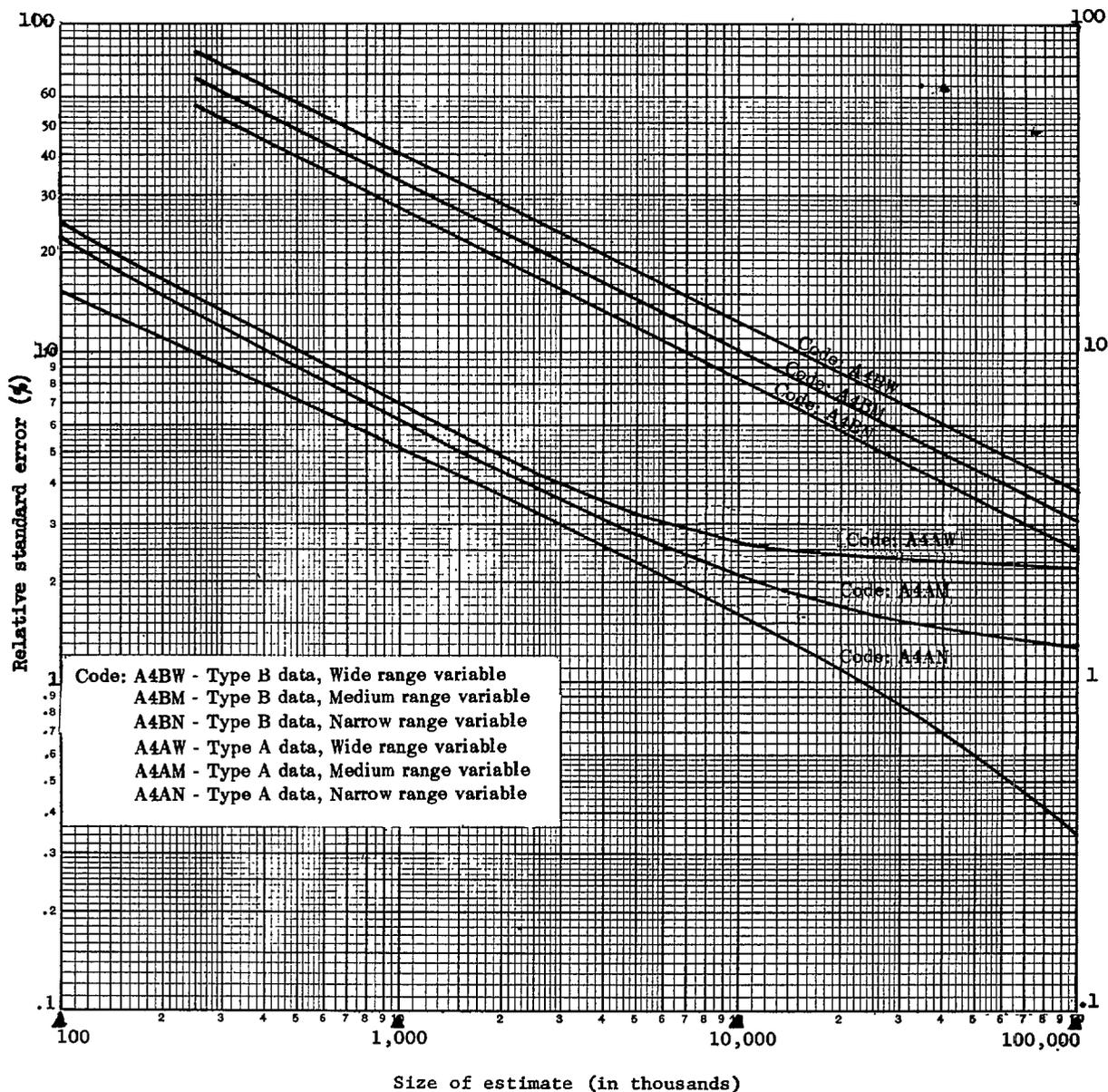
Guide to Use of Relative Standard Error Charts

The code shown below identifies the appropriate curve to be used in estimating the relative standard error of the statistics described. The four components of each code describe the statistic as follows:

(1) A = aggregate, P = percentages; (2) the number of calendar quarters of data collection; (3) the type of statistics as described on page 28, and (4) the range of the statistics as described on page 28.

