TABLE 8.—Prevalence, awareness, and control rates of hypertension, persons 25–74 years of age, United States, 1960–1962, 1974–1975, 1976–1980[1]

Year	Percentage of population with hypertension[2]	Percentage of total with hypertension			
		Unaware[3]	Aware, no medication	Aware, medication, no control	Aware,[4] medication, controlled
1960–1962	20.3	51.1	17.6	15.3	16.0
1974–1975	22.1	36.4	29.4	14.6	19.6
1976–1980	22.0	26.6	17.2	22.1	34.1

[1] Rates age-adjusted by the direct method to the population at the midpoint of the 1976–1980 National Health and Nutrition Examination Survey.

[2] Systolic blood pressure 160 mm Hg or greater, or diastolic blood pressure 95 mm Hg or greater, or on antihypertensive medication.

[3] Reported never told by physician of having hypertension.

[4] Those with hypertension taking antihypertensive medication whose blood pressure was not hypertensive.

SOURCE: National Center for Health Statistics (*32*).

TABLE 9.—Percentage of adults with serum cholesterol levels of 260 mg/100 ml and over, by sex and age, United States, Health Examination Survey (HES) 1960–1962 and Health and Nutrition Examination Survey (HANES) 1971–1974[1]

Age	HES, 1960–1962		HANES, 1971–1974	
	Men	Women	Men	Women
	Percentage			
Total, age 18–74	17.6	22.7	14.7	17.5
18–24	3.9	4.6	2.8	3.0
25–34	10.4	7.4	8.2	5.6
35–44	20.2	12.9	17.1	9.6
45–54	25.7	28.0	24.1	24.6
55–64	23.5	49.7	20.2	35.3
65–74	21.6	51.0	20.9	40.7

[1] Age adjusted by the direct method to 1971–1974 civilian noninstitutionalized population.

NOTE: All cholesterol values have been adjusted to approximate the values of Abell et al. (Abell, L.L., Levy, G.B., Brodie, B.B., Kendall, F.E. A simplified method for the estimation of total cholesterol in serum, and demonstration of its specificity. *Journal of Biological Chemistry* 195: 357–366, 1952), the common referenced method, by reducing the 1960–1962 data by 7.6 percent and the 1971–1974 data by 4.5 percent.

SOURCE: National Center for Health Statistics (*24*).

socioeconomic level and lesser declines in poorer areas of the country are also consistent with a favorable impact of smoking prevention or cessation efforts on CHD mortality, in view of the clearly demonstrated inverse relationship of male income level and prevalence of smoking.

TABLE 10.—Regression coefficients, risk ratios, and statistical significance for the risk of cardiovascular disease in 8 years, men and women, age 35–74 years, Framingham heart study

Risk factor	Multiple regression coefficient[1]	T[2]	Risk ratios evaluated at age 55[3]	
			Risk ratio	Risk factor difference
	MEN			
Cigarette smoking	0.580	6.48	1.8	Smoker/nonsmoker
Serum cholesterol	0.020	3.65	1.3	42 mg/dl
Cholesterol/age interaction	-0.001	-2.61	—	—
Systolic blood pressure	0.017	9.12	1.4	20 mm Hg
Glucose intolerance	0.410	2.92	1.5	Present/absent
	WOMEN			
Cigarette smoking	0.233	2.37	1.3	Smoker/nonsmoker
Serum cholesterol	0.019	2.98	1.2	46 mg/dl
Cholesterol/age interaction	-0.001	-2.77	—	—
Systolic blood pressure	0.015	8.59	1.4	24 mm Hg
Glucose intolerance	0.757	5.40	2.1	Present/absent

[1] Unstandardized coefficient of the multiple risk function for cardiovascular disease within 8 years with the independent variables being serum cholesterol, cholesterol times age, systolic blood pressure, cigarette smoking, glucose intolerance, left ventricular hypertrophy on ECG, age, and age squared; estimated over the age range 35–74 years.

[2] These risk factors are statistically significant for both men and women. The critical value of T is approximately equal to 2.0 at $\alpha = 0.05$.

[3] The hypothetical risk of development of cardiovascular disease associated with the specified difference in risk factor levels when other risk factors in the model are held constant. A ratio greater than 1 represents positive association with cardiovascular disease. For serum cholesterol and systolic blood pressure, the difference chosen was one standard deviation of the measurement.

SOURCE: McGee and Abbott (*14*).

Some questions remain unanswered regarding the contribution of smoking cessation to the decline in CHD mortality. The percentage of smokers who are heavy smokers appears to be increasing, although it is not known whether this represents a greater cessation rate among lighter smokers than among heavier smokers. The percentage decline in CHD mortality for women has been as large as for men, although proportionately fewer women than men have given up smoking. Assertions that preventive measures have resulted in smoking changes that caused the decline in CHD mortality differences by age, socioeconomic status, and geographic area are based on limited available data.

