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# VITAL STATISTICS REPORT

## *Health Interview Survey—Provisional Data*

FROM THE

NATIONAL CENTER FOR HEALTH STATISTICS

### Cigarette Smoking: United States, 1970

During 1970 there were an estimated 48.8 million cigarette smokers in the civilian, noninstitutional population 17 years of age and older in the United States. This and other estimates are based on data collected from 37,000 households as a part of the Health Interview Survey. In addition, an estimated 23.9 million persons were former cigarette smokers and 59.7 million had never smoked at least 100 cigarettes during their entire life.

This report contains data on the cigarette consumption levels of the adult population during 1970 by age and sex (tables 1-4). Earlier estimates of the cigarette smoking status of the population have been published by the National Center for Health Statistics. A report entitled "Cigarette Smoking and Health Characteristics, United States, June 1964-July 1965," *Vital and Health Statistics*, PHS Pub. No. 1000-Series 10-No. 34 contains detailed data on smoking and selected chronic and acute conditions and disabilities. The Center also collected data on cigarette smoking in cooperation with the Current Population Survey in June 1966, August 1967, and August 1968. The 1966 data have been published in a report "Changes in Cigarette Smoking Habits Between 1955 and 1966," *Vital and Health Statistics*, PHS Pub. No. 1000-Series 10-No. 59. Two previous reports, *Monthly Vital Statistics Report*, Vol. 18, No. 9 and Vol. 19, No. 9, supplements, also contain data from the 1966, 1967, and 1968 surveys.

The categories used in presenting data on the number of cigarettes smoked per day are different from those used in the earlier reports, but are consistent with the more recently accepted categories. In order to facilitate comparisons with our earlier data, the smoking data from the 1965 Health Interview Survey have been retabulated and are presented here using the revised smoking categories (table 3 and 4).

During the past 5 years, from 1965 to 1970, the percentage of cigarette smokers among the adult

population has decreased from 41.6 percent to 36.7 percent. The largest decrease in the percent of present smokers occurred among males, a drop from 51.0 percent in 1965 to 43.2 percent in 1970. The proportion of female smokers dropped only slightly, from 33.2 to 30.9 percent.

The number of former cigarette smokers increased from 16.1 million in 1965 to 23.9 million in 1970, an increase from 13.2 percent to 17.9 percent of the population 17 years of age and older. The increase in the proportion of former smokers occurred among both males and females and in each age category.

Although there has been a decline in the number of cigarette smokers, there was an increase in the proportion of heavier smokers among the present smokers in 1970. For example, in 1965 an estimated 23.7 percent of the male smokers smoked 25 cigarettes or more per day compared with 26.4 percent in 1970. Also, in 1970 a smaller proportion of the smokers were smoking less than 15 cigarettes per day. This pattern was found among both males and females and in all age groups.

When respondents are asked to report the "average" number of cigarettes smoked per day, they tend to underreport the actual number smoked. However, estimates of the relative change over time can be made when the same collection techniques were used at both points in time, as is the case for the data presented here.

The estimated rates of smoking may also be affected by the type of respondent. Proxy-respondents (those responded for by another family member) have a somewhat higher level of "never smokers" and a lower average number of cigarettes smoked daily than do self-respondents. However, for both periods shown here the percentage of self- and proxy-respondents was about the same. About 37 percent of the males were self-respondents and about 76 percent of the females were self respondents. For more detailed

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data on the differences in smoking status as reported by self- and proxy-respondents, see Series 10, No. 59.

It should be noted that no adjustment of the data was made for persons of unknown smoking status or for whom current daily smoking rates were not reported. The level of both of the unknown rates was

approximately the same for both periods shown here. However, the percent of persons with unknown smoking status or unknown amount in the three Current Population Surveys was somewhat higher than in the two Health Interview Surveys.

