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Smoking and Other Tobacco Use: United States, 1987

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This report shows statistics for the U.S. adult population on use of cigarettes, chewing tobacco, snuff, pipes, and cigars; knowledge of health risks associated with use of these products; methods used in attempts to quit smoking; and relationships between cigarette smoking and selected other health-related behaviors.

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Cooperation of the U.S. Bureau of the Census

Under the legislation establishing the National Health Interview Survey, the Public Health Service is authorized to use, insofar as possible, the services or facilities of other Federal, State, or private agencies.

In accordance with specifications established by the Division of Health Interview Statistics, the U.S. Bureau of the Census, under a contractual arrangement, participated in planning the survey and collecting the data.

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Symbols

- - -	Data not available
. . .	Category not applicable
–	Quantity zero
0.0	Quantity more than zero but less than 0.05
Z	Quantity more than zero but less than 500 where numbers are rounded to thousands
*	Figure does not meet standard of reliability or precision (more than 30-percent relative standard error in numerator of percent or rate)
#	Figure suppressed to comply with confidentiality requirements

Smoking and Other Tobacco Use

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Introduction

The Surgeon General has identified cigarette smoking as "the chief, single, avoidable cause of death in our society and the most important public health issue of our time" (DHHS, 1986a). Approximately 390,000 lives are lost each year from smoking, primarily from lung cancer, cardiovascular disease, and chronic obstructive lung disease (DHHS, 1989). Since the first Surgeon General's Report on Smoking and Health in 1964 (DHEW, 1964), evidence linking tobacco use to illness, injury, and death has continued to mount. Tens of thousands of studies have documented the adverse health consequences of tobacco use, and this ever-growing literature has been reviewed in succeeding reports of the Surgeon General. The following are selected summary statements taken from some of these reports:

> "Cigarette smoking is the major cause of lung cancer in the United States ... the majority of lung cancer mortality in the United States is due to cigarette smoking" (DHHS, 1982). This same report identified cigarette smoking as a major cause of cancers of the larynx, oral cavity, and esophagus and as a contributory factor in the development of cancers of the bladder, kidney, and pancreas.
>
> "Cigarette smoking should be considered the most important of the known modifiable risk factors for coronary heart disease in the United States" (DHHS, 1984a).
>
> "Cigarette smoking is the major cause of chronic obstructive lung disease in the United States for both men and women. The contribution of cigarette smoking to chronic obstructive lung disease morbidity and mortality far outweighs all other factors" (DHHS, 1984b).
>
> "Involuntary smoking is a cause of disease, including lung cancer, in healthy nonsmokers" (DHHS, 1986a).
>
> "The risk of spontaneous abortion, fetal death, and neonatal death increases directly with increasing levels of maternal smoking during pregnancy..." (DHHS, 1985).
>
> "The children of parents who smoke compared with the children of nonsmoking parents have an increased frequency of respiratory infections, increased respiratory symptoms, and slightly smaller rates of increase in lung function as the lung matures" (DHHS, 1985).
>
> "Cigarettes and other forms of tobacco are addicting.... The pharmacologic and behavioral processes that determine tobacco addiction are similar to those that determine addiction to drugs such as heroin and cocaine" (DHHS, 1988).

The available literature on health risks associated with smokeless tobacco was recently reviewed by an Advisory Committee of the Surgeon General. Its findings were released in a special report, *The Health Consequences of Using Smokeless Tobacco* (DHHS, 1986b). The committee concluded that use of smokeless tobacco can cause cancer in humans, can lead to nicotine dependence or addiction, and can lead to a number of noncancerous oral pathologies. Similar conclusions have been reached by a National Institutes of Health Consensus Development Conference on "Health Implications of Smokeless Tobacco" (DHHS, 1986c) and by the International Agency for Research on Cancer (1984).

Pipe and cigar smokers have been found to be at increased risk for cancers of the oral cavity, larynx, pharynx, and esophagus. Pipe smoking is causally related to cancer of the lip. Pipe and cigar smokers are also more likely than nonsmokers to die from cancer, coronary heart disease, chronic bronchitis, emphysema, and peptic ulcer (DHEW, 1979).

The 1990 Health Promotion Objectives for the Nation, published by the U.S. Public Health Service in 1980, identified smoking as one major area deserving public policy attention (Office of Disease Prevention and Health Promotion, 1980). In 1986, the Office of Disease Prevention and Health Promotion published a midcourse review of progress made toward achieving these objectives (Office of Disease Prevention and Health Promotion, 1986). This review, based in part on data from the 1985 National Health Interview Survey of Health Promotion and Disease Prevention (NCHS, 1986, 1988b), suggested that substantial progress had already been made in the area of smoking. Although the 1987 National Health Interview Survey of Cancer Epidemiology and Control was not designed specifically to monitor progress toward the 1990 Objectives, to some extent it serves this purpose.