Conclusion

The evidence supports the conclusion that changes in smoking habits have contributed to substantial improvement in mortality rates from the cardiovascular diseases in the United States.

Technical Notes

International Classification of Diseases

Tables A and B contain the code numbers of the International Classification of Diseases (ICD) applicable to the causes of death described in this report (*16, 20, 44, 45*). Between each revision of the ICD there are breaks in the continuity of these classifications, affecting some diseases more than others. For cardiovascular disease, the most serious breaks in continuity are between the seventh and eighth revisions and between the eighth and ninth revisions for CHD and for hypertensive disease.

The cause of death commonly referred to as coronary heart disease (CHD) was listed in both the sixth and seventh revisions of the ICD (1949–1957, 1958–1967) as "Arteriosclerotic heart disease, including coronary heart disease," code 420; in the eighth revision (1968–1978) as "Ischemic heart disease," codes 410–413; and in the ninth revision (after 1978) as "Ischemic heart disease," codes 410–414.

Expected Minus Observed Deaths

Multiplying the 1970 age-specific death rates (10-year age groups) for total cardiovascular diseases times the 1980 census gives an estimate of the number of cardiovascular disease deaths expected in 1980: 1,294,564 deaths, based on the level of mortality in 1970. An estimate of the number of cardiovascular disease deaths observed in 1980 is 1,005,692. This latter estimate is made by combining the estimated 989,000 deaths from major cardiovascular diseases in 1980 (ICD/9 codes 390–448) and the 4,803 deaths from diseases of the veins in 1980 (ICD/9 codes 451–459) (*27, 29*). The difference is 288,872 cardiovascular disease deaths "averted" in 1980 because of a decline in mortality from the level in 1970.

Multiplying the 1963 age-specific death rates (10-year age groups) for coronary heart disease (ICD/7 code 420) times the 1979 population estimate gives the number of CHD deaths, 804,000, expected in 1980, on the basis of the level of mortality in 1963 (*2, 25, 27*). The observed number of deaths from CHD in 1980 for ICD/9 codes 410–414 was 566,000, or 238,000 fewer than expected, based on the level of mortality in 1963. This procedure assumes reasonably good comparability of ICD classification of CHD in these 2 years.

Age-Adjusted Rates

Age adjustment for this Report is by the direct method. Age-specific death rates in 10-year age groups are multiplied by the "standard million" for 1940—the U.S. population by age as enumerated in that year.

TABLE A.—Codes of the 6th, 7th, 8th, and 9th revisions of the International Classification of Diseases for Selected Diagnoses

Diagnosis	1949–1967 6th and 7th revisions	1968–1978 8th revision	1979 9th revision
Cardiovascular diseases	330–334, 400–468	390–458	390–459
Coronary heart disease	420	410–413	410–414
Acute myocardial infarction	no code for this diagnosis	410	410
Other coronary heart disease	no code for this diagnosis	411–413	411–414
Cerebrovascular diseases	330–334	430–438	430–438
Hypertensive disease	440–447	400–404	401–405
Other diseases of arteries	450–456	440–448	440–448
Atherosclerosis	450	440	440
Aortic aneurysm	451	441	441
Other	452–456	442–448	442–448
All other cardiovascular disease	400–416, 421–434, 460–468	390–398, 420–429, 450–458	390–398, 415–429, 451–459
Lung cancer	162, 163	162	162
Other cancers	140–161, 164–205	140–161, 163–209	140–161, 163–208
Diabetes mellitus	260	250	250
Influenza and pneumonia	480–493	470–474, 480–486	480–487
Chronic obstructive pulmonary disease	500, 501, 527.1	490–492, 519.3	490–492, 494–496
Cirrhosis of the liver	581	571	571
Accidents, poisonings, and violence	E800–E985	E900–E999	E800–E999

SOURCE: World Health Organization (*44, 45*), National Center for Health Statistics (*20*).

TABLE B.—International classification of diseases codes for cardiovascular-renal diseases[1] and cardiovascular diseases[2], 1900–1979

Revision	Years in use	Codes
1st	1900–1909	47, 64–66, 77–86, 120, 142
2nd	1910–1920	47, 64–66, 77–85, 120, 142
3rd	1921–1929	51, 74, 75, 83, 87–90, 91b, 91c, 92–96, 129, 151
4th	1930–1938	56, 82, 90–95, 97–103, 131, 132
5th	1939–1948	58, 83, 90–103, 131, 132
6th	1949–1958	330–334, 400–468, 592–594
7th	1959–1967	330–334, 400–468
8th	1968–1978	390–458
9th	1979–	390–459

[1] Through 6th revision.
[2] After 6th revision.
SOURCE: Moriyama et al. (*16*), National Center for Health Statistics (*20*), World Health Organization (*45*).

Population Estimates

Death rates for census years and for years prior to 1961 are based on the resident or census population estimates that were available at the time the official U.S. vital statistics were prepared. Rates for 1961 to 1969, however, are based on estimates of the resident population revised to reflect the 1970 census, and rates for 1971 to 1979 are based on estimates of the resident population revised to reflect the 1980 census (*1, 2*).