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Table 1. Number and percent distribution of persons 17 years of age and over in population by cigarette smoking status, according to sex and age: United States, 1970

Sex and age	Total population	Cigarette smoking status			
		Never smoked	Former smoker	Present smoker	Unknown if ever smoked
BOTH SEXES		Number in thousands			
Total, 17 years and over-----	133,132	59,675	23,859	48,819	778
17-24 years-----	25,942	14,426	2,121	9,083	313
25-44 years-----	46,891	17,081	8,785	20,815	210
45-64 years-----	41,302	16,326	8,935	15,874	167
65 years and over-----	18,997	11,842	4,018	3,048	89
MALE					
Total, 17 years and over-----	62,310	19,144	15,861	26,912	393
17-24 years-----	12,034	5,844	1,131	4,885	174
25-44 years-----	22,542	5,779	5,235	11,406	121
45-64 years-----	19,644	4,513	6,302	8,763	66
65 years and over-----	8,090	3,007	3,193	1,858	*
FEMALE					
Total, 17 years and over-----	70,822	40,531	7,998	21,907	385
17-24 years-----	13,908	8,582	991	4,198	138
25-44 years-----	24,349	11,302	3,550	9,408	89
45-64 years-----	21,658	11,813	2,632	7,111	101
65 years and over-----	10,907	8,835	825	1,190	57
BOTH SEXES		Percent distribution			
Total, 17 years and over-----	100.0	44.8	17.9	36.7	0.6
17-24 years-----	100.0	55.6	8.2	35.0	1.2
25-44 years-----	100.0	36.4	18.7	44.4	0.4
45-64 years-----	100.0	39.5	21.6	38.4	0.4
65 years and over-----	100.0	62.3	21.2	16.0	0.5
MALE					
Total, 17 years and over-----	100.0	30.7	25.5	43.2	0.6
17-24 years-----	100.0	48.6	9.4	40.6	1.4
25-44 years-----	100.0	25.6	23.2	50.6	0.5
45-64 years-----	100.0	23.0	32.1	44.6	0.3
65 years and over-----	100.0	37.2	39.5	23.0	*
FEMALE					
Total, 17 years and over-----	100.0	57.2	11.3	30.9	0.5
17-24 years-----	100.0	61.7	7.1	30.2	1.0
25-44 years-----	100.0	46.4	14.6	38.6	0.4
45-64 years-----	100.0	54.5	12.2	32.8	0.5
65 years and over-----	100.0	81.0	7.6	10.9	0.5

NOTE: For official population estimates for more general use, see 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.

\*Figure does not meet standards of reliability or precision.

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Table 2. Number and percent distribution of cigarettes smoked per day among present cigarette smokers 17 years of age and over, by sex and age: United States, 1970

Sex and age	Total present cigarette smokers	Number of cigarettes smoked per day—present amount						
		Less than 5	5-14	15-24	25-34	35-44	45 or more	Un-known
BOTH SEXES		Number in thousands						
Total, 17 years and over-----	48,819	3,841	11,676	20,628	5,256	4,585	1,122	1,713
17-24 years-----	9,083	810	2,938	3,688	728	379	89	450
25-44 years-----	20,815	1,466	4,261	9,129	2,611	2,231	564	554
45-64 years-----	15,874	1,182	3,540	6,659	1,729	1,778	430	555
65 years and over-----	3,048	382	936	1,152	188	197	*	154
MALE								
Total, 17 years and over---	26,912	1,764	5,398	11,458	3,160	3,091	868	1,174
17-24 years-----	4,885	353	1,469	2,053	442	220	56	292
25-44 years-----	11,406	649	1,867	5,124	1,505	1,458	436	366
45-64 years-----	8,763	534	1,513	3,603	1,081	1,282	343	407
65 years and over-----	1,858	228	549	678	131	131	*	109
FEMALE								
Total, 17 years and over---	21,907	2,076	6,277	9,170	2,096	1,494	254	539
17-24 years-----	4,198	457	1,470	1,635	286	159	*	158
25-44 years-----	9,408	817	2,394	4,004	1,106	773	127	188
45-64 years-----	7,111	649	2,027	3,056	648	497	86	148
65 years and over-----	1,190	154	387	475	56	66	*	*
BOTH SEXES		Percent distribution						
Total, 17 years and over-----	100.0	7.9	23.9	42.3	10.8	9.4	2.3	3.5
17-24 years-----	100.0	8.9	32.3	40.6	8.0	4.2	1.0	5.0
25-44 years-----	100.0	7.0	20.5	43.9	12.5	10.7	2.7	2.7
45-64 years-----	100.0	7.4	22.3	41.9	10.9	11.2	2.7	3.5
65 years and over-----	100.0	12.5	30.7	37.8	6.2	6.5	*	5.1
MALE								
Total, 17 years and over---	100.0	6.6	20.1	42.6	11.7	11.5	3.2	4.4
17-24 years-----	100.0	7.2	30.1	42.0	9.0	4.5	1.1	6.0
25-44 years-----	100.0	5.7	16.4	44.9	13.2	12.8	3.8	3.2
45-64 years-----	100.0	6.1	17.3	41.1	12.3	14.6	3.9	4.6
65 years and over-----	100.0	12.3	29.5	36.5	7.1	7.1	*	5.9
FEMALE								
Total, 17 years and over---	100.0	9.5	28.7	41.9	9.6	6.8	1.2	2.5
17-24 years-----	100.0	10.9	35.0	38.9	6.8	3.8	*	3.8
25-44 years-----	100.0	8.7	25.4	42.6	11.8	8.2	1.3	2.0
45-64 years-----	100.0	9.1	28.5	43.0	9.1	7.0	1.2	2.1
65 years and over-----	100.0	12.9	32.5	39.9	4.7	5.5	*	*