The Health Promotion Objectives for the Nation, which included 226 objectives in 15 priority areas, provide a backdrop against which tobacco use may be examined in a broader context. Cigarette smoking and other tobacco use often occur in combination with other behaviors known to

increase risk of disease and disability. To understand why people engage in harmful behaviors, such as smoking, it may be helpful to examine other behaviors that contribute to the perpetuation of general health risk-taking behavior. It may be that modifications in other aspects of smokers' lives will enhance the probability of success in their efforts to stop smoking.

This report presents selected findings from the 1987 National Health Interview Survey of Cancer Epidemiology and Control. Prevalence of use of cigarettes, chewing tobacco, snuff, pipes, and cigars is shown by sex, age, education, family income, race, Hispanic origin, geographic region, and marital status. Knowledge and opinions related to the health consequences of smoking and the health benefits of quitting smoking are shown by cigarette smoking status. Reasons for trying to quit smoking and methods used in attempts to quit are shown separately for current and former smokers. Knowledge of the risks of mouth and throat cancer associated with use of noncigarette tobacco products is shown by cigarette smoking status. The relationship between cigarette smoking and selected other health-related behaviors, knowledge, and social conditions such as alcohol consumption, eating habits, vitamin use, health beliefs, social support, and use of preventive care, are also discussed. Finally, the proportion of persons reporting a cancer diagnosis in themselves or in a family member is shown by smoking status.

Highlights

- About 33 percent of U.S. adults used some form of tobacco on a regular basis in 1987: 38.9 percent of men and 27.2 percent of women.
- Approximately 29 percent of U.S. adults—49 million individuals—currently smoked cigarettes.
- Prevalence of heavy smoking was greater among males than females: Only 5 percent of the female population smoked 25 cigarettes or more per day compared with 10 percent of males.
- Overall, smokers knew less about specific health consequences of smoking than nonsmokers.
- Among persons who knew that smoking was related to emphysema, lung cancer, chronic bronchitis, cancer of the mouth and throat, and heart disease, smokers were less likely to think that quitting smoking would reduce the risks of getting these diseases.
- Health concerns were the most common reasons given by current smokers and former smokers for quitting or trying to quit smoking. Pressure from family and friends was the next most common reason.
- Quitting "cold turkey" was the most popular method of smoking cessation: 88.7 percent of former smokers and 84 percent of current smokers who had tried to quit at least once reported quitting "cold turkey."
- Prevalence of use of chewing tobacco was 4.0 percent for males and 0.3 percent for females.
- Prevalence of use of snuff was 3.1 percent for males and 0.5 percent for females overall; among males, the highest prevalence, 6.4 percent, was found in the age group 18–24 years of age.
- Among males, 6.1 percent, representing 4.9 million individuals, were using some form of smokeless tobacco—either chewing tobacco or snuff or both. An estimated 8.9 percent, or 1.1 million males, between the ages of 18 and 24 years were using some form of smokeless tobacco.
- Among males, 3.4 percent were current pipe smokers and 5.3 percent smoked cigars. Use of either product by women was negligible: only 0.1 percent of women smoked cigars and fewer than 0.1 percent smoked pipes.
- Smokers were more than three times as likely as never smokers to drink beer five times or more per week: 10.7 compared with 3.0 percent.
- Among persons who drank beer, the most prevalent beverage consumed, smokers were much more likely to drink three beers or more at a time (44.6 percent) than were former smokers (26.4 percent) or persons who had never smoked (28.3 percent).
- Current smokers were less likely to eat three meals a day than were former smokers or persons who had never smoked; female current smokers were the least likely of any of the groups shown to eat regular meals, with less than 30 percent reporting this behavior.
- More than one-third of U.S. adults had made some changes to their diet for health reasons. Current smokers were the least likely (30.3 percent) and former smokers were the most likely (46.5 percent) to have made dietary changes.
- Current smokers were less likely to be overweight (22.1 percent) than former smokers (30.5 percent) or never smokers (24.5 percent).
- About one-half of U.S. adults reported taking some type of vitamin or mineral supplement in the past year. Of any of the groups shown in this report, male smokers were the least likely (38.7 percent) and female former smokers the most likely (55.1 percent) to have taken some type of supplement.
- Smokers were significantly less likely to participate in social or religious activities than were nonsmokers.
- Former smokers were more likely than the other smoking groups to have had preventive care examinations such as a digital rectal examination, a blood stool test, a proctoscopic examination, a Pap smear, or a breast examination by a health professional.
- Former smokers were almost twice as likely to have ever been diagnosed with cancer (8.2 percent) as were current smokers (4.8 percent) or persons who had never smoked (4.4 percent).
- Female current smokers were about twice as likely as male current smokers to have been diagnosed with cancer (6.5 percent and 3.1 percent, respectively).
- Having a parent or sibling who had been diagnosed with cancer was more common among former smokers: 41.2 percent of former smokers reported having a blood relative who had had cancer, compared with 33.1 percent of current smokers and 30.3 percent of persons who had never smoked.