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APPENDIX B: TRENDS IN U.S. CIGARETTE USE, 1965 TO 1980

Introduction

This discussion of national trends in adult cigarette smoking over recent years in the United States includes data on prevalence, consumption, and cessation. It focuses on adult cigarette smoking patterns and cessation by age and sex cohorts. Data were drawn from an analysis of three national surveys by the National Center for Health Statistics (NCHS) and three other national surveys on adult use of tobacco conducted by the former National Clearinghouse for Smoking and Health over the period from 1965 through 1980 (*6, 7, 8*). A brief description of the data sources is presented, followed by a discussion of the data.

Surveys of Tobacco Use

The 1966 Survey on the Use of Tobacco

Two separate national probability sample surveys on adult usage of and attitudes toward tobacco conducted by the National Clearinghouse for Smoking and Health in 1966 have been combined and are treated here as a single survey.

One study design imposed a two-way stratification on all households in the continental United States, classifying each household by three types of population and nine geographic areas. The other design divided the entire area of the United States into approximately 1,700 primary sampling units (PSUs). Weighting procedures resulted in the selection of 5,770 respondents.

Within each household, the first eligible respondent (age 21 or older) was the person interviewed; all current and former smokers were also interviewed, but only a subsample of those who had never smoked was interviewed. Weighting procedures were used to bring the three groups into balance.

The 1970 and 1975 Surveys on the Adult Use of Tobacco

The 1970 and 1975 surveys sponsored by the National Clearinghouse for Smoking and Health employed the same sampling and interviewing methodologies. Where possible, questions were phrased similarly. The questionnaires for current, former, and never smokers differed slightly.

In both surveys, the sample design consisted of two parts: a national probability sample of telephone households and a national probability sample of nontelephone households.

The respondent selection procedure was designed to produce 75 percent of the interviews with "ever" smokers and 25 percent with "never" smokers. Weighting procedures were used to compensate for this oversampling of ever versus never smokers. Other weighting factors were used to adjust for age, sex, and smoker mix of the

household. The weighted number of respondents (age 21 or older) was 5,875 in 1970 and 12,079 in 1975.

Smoking Supplement to the National Health Interview Survey

The National Health Interview Survey (NHIS), a continuous nationwide sample personal household interview survey by the National Center for Health Statistics, included questions on cigarette smoking in 1965, 1966, 1970, 1974, 1976, 1977, 1978, 1979, and 1980. Information is routinely obtained on personal and demographic characteristics. Questions focused primarily on such characteristics as present smoking status, amount smoked daily, and in more recent years, attempts to quit, and on tar and nicotine levels of cigarettes smoked. Information was not obtained on opinions, attitudes, or beliefs related to smoking.

The universe for the NHIS is the civilian noninstitutionalized population of the United States. The survey is based on a multistage probability sample of primary sampling units in about 42,000 households containing about 85,000 persons. A one-third subsample of the adult respondents is interviewed for the smoking supplement (during 1965 and 1966 smoking data were obtained for all adults).

Patterns of Smoking Prevalence and Cessation

Prevalence of Cigarette Smoking

The percentage of adults who report being current regular smokers, defined as persons who have smoked at least 100 cigarettes and who were smokers at the time of interview, has been declining steadily over the last 15 years (Table 1). For the total white male population, this decline has been from 51.3 percent in 1965 to 37.1 percent in 1980, and for white females, from 34.5 to 30.0 percent. Among black adults a similar pattern was seen—for males a decline from 59.6 to 44.9 percent, and for females, from 32.7 to 30.6 percent.

Conversely, the percentage of the white adult male population who reported being former smokers increased between 1965 to 1980 from 21.2 to 31.9 percent, and of white females, from 8.5 to 16.3 percent by 1980. Again, a similar trend was observed among blacks, with the percentage of former smokers increasing from 12.6 to 20.6 percent of males, and from 5.9 to 11.8 percent of females. This increase in the percentage of former smokers is more marked among males (20.3 to 30.5 percent) than among females (8.2 to 15.7 percent), although the proportion among males increased by a factor of 1.5, while that among females doubled.

In addition to this increase in percentage of former smokers over the 15-year period, among most of the sex, race, and age groups there also appears to be an increase in the percentage of persons who

TABLE 1.—Percentage distribution of adult current and former cigarette smokers, according to sex, race, and age, in 1965, 1976, and 1980