NOTE: For official population estimates for more general use, see 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.

\*Figure does not meet standards of reliability or precision.

Table 3. Number and percent distribution of persons 17 years of age and over in population by cigarette smoking status, according to sex and age: United States, July 1964-June 1965

Sex and age	Total population	Cigarette smoking status			
		Never smoked	Former smoker	Present smoker	Unknown if ever smoked
BOTH SEXES		Number in thousands			
Total, 17 years and over-----	122,086	54,785	16,115	50,741	445
17-24 years-----	21,299	11,162	1,284	8,676	177
25-44 years-----	45,299	15,944	6,133	23,135	86
45-64 years-----	38,196	16,130	6,127	15,851	88
65 years and over-----	17,292	11,550	2,571	3,078	94
MALE					
Total, 17 years and over-----	57,585	17,028	11,075	29,341	142
17-24 years-----	9,962	4,396	662	4,838	65
25-44 years-----	21,613	4,926	3,843	12,814	*
45-64 years-----	18,401	4,406	4,436	9,527	*
65 years and over-----	7,610	3,299	2,134	2,161	*
FEMALE					
Total, 17 years and over-----	64,501	37,758	5,040	21,400	303
17-24 years-----	11,337	6,765	621	3,838	112
25-44 years-----	23,686	11,019	2,291	10,321	55
45-64 years-----	19,795	11,723	1,691	6,323	57
65 years and over-----	9,683	8,250	436	917	79
BOTH SEXES		Percent distribution			
Total, 17 years and over-----	100.0	44.9	13.2	41.6	0.4
17-24 years-----	100.0	52.4	6.0	40.7	0.8
25-44 years-----	100.0	35.2	13.5	51.1	0.2
45-64 years-----	100.0	42.2	16.0	41.5	0.2
65 years and over-----	100.0	66.8	14.9	17.8	0.5
MALE					
Total, 17 years and over-----	100.0	29.6	19.2	51.0	0.2
17-24 years-----	100.0	44.1	6.6	48.6	0.7
25-44 years-----	100.0	22.8	17.8	59.3	*
45-64 years-----	100.0	23.9	24.1	51.8	*
65 years and over-----	100.0	43.4	28.0	28.4	*
FEMALE					
Total, 17 years and over-----	100.0	58.5	7.8	33.2	0.5
17-24 years-----	100.0	59.7	5.5	33.9	1.0
25-44 years-----	100.0	46.5	9.7	43.6	0.5
45-64 years-----	100.0	59.2	8.5	31.9	0.3
65 years and over-----	100.0	85.2	4.5	9.5	0.8

NOTE: For official population estimates for more general use, see 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.

\*Figure does not meet standards of reliability or precision.