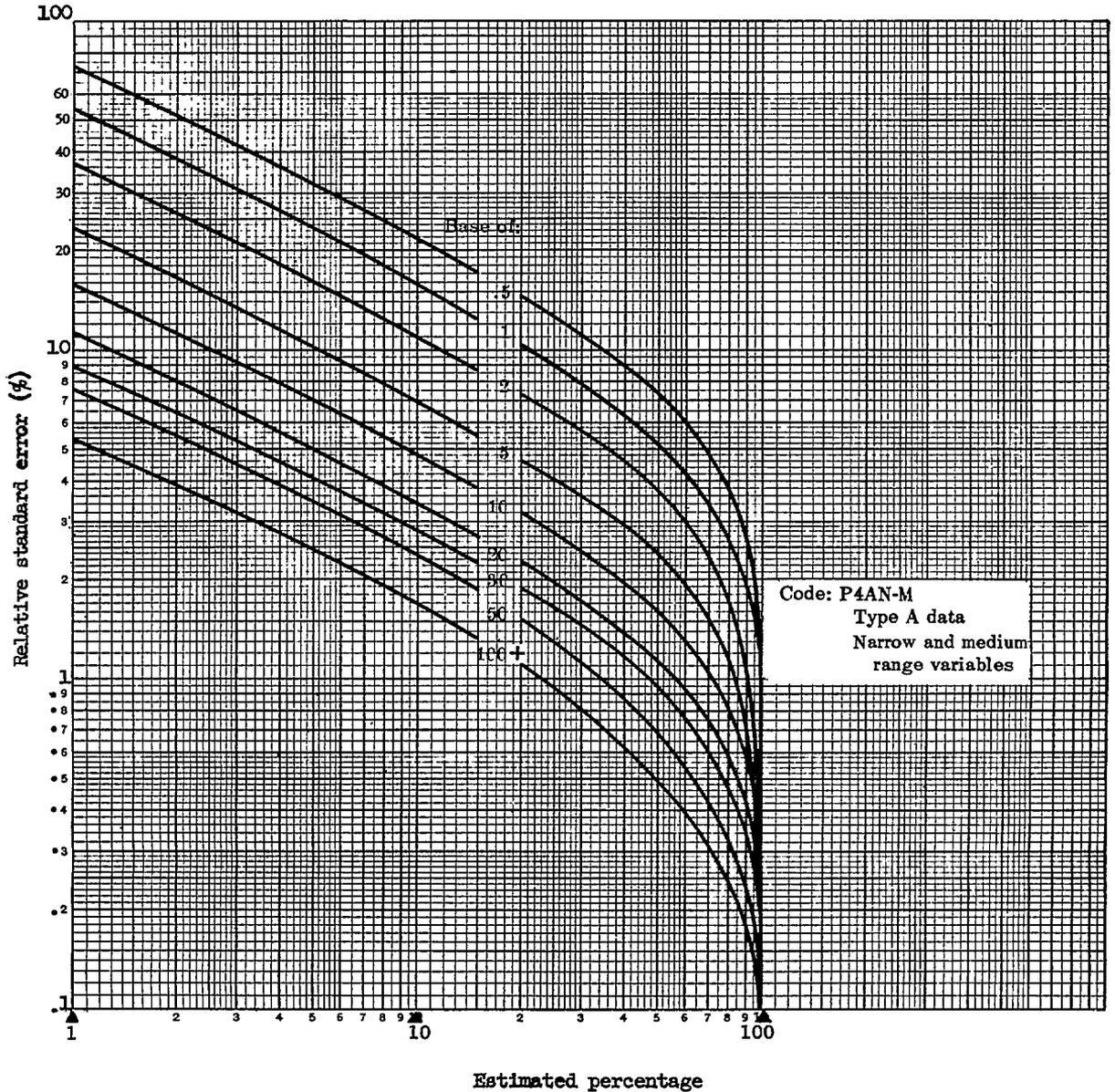
Statistic	Use:		
	Rule	Code	on page
Number of:			
Persons in the U.S. population, or any age-sex-color category thereof	Not subject to sampling error		32
Persons in any other population group	1	A4AN	32
Dental visits	1	A4BM	32
Percentage distribution of:			
Persons by interval since last visit or by frequency of visits .	2	P4AN-M	33
Number of dental visits:			
Per person in total U.S. population or per person in any age-sex-color groups of the U.S. population	4(a)	A4BM	32
Per person in any other population group	4(b)	{ Numer.: A4BM Denom.: A4AN	32 32

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

Terms Relating to Dental Visits

Dental Visit.—A dental visit is defined as any visit to a dentist's office for treatment or advice, including services by a technician or hygienist acting under a dentist's supervision.

Interval since last dental visit.—The interval since the last dental visit is the length of time prior to the week of interview since a dentist or dental hygienist was last visited for treatment or advice of any type.

Demographic, Social, and Economic Terms

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 upon the purpose of the table.

Color.—The population has been divided into two color groups, "white" and "all other." The "all other" group includes such people as Negro, American Indian, Chinese, and 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. 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 ending with the week of interview. Income from all sources is included, e.g., wages, salaries, rents from property, pensions, and help from relatives.

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.

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.

Usual activity.—All persons in the population are classified according to their usual activity during the 12-month period prior to the week of interview. The "usual" activity, in case more than one is reported, is the one at which the person spent the most time during the 12-month period. Children under 6 years of age are classified as "preschool." All persons aged 6-16 years are classified as "school age."