Sex, race, and age	Current smoker[1] (percent)			Former smoker (percent)		
	1965	1976	1980[2]	1965	1976	1980[2]
MALE						
Total[3,4]						
All ages ≥ 20[5]	52.1	41.6	37.9	20.3	29.6	30.5
20–24	59.2	45.9	39.7	9.0	12.2	12.1
25–34	60.7	48.5	43.1	14.7	18.3	20.6
35–44	58.2	47.6	42.6	20.6	27.3	27.6
45–64	51.9	41.3	40.8	24.1	37.1	36.9
≥ 65	28.5	23.0	17.9	28.1	44.4	47.4
White						
All ages ≥ 20[5]	51.3	41.0	37.1	21.2	30.7	31.9
20–24	58.1	45.3	39.0	9.6	13.3	12.2
25–34	60.1	47.7	42.0	15.5	18.9	21.9
35–44	57.3	46.8	42.4	21.5	28.9	28.8
45–64	51.3	40.6	40.0	25.1	38.1	38.4
≥ 65	27.7	22.8	16.6	28.7	45.6	50.1
Black						
All ages ≥ 20[5]	59.6	50.1	44.9	12.6	20.2	20.6
20–24	67.4	52.8	45.5	3.8	4.1	10.6
25–34	68.4	59.4	52.0	6.7	11.8	11.9
35–44	67.3	58.8	44.2	12.3	13.8	21.2
45–64	57.9	49.7	48.8	15.3	28.6	26.3
≥ 65	36.4	26.4	27.9	21.5	33.0	26.6
FEMALE						
Total[3,4]						
All ages ≥ 20[5]	34.2	32.5	29.8	8.2	13.9	15.7
20–24	41.9	34.2	32.7	7.3	10.4	11.0
25–34	43.7	37.5	31.6	9.9	12.9	14.4
35–44	43.7	38.2	34.9	9.6	15.8	18.9
45–64	32.0	34.8	30.8	8.6	15.9	17.1
≥ 65	9.6	12.8	16.8	4.5	11.7	14.2
White						
All ages ≥ 20[5]	34.5	32.4	30.0	8.5	14.6	16.3
20–24	41.9	34.4	33.3	8.0	11.4	12.5
25–34	43.4	37.1	31.6	10.3	13.7	14.7
35–44	43.9	38.1	35.6	9.9	17.0	20.2
45–64	32.7	34.7	30.6	8.8	16.4	17.4
≥ 65	9.8	13.2	17.4	4.5	11.5	14.3
Black						
All ages ≥ 20[5]	32.7	34.7	30.6	5.9	10.2	11.8
20–24	44.2	34.9	32.3	2.5	5.0	2.2
25–34	47.8	42.5	34.2	6.7	8.9	11.6
35–44	42.8	41.3	36.5	7.0	9.6	12.5
45–64	25.7	38.1	34.3	6.6	11.9	14.1
≥ 65	7.1	9.2	9.4	4.5	13.3	14.1

[1] A current smoker has smoked at least 100 cigarettes and now smokes; includes occasional smokers.

[2] Final estimates. Based on data for the last 6 months of 1980.

[3] Base of percentage excludes persons with unknown smoking status.

[4] Includes all other races not shown separately.

[5] Age adjusted by the direct method to the 1970 civilian noninstitutionalized population using 5 age groups.

NOTE: Percentages do not add up to 100 because of "never smokers" in the survey population.

SOURCE: Data from the National Health Interview Survey, National Center for Health Statistics, 1965, 1976, and 1980, based on household interviews with a sample of the civilian noninstitutionalized population.

report never having smoked. In males, this is demonstrated by both races and by the age groups younger than 45 years of age. In females,

TABLE 2.—Average number of cigarettes smoked per day by current and former smokers, by sex, age, and educational level, in 1970, 1975, and 1980

Sex, age, and education	1970[1]		1975[1]		1980[2]	
	Current smoker	Former smoker	Current smoker	Former smoker	Current smoker	Former smoker
Total						
All ages ≥21	20.0	22.6	21.2	24.5	21.7	25.0
Male						
All ages ≥21	21.8	25.0	22.8	27.2	23.4	28.1
21–24	20.8	16.2	18.9	20.8	19.4	18.7
25–34	21.0	23.4	22.1	24.0	22.1	24.0
35–44	23.0	27.7	23.4	28.0	25.6	28.7
45–54	24.2	25.4	25.1	29.5	27.2	31.6
55–64	21.8	27.7	25.0	28.1	23.3	31.3
≥65	17.2	25.3	20.3	28.0	20.9	27.1
Female						
All ages ≥21	17.7	17.3	19.1	18.8	19.7	19.8
21–24	16.1	13.8	18.6	14.7	17.8	17.6
25–34	18.1	18.7	18.5	17.7	19.4	20.3
35–44	18.6	18.2	20.1	19.5	22.5	19.8
45–54	18.4	19.0	20.3	20.8	20.7	22.4
55–64	17.0	15.4	19.0	20.8	20.0	20.4
≥65	14.0	14.6	16.1	17.1	15.6	17.2
Educational level						
0–8	18.1	21.7	21.7	25.9	20.5	26.2
9–11	20.3	22.2	21.6	25.0	22.3	27.8
12	20.2	22.8	20.8	24.2	21.9	24.4
13–15	20.3	22.5	21.3	25.1	22.1	24.3
≥16	20.8	23.2	20.6	22.1	21.1	24.0

[1] National Survey on Adult Use of Tobacco, PHS, 1970.
[2] National Health Interview Survey Smoking Supplement, PHS, 1980.
NOTE: Data from 1966 National Survey were not compatible with other years.

the increase in percentage of persons who report never having smoked is limited to the age groups younger than 35 years.