Source and limitations of the data

The data presented in this report are based on the Cancer Epidemiology and Control section of the 1987 National Health Interview Survey (NHIS). The NHIS of Cancer Epidemiology and Control (NHIS-CEC) was a collaborative effort of the National Center for Health Statistics (NCHS) and the National Cancer Institute. Both agencies provided funding and participated in the planning and development of the questionnaires. The staffs of NCHS and the National Cancer Institute are performing analyses and preparing reports based on the NHIS-CEC data. Some of these, including the present report, are collaborative projects of two agencies.

The NHIS is a continuous, nationwide, household interview survey of the civilian noninstitutionalized population of the United States conducted by NCHS. Interviews are conducted for NCHS by the interviewing staff of the U.S. Bureau of the Census. The sample is selected so that a national probability sample of households is interviewed each week throughout the year, permitting production of annual estimates without seasonal bias. Information is obtained about the health and sociodemographic characteristics of each household member.

The NHIS consists of two parts: (a) the basic health and sociodemographic section, which remains the same every year; and (b) the special topics section, which changes from year to year. Cancer Epidemiology and Control (CEC) was the special topic in 1987. Two questionnaires were employed for this topic, one covering cancer epidemiology and the other covering cancer control. Each questionnaire was administered to a randomly selected one-half of the total CEC sample.

The interviewed sample for 1987 for the basic health questionnaire was composed of 47,240 households containing 122,859 persons. The total noninterview rate was about 4.7 percent; 2.9 percent was the result of respondent refusal, and the remainder was primarily due to failure to locate an eligible respondent at home after repeated calls. For the section on Cancer Epidemiology and Control, one adult 18 years of age or over per family was randomly selected to respond and self-response was required. A total of 22,080 questionnaires were completed with the Cancer Epidemiology questionnaire and 22,043 with the Cancer Control questionnaire, for a total of 44,123 completed interviews. This represents an estimated 86 percent of identified eligible respondents. The combined overall response rate for the CEC can be estimated as the product of the response rate for the basic questionnaire (95 percent) and the CEC questionnaire (86 percent) or 82 percent.

A description of the survey design, the methods used in estimation, and general qualifications of the data obtained from the survey are in appendix I. Because the estimates shown in this report are based on a sample of the population, they are subject to sampling errors. Therefore, particular attention should be paid to the section entitled "Reliability of estimates." Sampling errors are generally low. However, for some statistics in which the subgroup is particularly small or the percents very low, sampling errors may be quite high. Formulas for computing estimated sampling errors are shown in appendix I.

Many of the terms used in this report are defined in appendix II. Questionnaire items pertaining to data presented are shown in appendix III. The entire NHIS-CEC questionnaire is provided in the 1987 edition of the annual NHIS report entitled *Current Estimates From the National Health Interview Survey: United States, 1987* (NCHS, 1988c).

The NHIS-CEC covers a wide variety of topics including acculturation, medical care, food knowledge, cancer knowledge and attitudes, cancer screening knowledge and practice, smoking and other tobacco use, occupational exposures, height and weight, food intake frequency, vitamin and mineral intake, reproduction and hormone use, family history of cancer, cancer survival, and social relationships and activities.

In this report, persons from whom valid responses were not obtained are excluded from the analysis. For most questions, "don't know" was not a valid response; exceptions were questions of knowledge in which "don't know" was a valid response.

In this report, terms such as "similar" and "no difference" mean that there is no statistically significant difference between the measures being compared. Terms relating to difference (for example, "greater than" or "less than") indicate that differences are statistically significant. The t test, with a critical value of 1.96 (0.05 level of significance), was used to test all comparisons. Lack of comment regarding the difference between any two statistics does not mean the difference was tested and found to be not significant.