The categories of usual activity used in this report for persons aged 17 years and over are *usually working, usually keeping house, retired, and other activity*. For several reasons these categories are not comparable with somewhat similarly named categories in official Federal labor force statistics. First, the responses concerning usual activity are accepted without detailed questioning since the objective of the question is not to estimate the numbers of persons in labor force categories but to identify crudely certain

population groups which may have differing health problems. Second, the figures represent the usual activity status over the period of an entire year, whereas official labor force statistics relate to a much shorter period, usually 1 week. Third, the minimum age for usually working persons is 17 in the Health Interview Survey, and the official labor force categories include all persons aged 14 or older. Finally, in the definitions of specific categories which follow, certain marginal groups are classified differently to simplify procedures.

Usually working includes persons 17 years of age or older who are paid employees; self-employed in their own business, profession, or in farming; or unpaid employees in a family business or farm. Work around the house or volunteer or unpaid work such as for a church is not counted as working.

Usually keeping house includes female persons 17 years of age or older whose major activity is described as "keeping house" and who cannot be classified as "working."

Retired includes persons 45 years old or over who consider themselves to be retired. In case of doubt, a person 45 years of age or older is counted as retired if he or she has either voluntarily or involuntarily stopped working, is not looking for work, and is not described as "keeping house." A retired person may or may not be unable to work.

Other Activity includes males 17 years of age or older not classified as "working" or "retired" and females 17 years of age or older not classified as "working," "keeping house," or "retired." Persons aged 17 years and over who are going to school are included in this group.

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

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.

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.

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 as follows:

<i>Regions</i>	<i>States Included</i>
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, Nebraska, Kansas
South	Delaware, Maryland, District of Columbia, Virginia, West Virginia, North Carolina, Kentucky, Texas, Tennessee, Alabama, Mississippi, Arkansas, Louisiana, Oklahoma
West	Montana, Idaho, Wyoming, Colorado, New Mexico, Arizona, Utah, Nevada, Washington, Alaska, Oregon, California, Hawaii



APPENDIX III

QUESTIONNAIRE ITEMS RELATING TO DENTAL VISITS

QUESTIONS FROM THE 1969 QUESTIONNAIRE

7a. During the past 2 weeks, did anyone in the family, (that is you, your —, etc.) go to a dentist?	<input type="checkbox"/> Yes (7b and c) <input type="checkbox"/> No (9)	
b. Who was this? — Mark "Dental visit," box in person's column.		7b. <input type="checkbox"/> Dental visit
c. During the past 2 weeks, did anyone else in the family go to a dentist?	<input type="checkbox"/> Yes (Repeat 7b and c) <input type="checkbox"/> No	
For each person with "Dental visit," ask: d. During the past 2 weeks, how many times did — go to dentist?		d. _____ No. of dental visits (NP)
If "Dental visit," ask: 8a. For what (other) condition did — see the dentist? — Enter condition in 8a.		8a. <input type="checkbox"/> Exam. or cleaning } (8b) _____ }
b. Did — see the dentist for any { other specific condition?		b. <input type="checkbox"/> Yes (8a) <input type="checkbox"/> No other (8c) <input type="checkbox"/> No specific (NP)
For each condition in 8a, ask: c. During the past 2 weeks was — sick because of his . . . ?		c. <input type="checkbox"/> Yes (Enter condition in item C) (NP or 8c) <input type="checkbox"/> No
INTERVIEWER CHECK ITEM		1 <input type="checkbox"/> 2 week dental visit (9b) <input type="checkbox"/> No dental visit (9a)
9a. ABOUT how long has it been since — went to a dentist? Estimate is acceptable. If less than 1 year, mark appropriate box.		9a. 2 <input type="checkbox"/> Past 2 weeks not reported (Q.'s 7 and 8) 3 <input type="checkbox"/> 2 weeks — 6 months 4 <input type="checkbox"/> Over 6 — 12 months _____ Years (NP) 0 <input type="checkbox"/> Never (NP)
b. During the past 12 months, about how many times did — go to a dentist?		b. _____ Number of visits (NP)

QUESTIONS FROM THE JULY 1963-JUNE 1964 QUESTIONNAIRE

18. LAST WEEK OR THE WEEK BEFORE did anyone in the family go to a dentist?	<input type="checkbox"/> Yes <input type="checkbox"/> No
If "Yes," ask:	_____ No. of times
(a) Who was this?	(1) (2) (3)
(b) Anyone else?	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> Fillings
For each person with "Yes" checked, ask:	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> Extractions or other surgery
(c) How many times did you visit the dentist LAST WEEK OR THE WEEK BEFORE?	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> Straightening (Orthodontia)
(d) What did you have done (the last time, the time before, etc.)?	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> Treatment for gums
(e) Anything else?	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> Cleaning teeth
If "No" to Question 18, ask:	<input type="checkbox"/> <input type="checkbox"/> Examination
19. ABOUT how long has it been since you went to a dentist?	<input type="checkbox"/> <input type="checkbox"/> Denture work
	<input type="checkbox"/> <input type="checkbox"/> Other (Specify) _____
	<input type="checkbox"/> Under 6 mos. <input type="checkbox"/> 6-12 mos.
	No. of years _____ <input type="checkbox"/> Never



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