Average Daily Consumption of Cigarettes

Table 2 shows data on the average number of cigarettes smoked daily during three survey periods (1970, 1975, and 1980) for both current and former smokers.

Overall, current smokers reported an increased consumption, from a mean of 20.0 cigarettes per day in 1970 to 21.7 cigarettes per day in 1980. The 1970 to 1980 increase in mean number of cigarettes smoked daily was slightly greater for females than for males (2.0 versus 1.2), a finding consistent with the increasingly similar smoking behavior in females and males. Thus, although males continue to smoke a greater average number of cigarettes per day

than do females, the difference in daily consumption between the sexes for current smokers in 1980 was less than that observed a decade earlier.

The heaviest daily consumption is observed in the middle-aged groups (35 to 64 years). A greater mean increase from 1970 to 1980 was observed among women aged 35 to 64.

Male former smokers generally reported greater daily cigarette consumption than did current smokers in each survey. This trend was not found in females. This finding is contrary to the widely held belief that those who smoke fewer cigarettes per day are more likely to quit. It may be due in part to a tendency of former smokers to overestimate their consumption and of current smokers to underestimate their consumption or both.

Among former smokers of both sexes, average daily consumption rates increased with age, peaking at the 45- to 54-year-old age category.

No trend over time is discernible by educational level in the overall mean daily consumption among current smokers. There was, however, an increase in the daily cigarette consumption of former smokers with 8 or fewer years of education, from 21.7 in 1970 to 26.2 in 1980. Within each survey year, there is also no discernible trend between level of education and daily cigarette consumption. The greater reported average daily consumption by educational status for former smokers than for current smokers may reflect cognitive dissonance, or changing social pressures that result in reporting bias.

Table 3 displays the percentage distribution of current smokers by grouped number of cigarettes smoked daily, over the 1965, 1976, and 1980 NHIS surveys. Cigarette smokers had a tendency to round off their reported number of cigarettes smoked per day (*3*) (Table 4). Approximately one-third of the smokers reported smoking exactly 20 cigarettes (one pack) a day in each of the survey years. The proportion of current smokers reporting consumption levels of 21 to 29 or 31 to 39 cigarettes per day remained relatively constant between 1970 and 1980.

Although the proportion of smokers who report consumption levels of 20 to 39 cigarettes per day has remained fairly stable over the last 10 years (48.6 vs. 49.3), a clear difference is observed at the more extreme ends of the distribution, i.e., among those smoking fewer than 20 cigarettes and those smoking 40 or more cigarettes per day.

In 1970, only 11.4 percent of the respondents reported smoking 40 or more cigarettes per day; by 1980, 16.8 percent reported smoking 40 or more cigarettes per day. During the same period, smokers reporting consumption levels of less than 20 cigarettes per day decreased from 39.8 percent in 1970 to 33.8 percent in 1980 (Table 4).

TABLE 3.—Percentage distribution of adult current smokers[1] by grouped number of cigarettes smoked per day by sex, race, and age, 1965, 1976, and 1980