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Table 4. Number and percent distribution of cigarettes smoked per day among present cigarette smokers 17 years of age and over, by sex and age: United States, July 1964-June 1965

Sex and age	Total present cigarette smokers	Number of cigarettes smoked per day—present amount						Un-known
		Less than 5	5-14	15-24	25-34	35-44	45 or more	
BOTH SEXES		Number in thousands						
Total, 17 years and over---	50,741	5,109	12,688	21,795	5,002	3,854	978	1,315
17-24 years-----	8,676	980	2,876	3,573	563	259	66	359
25-44 years-----	23,135	2,084	5,097	10,351	2,675	1,990	515	422
45-64 years-----	15,851	1,514	3,703	6,780	1,595	1,459	366	435
65 years and over-----	3,078	531	1,012	1,090	169	146	*	100
MALE								
Total, 17 years and over---	29,341	2,347	6,038	13,038	3,360	2,795	789	973
17-24 years-----	4,838	432	1,435	2,135	364	164	*	262
25-44 years-----	12,814	893	2,188	5,921	1,714	1,390	404	302
45-64 years-----	9,527	702	1,755	4,169	1,143	1,121	309	329
65 years and over-----	2,161	320	660	812	138	120	*	80
FEMALE								
Total, 17 years and over---	21,400	2,762	6,650	8,757	1,642	1,059	189	342
17-24 years-----	3,838	549	1,440	1,438	199	95	*	97
25-44 years-----	10,321	1,191	2,909	4,430	961	600	111	120
45-64 years-----	6,323	812	1,949	2,611	452	338	57	106
65 years and over-----	917	210	352	278	*	*	*	*
BOTH SEXES		Percent distribution						
Total, 17 years and over---	100.0	10.1	25.0	43.0	9.9	7.6	1.9	2.6
17-24 years-----	100.0	11.3	33.1	41.2	6.5	3.0	0.8	4.1
25-44 years-----	100.0	9.0	22.0	44.7	11.6	8.6	2.2	1.8
45-64 years-----	100.0	9.6	23.4	42.8	10.1	9.2	2.3	2.7
65 years and over-----	100.0	17.3	32.9	35.4	5.5	4.7	*	3.2
MALE								
Total, 17 years and over---	100.0	8.0	20.6	44.4	11.5	9.5	2.7	3.3
17-24 years-----	100.0	8.9	29.7	44.1	7.5	3.4	*	5.4
25-44 years-----	100.0	7.0	17.1	46.2	13.4	10.8	3.2	2.4
45-64 years-----	100.0	7.4	18.4	43.8	12.0	11.8	3.2	3.5
65 years and over-----	100.0	14.8	30.5	37.6	6.4	5.6	*	3.7
FEMALE								
Total, 17 years and over---	100.0	12.9	31.1	40.9	7.7	4.9	0.9	1.6
17-24 years-----	100.0	14.3	37.5	37.5	5.2	2.5	*	2.5
25-44 years-----	100.0	11.5	28.2	42.9	9.3	5.8	1.1	1.2
45-64 years-----	100.0	12.8	30.8	41.3	7.1	5.3	0.9	1.7
65 years and over-----	100.0	22.9	38.4	30.3	*	*	*	*

NOTE: For official population estimates for more general use, see 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.

\*Figure does not meet standards of reliability or precision.

## Technical Notes

**SOURCE OF DATA.** The data presented in all tables in this report were derived from household interviews of the Health Interview Survey. These interviews were conducted in a probability sample of the civilian, non-institutional population of the United States. During fiscal 1965 approximately 89,000 persons 17 years of age and older living in a total of 42,000 households were included in the sample. From January through December 1970, approximately 77,000 persons 17 years of age and older living in 37,000 households were included in the sample. (See Appendix I of "Current Estimates, 1970," *Vital and Health Statistics*, Series 10, No. 72, DHEW Pub. No. (HSM) 72-1054, for a more detailed account of the 1970 sample.) The information in tables 1-4 was obtained from the following questions:

Has . . . smoked at least 100 cigarettes during his entire life?  
Does . . . smoke cigarettes now?  
On the average, about how many cigarettes a day does . . . smoke?

**DEFINITIONS.** *Present smoking rate.*—A person's present smoking rate is the number of cigarettes he reports to be smoking per day at the time of the interview.

*Present cigarette smokers.*—Any person who reported a current rate of cigarette smoking is classified as a present smoker. The rate may range from less than 1 cigarette per day to 99 cigarettes or more per day. If a person has stopped smoking cigarettes only temporarily because of illness, economic reasons, or the like, he is still considered a present smoker.