Findings

Prevalence of cigarette smoking

Respondents were classified according to smoking status. Cigarette smoking status was determined using a standard classification system consistent with past National Health Interview Surveys (NHIS). Respondents who had not smoked at least 100 cigarettes in their lifetimes were classified as "never smokers." Those who reported smoking 100 or more cigarettes, but who were not smokers at the time of interview, were classified as "former smokers." Those who had smoked at least 100 cigarettes and reported current use of cigarettes were classified as "current smokers."

Approximately 29 percent of U.S. noninstitutionalized adults aged 18 years and over—49 million individuals—currently smoked cigarettes in 1987 (table 1). As in past surveys (NCHS, 1988a), smoking prevalence was higher among males (31.2 percent) than among females (26.5 percent); this occurred in all age groups except ages 18–24 years for which the male-female difference was not statistically significant. The difference in smoking prevalence between males and females (4.7 percent) corresponds to the difference in prevalence of heavy smoking. Among the general population, only 5 percent of females smoked 25 cigarettes or more per day, compared with 10 percent of males.

Populations can be compared on their history of smoking cessation by calculating quit ratios—the number of former smokers divided by the number of ever smokers (current plus former) (DHHS, 1989). The resulting ratio is the proportion of ever smokers who have quit at an unspecified time in the past. For males this ratio is 0.48 and for females it is 0.40. Thus, although males were more likely to smoke and to smoke heavily, relatively more males than females had quit smoking at the time of interview.

Prevalence was lower in the 18–24 year age group (27.1 percent) than in the 25–64 year age groups (33.2–30.9 percent). This may, in part, represent a cohort effect because smoking rates have declined among adolescents in recent years (National Institute on Drug Abuse, 1986). As these adolescents have matured into young adults, they have maintained lower smoking rates, which distinguish them from older cohorts. Although most smokers begin smoking by age 20 years, some initiation does take place during the early twenties (Escobedo and Remington, 1989), and this further contributes to the difference in prevalence between persons age 18–24 years and older persons.

Prevalence was lowest in the oldest age groups. Prevalence among those 65–74 years of age was approximately two-thirds that of the younger age groups, and dropped by another 50 percent among those age 75 years and over. Cigarette smokers experience higher morbidity and mortality than nonsmokers, and this pattern becomes increasingly apparent with age (DHEW, 1979). The differential mortality among smokers decreases the prevalence of smoking, and many older smokers are motivated to quit by the development of smoking-related illnesses (Ockene, 1987). Analyses of past national surveys indicate that reduced prevalence among older persons cannot be attributed to a cohort effect (McGinnis, Shopland, and Brown, 1987).

Table 2 displays smoking status according to sex, education, family income, race, Hispanic origin, geographic region, and marital status. Two measures of socioeconomic status (SES) were used—education and income; smoking prevalence was found to be higher among lower SES persons. Within both sexes prevalence decreased regularly with increased years of education. Similarly, prevalence decreased with increased income for households earning more than $10,000–19,999 annually. The fact that persons in the lowest income group (less than $10,000 per year) were no more likely to smoke than persons in the next higher income group ($10,000–19,999) may reflect economic constraints in purchasing tobacco products experienced by those in poverty.

Consistent with past surveys (NCHS, 1988a) smoking prevalence was highest among black males while there was little difference between black and white females. Black females had a quit ratio similar to that of black males (0.29 and 0.33, respectively) and considerably below those of white females and males (0.41 and 0.50, respectively). Hispanic males did not differ from non-Hispanic males, but Hispanic females had the lowest smoking rate of any racial or ethnic group in table 2. The quit ratios for Hispanic females and males (0.40 and 0.41, respectively) did not differ from non-Hispanic females (0.40), but were lower than non-Hispanic males (0.49). It should be noted that the Hispanic and non-Hispanic categories include black and white persons. Because many minority persons are also poor and poorly educated, multivariate techniques are necessary to evaluate the relative influences of race, ethni-

city, and SES. Regardless of the determinant variables, it is clear that the public health campaigns of the past 25 years have been less effective in promoting smoking cessation among minority persons and women than among white males (Fiore, Novotny, and Pierce, 1989).

Smoking prevalence was highest in the southern United States and lowest in the West. Geographic variation was more pronounced among males than females.

Smoking prevalence varied with marital status. Within both sexes, prevalence was highest among divorced and separated persons and lowest among the widowed. This effect may be partially attributed to age because persons usually are widowed in their later years, while divorces and separations occur during middle adult years. However, the observed prevalence for those divorced or separated, 43.9 percent, is higher by at least 10 percentage points than that within any age category used. Again, multivariate techniques will be necessary to determine the relative importance of marital status in the presence of other sociodemographic variables.