Sex, race, and age	Cigarettes smoked per day								
	<15			15–24			≥25		
	1965	1976	1980[2]	1965	1976	1980[2]	1965	1976	1980[2]
MALE									
Total[3,4]									
All ages ≥ 20	28.3	24.2	23.1	46.3	44.8	42.7	25.4	31.0	34.1
20–24	34.9	31.6	32.0	49.7	49.9	47.8	15.4	18.5	20.2
25–34	25.7	25.5	23.6	50.0	45.8	46.5	24.3	28.7	29.9
35–44	23.7	19.6	15.8	44.8	41.2	42.3	31.5	39.2	41.9
45–64	26.7	18.5	21.6	45.3	44.1	36.4	28.0	37.4	42.0
≥ 65	47.1	39.1	29.2	39.0	42.7	46.1	13.8	18.2	24.7
White									
All ages ≥ 20	25.9	21.4	19.1	46.8	44.9	43.6	27.4	33.7	37.4
20–24	32.3	27.5	27.1	50.8	52.8	50.4	16.9	19.7	22.4
25–34	22.8	22.1	19.5	51.1	46.5	47.4	26.1	31.4	33.1
35–44	21.3	17.2	12.8	44.8	40.4	42.1	33.9	42.5	45.1
45–64	24.6	16.2	17.3	45.4	43.3	37.4	30.0	40.4	45.3
≥ 65	44.6	37.5	26.1	40.3	42.2	46.2	15.1	20.4	27.7
Black									
All ages ≥ 20	48.1	43.8	48.7	42.6	44.8	40.3	9.3	11.5	10.9
20–24	52.7	56.9	56.6	41.9	34.2	36.7	5.3	8.9	6.8
25–34	47.8	46.0	44.4	41.7	43.5	46.2	10.5	10.5	9.6
35–44	42.5	38.5	45.6	45.5	44.8	41.1	12.0	16.7	13.2
45–64	46.9	35.9	51.1	43.7	50.8	35.0	9.4	13.3	14.1
≥ 65	64.9	53.0	41.7	31.9	47.0	47.2	3.2		11.1
FEMALE									
Total[3,4]									
All ages ≥ 20	43.6	36.5	34.2	42.2	43.8	42.0	14.2	19.6	23.7
20–24	48.4	43.1	42.8	41.9	42.4	41.1	9.7	14.5	16.1
25–34	41.4	34.3	33.5	43.1	45.2	41.9	15.5	20.5	24.6
35–44	39.1	33.8	27.8	43.7	44.4	39.3	17.1	21.8	33.0
45–64	44.4	34.3	29.8	42.0	44.2	45.9	13.6	21.5	24.2
≥ 65	62.6	49.3	48.9	31.0	38.9	37.7	6.4	11.8	13.4
White									
All ages ≥ 20	41.0	33.2	30.6	43.9	45.2	43.8	15.1	21.6	25.6
20–24	45.3	39.3	37.4	44.4	44.3	44.1	10.4	16.4	18.5
25–34	37.9	30.6	28.6	45.4	46.8	44.9	16.7	22.6	26.5
35–44	36.2	29.5	24.6	45.3	45.4	39.9	18.4	25.1	35.5
45–64	42.4	32.0	26.4	43.2	45.1	47.8	14.5	23.0	25.9
≥ 65	61.5	45.7	48.1	31.8	41.7	37.7	6.8	12.6	14.2
Black									
All ages ≥ 20	67.7	60.0	61.1	26.4	33.8	28.9	5.9	6.1	10.0
20–24	73.4	65.7	78.0	22.1	31.3	22.0	4.5	3.0	-
25–34	66.2	58.8	61.9	25.1	33.6	22.0	8.7	7.7	16.2
35–44	63.4	60.4	55.6	30.4	38.1	35.6	6.2	1.4	8.8
45–64	69.4	53.2	53.8	26.9	36.7	34.2	3.6	10.1	12.0
≥ 65	83.2	100.0	66.3	16.8	-	34.7	-	-	-

[1] A current smoker has smoked at least 100 cigarettes and now smokes; includes occasional smokers.

[2] Based on data for the last 6 months of 1980.

[3] Base of percentage excludes unknown amount smoked.

[4] Includes all races not shown separately.

SOURCE: Data from the National Health Interview Survey, National Center for Health Statistics, 1965, 1976, and 1980, based on household interviews with a sample of the civilian noninstitutionalized population.

TABLE 4.—Percentage distribution of adult current smokers who reported smoking specific numbers of cigarettes per day, in 1970, 1975, and 1980

Number of cigarettes/day	Percentage of current smokers		
	1970[1]	1975[1]	1980[2]
1–9	15.8	13.5	13.1
	39.8	37.0	33.8
10–19	24.0	23.5	20.7
20	34.9	32.0	34.8
21–29	3.1	2.8	2.3
30	9.6	12.1	11.5
31–39	1.0	0.8	0.7
40	8.8	10.7	11.1
	11.4	15.2	16.8
41+	2.6	4.5	5.7

[1] National Survey on Adult Use of Tobacco, PHS, 1970 and 1975.
[2] National Health Interview Survey Smoking Supplement, PHS (Preliminary), 1980.
NOTE: Data from 1966 National Survey are not compatible with other years.

These findings may be due to several factors, including (1) increased smoking (possibly among those who have switched to lower tar cigarettes), (2) a higher cessation rate among persons smoking fewer cigarettes, (3) the entry of new smokers of greater numbers of cigarettes, or (4) some combination of these factors.

Number of Attempts to Quit Smoking

Survey data have shown that the majority of current smokers have made at least one serious but unsuccessful attempt to quit (*4*).

Table 5 shows the percentage of current smokers who reported having made three or more attempts to quit. Similar data are shown for former smokers for two of the survey years. A modest downward trend is observed in the percentage of current smokers who reported making three or more attempts to quit (from 41.2 percent in 1966 to 38.7 percent in 1980), but the proportion of former smokers reporting three or more attempts to quit increased from 36.0 percent to 53.2 percent over the period from 1966 to 1975; this increase is seen in most of the sex, race, and age groups.

Comparing the proportion of current smokers who had made three or more attempts to quit by years of education showed a general downward trend over time for all education levels except in the less than 8 years of education group, where the proportion increased from 38.9 percent in 1966 to 47.0 percent in 1980. Among the most educated current smokers, the decline was from 59.8 to 39.4 percent.