*Former cigarette smoker.*—Any person who has smoked at least 100 cigarettes during his entire life, but reports smoking no cigarettes at the present time is classified as a former smoker.

*Nonsmoker.*—A person who has never smoked at least 100 cigarettes (5 packs of cigarettes) during his entire life is considered to have never smoked cigarettes.

**SAMPLE.** Since the estimates shown are based on a sample of the population rather than on the entire population, they are subject to sampling error. The standard errors appropriate for the estimates of the number of persons by smoking status are shown in table I. Tables II-A and II-B show the standard errors appropriate for the percent of persons by smoking status.

The standard error of the difference between two percentages is approximately the square root of the sum of squares of the standard error of each estimate considered separately. For instance, the percentages of present smokers among males in 1965 and 1970 were 51.0 and 43.2, respectively. Linear interpolation from tables II-A and II-B indicates that for populations

of 57.6 million and 62.3 million the standard errors of these percentages are about 0.3 in 1965 and 0.3 in 1970. Thus, the standard error of the difference is about 0.42. The observed difference between the two percentages is 7.8. This difference divided by the standard error of the difference between the two percentages (7.8/0.42) gives a value of 18.6. This value means that a difference of 7.8 percentage points may occur by chance alone, an average of less than one time out of 100 observations. Thus, this difference may be considered statistically significant.

Smoking information was obtained for persons who were not home at the time of the interview from a household respondent. In 1970, 76.1 percent of females and 37.1 percent of males in the sample were self-respondents, while information on the remainder was obtained from proxy-respondents. These figures were virtually the same for the 1965 sample. The type of respondent, i.e., self-respondent or proxy, had little effect on the rates of present smokers for males but had some effect on the rates of present smokers for females. Both males and females are more likely to report themselves as former smokers than to report other family members (proxy-respondents) as former smokers.

Type of respondent	Percent present smokers		Percent former smokers	
	Male	Female	Male	Female
1965:				
Self-----	50.6	34.4	23.1	8.6
Proxy-----	51.1	28.4	16.9	5.0
1970:				
Self-----	43.4	32.2	29.0	12.4
Proxy-----	43.1	26.8	23.3	7.7

Table I. STANDARD ERRORS OF ESTIMATES OF AGGREGATES FOR NARROW-RANGE STATISTICS

Size of estimate	Standard error	
	1965	1970
500,000-----	36,000	39,000
1,000,000-----	52,000	56,000
5,000,000-----	115,000	124,000
20,000,000-----	220,000	238,000
50,000,000-----	300,000	324,000
100,000,000-----	340,000	367,000

## Technical Notes—Con.

Table II-A. STANDARD ERRORS, EXPRESSED IN PERCENTAGE POINTS, OF ESTIMATED PERCENTAGES FOR NARROW-RANGE STATISTICS, JULY 1964-JUNE 1965

Base of percentage	Estimated percentage				
	2 or 98	5 or 95	10 or 90	25 or 75	50
500-----	1.0	1.6	2.2	3.1	3.6
1,000-----	0.8	1.2	1.6	2.3	2.6
5,000-----	0.3	0.5	0.7	1.0	1.2
20,000-----	0.2	0.3	0.3	0.5	0.6
50,000-----	0.1	0.2	0.2	0.3	0.3
100,000 or more-	0.1	0.1	0.2	0.2	0.2

Table II-B. STANDARD ERRORS, EXPRESSED IN PERCENTAGE POINTS, OF ESTIMATED PERCENTAGES FOR NARROW-RANGE STATISTICS, JANUARY-DECEMBER 1970

Base of percentage	Estimated percentage				
	2 or 98	5 or 95	10 or 90	25 or 75	50
500-----	1.1	1.7	2.4	3.3	3.9
1,000-----	0.9	1.3	1.7	2.5	2.8
5,000-----	0.3	0.5	0.8	1.1	1.3
20,000-----	0.2	0.3	0.3	0.5	0.6
50,000-----	0.1	0.2	0.2	0.3	0.3
100,000 or more-	0.1	0.1	0.2	0.2	0.2

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