TABLE 5.—Percentage of current and former smokers who made three or more attempts to quit, by sex, age, and educational level, in 1966, 1975, and 1980

Sex, age, and education	1966[1] Current smoker	1966[1] Former[3] smoker	1975[1] Current smoker	1975[1] Former[3] smoker	1980[2] Current smoker	1980[2] Former[4] smoker
Total						
All ages ≥21	41.2	36.0	40.5	53.2	38.7	
Male						
All ages ≥21	40.7	36.9	39.4	55.1	38.8	
21–24	35.4	21.5	39.0	50.0	31.5	
25–34	37.4	50.0	38.2	43.7	38.7	
35–44	41.8	36.6	37.1	48.8	35.0	
45–54	42.9	36.8	44.1	58.4	39.8	
55–64	44.1	34.1	45.6	63.3	42.8	
≥65	46.9	30.1	31.0	61.9	52.6	
Female						
All ages ≥21	41.5	34.0	42.0	49.1	38.7	
21–24	28.6	35.3	32.3	52.9	31.3	
25–34	34.5	38.1	39.5	47.2	31.0	
35–44	43.5	33.3	45.1	42.7	42.5	
45–54	56.7	23.9	44.8	57.0	37.1	
55–64	38.6	43.6	44.7	50.9	49.2	
≥65	43.5	28.6	46.9	46.4	46.1	
Educational level						
0–8	38.9	32.3	44.3	58.5	47.0	
9–11	42.7	30.0	40.8	53.6	38.4	
12	38.4	39.2	40.0	56.3	37.2	
13–15	37.7	42.8	38.4	46.8	35.2	
≥16	59.8	36.8	41.4	52.2	39.4	

[1] National Survey on Adult Use of Tobacco, PHS, 1966 and 1975.
[2] National Health Interview Survey Smoking Supplement, PHS (Preliminary), 1980.
[3] Includes the last successful attempt.
[4] 1980 former smoker data not available.

Recent Attempt to Quit

Data in Table 6 show the percentage of current and former smokers who reported an attempt to quit in the 12 months prior to the interview. Although there was little change overall from 1966 to 1975 in the percentage of current smokers who reported making an attempt to quit smoking in the previous year (1.5 percent), from 1975 to 1980 there was an increase of almost 10 percent. This increase is shown consistently for all the sex, race, and age groups. Among those who had attempted to quit, proportionately more young persons (under 35 years) than older persons reported attempting to quit during the previous 12 months.

TABLE 6.—Percentage of current and former smokers who attempted to quit during the last year, by sex, age, and educational level, in 1966, 1975, and 1980

Sex, age, and education	1966[1] Current smoker	1966[1] Former smoker	1975[1] Current smoker	1975[1] Former smoker	1980[2] Current smoker	1980[2] Former smoker[3]
Total						
All ages ≥21	26.0	13.8	27.5	9.8	36.7	
Male						
All ages ≥21	23.3	12.1	25.5	8.2	33.4	
21–24	44.0	6.7	44.0	29.2	52.5	
25–34	28.8	20.4	28.7	15.8	37.3	
35–44	19.4	11.2	19.1	6.3	26.9	
45–54	19.1	14.8	20.0	7.0	27.3	
55–64	12.2	13.1	25.3	1.9	29.9	
≥65	15.6	1.8	19.3	3.1	29.2	
Female						
All ages ≥21	29.4	17.2	30.0	12.7	40.6	
21–24	40.0	33.3	50.8	27.5	55.1	
25–34	35.7	24.2	33.0	20.3	47.1	
35–44	25.0	12.5	29.1	11.7	39.5	
45–54	25.2	13.0	19.8	9.3	30.0	
55–64	17.9	11.4	23.6	6.4	31.8	
≥65	27.8	17.9	25.2	4.2	37.0	
Educational level						
0–8	25.4	12.1	27.6	4.2	36.7	
9–11	25.9	15.5	28.0	9.9	38.8	
12	26.8	15.1	26.1	10.0	37.7	
13–15	25.0	10.2	29.1	13.4	31.3	
≥16	26.1	15.5	27.5	9.3	38.4	

[1] National Survey on Adult Use of Tobacco, PHS, 1966 and 1975.
[2] National Health Interview Survey Smoking Supplement, PHS (Preliminary), 1980.
[3] 1980 former smoker data not available.

Relationship of Tar Yields to Smoking Behavior

In 1972, the Public Health Service classified tar as one of the "most likely" contributors to the health hazards posed by cigarettes, and studies have confirmed its carcinogenicity (*4*). In response to this finding, a major change occurred in the cigarette products manufactured and actually used. Over the last two decades, the proportion of domestically consumed cigarettes yielding 15 mg or less of tar has increased from 15 percent in 1968 to 60.9 percent in 1981 (*7*).

The cigarette industry has also increased its promotional activities in marketing brands yielding 15 mg or less tar. The percentage of dollars expended in the United States on advertising and promotion of cigarettes yielding 15 mg or less tar has increased from 19.6 percent in 1975 to 48.1 percent in 1978. These factors may account,

TABLE 7.—Percentage distribution of current regular smokers by tar level of primary brand of cigarettes, by sex and age, in 1975 and 1980

Sex and age	1975[1] Tar level					1980[2] Tar level				
	<5 mg	5–9 mg	10–14 mg	15–19 mg	20+ mg	<5 mg	5–9 mg	10–14 mg	15–19 mg	20+ mg
Total										
All ages ≥21	0.8	0.6	9.5	67.9	20.2	6.3	13.1	25.4	44.8	10.4
Male										
All ages ≥21	0.5	0.6	9.5	63.5	25.8	4.1	10.6	22.5	49.5	13.3
21–24	—	—	8.4	79.0	12.6	2.6	8.1	22.2	66.0	1.0
25–34	0.5	0.8	10.3	70.5	17.9	3.9	10.2	23.7	58.4	3.7
35–44	1.1	0.2	8.5	65.8	24.4	3.8	10.9	25.3	45.0	14.9
45–54	—	0.5	12.1	56.1	31.3	5.0	10.1	22.2	39.0	23.6
55–64	1.2	1.6	8.5	50.2	38.5	5.4	11.6	19.6	39.8	23.6
≥65	0.4	0.8	6.7	49.3	42.7	3.7	15.5	16.2	38.3	26.3
Female										
All ages ≥21	1.1	0.6	11.7	73.2	13.4	8.9	15.9	28.7	39.4	7.1
21–24	1.2	0.3	11.7	80.4	6.4	5.5	8.5	32.5	51.9	1.7
25–34	0.6	0.4	10.9	78.4	9.7	6.7	18.9	28.9	44.5	0.9
35–44	1.2	0.9	13.0	74.6	10.3	13.6	15.2	29.1	37.1	5.1
45–54	1.5	0.3	10.8	65.6	21.9	8.1	17.8	29.9	32.5	11.7
55–64	0.8	—	12.6	70.3	16.3	9.7	13.7	24.2	37.6	14.9
≥65	2.1	3.1	12.5	63.9	18.5	9.6	18.6	26.6	30.2	14.9

[1] National Survey on Adult Use of Tobacco, PHS, 1975.
[2] National Health Interview Survey Smoking Supplement, PHS (Preliminary), 1980.

in part, for the ever-increasing use by current smokers of lower tar cigarettes.

The definition of cigarettes as "lower tar" at 15 mg is arbitrary. Nonetheless, this breakpoint has gained general acceptance. Special note should be taken, however, that tar yields vary continuously, and groupings by relative yield measurements do not automatically imply differences in either the type or the magnitude of their biological effects.

The percentage distribution of current regular smokers by tar level of their primary brand of cigarette is presented in Table 8. A clear trend toward increased use of lower tar products is apparent.

The 1975 data on brands were coded to the 1975 Federal Trade Commission (FTC) values for tar yield, and the 1980 data were coded to the 1979 FTC values. As tar values have been progressively declining, the 1980 data probably represent slightly higher values of tar yields than were actually being used at that time.

Conclusions

1. The proportion of current regular smokers declined steadily between 1965 and 1980. The decline was steeper among males (from 52.1 to 37.9 percent) than among females (from 34.2 to 29.8 percent).
2. The proportion of never smokers increased steadily from 1965 to 1980 among males (27.6 to 31.6 percent), except those 45 years old and older. Among females, only 20- to 34-year-olds showed an increase in proportion of never smokers.
3. The mean number of cigarettes smoked per day by current smokers increased slightly from 1970 to 1980 (from 20 to 21.7 cigarettes).
4. Males smoked a higher mean number of cigarettes throughout the 1970–1980 period, but the number for males and females increased about the same amount.
5. Heaviest daily consumption was in the middle-aged group (35–65 years). The greatest mean increase was observed among women aged 35 to 44.
6. The proportion of current smokers who smoked less than 20 cigarettes per day decreased between 1970 and 1980 (39.8 to 33.8 percent); the proportion smoking one pack exactly (20 cigarettes) remained constant (34.9 to 34.8 percent); the proportion smoking from 21 to 39 cigarettes increased slightly (13.7 to 14.5 percent); and the proportion smoking two or more packs per day increased (11.4 to 16.8 percent).
7. The proportion of current smokers who attempted to quit three or more times decreased slightly from 1966 to 1980 (41.2 to 38.7 percent).
8. The proportion of former smokers having made three or more attempts to quit increased sharply (36 to 53.2 percent) from 1966 to 1975.
9. The proportion of current smokers who had attempted to quit during the past year increased from 1966 to 1980 (26.0 to 36.7 percent).
10. Among current smokers, younger persons and females were more likely than older persons and males to have attempted to quit during the previous 12 months.
11. The proportion of former smokers who had attempted to quit during the previous 12 months decreased from 1966 to 1975 (13.8 to 9.8 percent).
12. Among former smokers, younger persons and females were more likely than older persons and males to have quit during the previous 12 months.

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