In 1965, one year following the first Surgeon General's Report on Smoking and Health, 52.1 percent of adult males and 34.2 percent of females were smokers (NCHS, 1988a). After age adjustment for comparability, the current estimates represent a 40-percent decrease in smoking prevalence among males and a 21-percent decrease among females. This decrease in prevalence is a credit to the good sense of the American people and the combined efforts of biomedical scientists, public health experts, and organizations within the private sector. But given the enormity of the health risks associated with cigarette smoking and the burden to society from smoking-related morbidity and mortality, the current level of smoking remains unacceptably high.

Knowledge and beliefs about the health consequences of smoking

Knowledge of the health consequences of smoking is generally believed to be an important tool in motivating smokers to try to quit smoking. A Surgeon General's warning is displayed on each package of cigarettes in the belief that knowledge of the potential for disease and disability caused by cigarette smoking will deter at least some people from smoking and may reduce cigarette consumption in those who continue to smoke. Increasing knowledge of the risks associated with cigarette smoking is among the smoking-related health objectives for the Nation. Tables 3–5 show variations in knowledge and beliefs related to the health consequences of smoking, according to cigarette smoking status. The 1985 NHIS of Health Promotion and Disease Prevention also contained data on knowledge of the health consequences of smoking (NCHS, 1986, 1988b). The data shown in the present report, however, are not strictly comparable to those from the 1985 survey due to differences in questionnaire wording.

Overall, smokers knew less about specific health consequences of smoking than nonsmokers (table 3). Among persons who believed that specific diseases were related to smoking, smokers were less likely to think that quitting would reduce their risks of the disease (table 4). Smokers also were less likely to view their habit as generally detrimental to themselves or others (table 5).

Table 3 shows the percent of current, former, and never smokers who believed that smoking is related to emphysema, lung cancer, chronic bronchitis, cancer of the mouth and throat, and heart disease. Because smoking is a risk factor for each of these diseases, persons who believe there is a relationship can be considered better informed or more knowledgeable than those who do not. Overall, 82.5 percent of the adult population was aware that smoking is related to emphysema. Another 5 percent thought it might be related. Among current smokers, 76.8 percent believed that smoking was related to emphysema, compared with 87.9 percent of former smokers and 83.2 percent of persons who had never smoked. Women were only slightly more knowledgeable (83.4 percent) than men (81.5 percent), the difference being greatest among former smokers: 90.2 percent of female former smokers knew of the relationship between smoking and emphysema, compared with 86.4 percent of male former smokers.

The association between smoking and lung cancer was the most widely known of those investigated. Eighty-nine percent of adults believed that smoking was related to lung cancer, with another 5 percent saying it may be related. Although knowledge was greatest among never smokers (92.0 percent) and former smokers (91.8 percent), 82.8 percent of current smokers also knew of this risk. Knowledge levels were about the same for men and women, except among former smokers where women were slightly more knowledgeable than men.

The relationship of smoking to chronic bronchitis was the least well known of the smoking-related diseases listed. About 76 percent of persons knew that smoking and chronic bronchitis were related. As with the first two diseases, knowledge was lowest among current smokers (70.1 percent) and highest among former smokers (80.9 percent). Female current and former smokers were more knowledgeable (72.3 and 84.1 percent, respectively) than their male counterparts (68.0 percent of male current smokers and 78.7 percent of male former smokers knew of the association between smoking and chronic bronchitis).

The association between smoking and cancer of the mouth and throat was recognized by about 81 percent of adults, although only 73.5 percent of current smokers reported knowing of this risk. Knowledge levels were about the same for men and women, with female former smokers again being the most knowledgeable (87.4 percent) of any of the groups shown.

The final health risk shown in table 3 is heart disease. Knowledge of the relationship between smoking and heart disease was comparable to knowledge levels for chronic

bronchitis. Seventy-six and one-half percent of respondents knew of the heart disease risk associated with smoking. A 10-percentage-point difference separated current and former smokers: 72.5 percent of current smokers compared with 82.0 percent of former smokers believed that smoking increased one's risk of heart disease.

Table 4 shows the percent of persons 18 years of age and over who believed that stopping cigarette smoking reduces the chances of getting emphysema, lung cancer, chronic bronchitis, cancer of the mouth and throat, and heart disease. This question was limited to persons who believed that smoking was related to these diseases.

Among persons who believed that emphysema was related to smoking, 89.7 percent thought that stopping smoking would reduce the risks of getting the disease. This belief was most prevalent among former smokers (92.2 percent) and least prevalent among current smokers (86.6 percent). Men were slightly more likely to believe that stopping smoking would reduce the chances of getting emphysema (90.7 percent) than were women (88.8 percent), with male former smokers most likely to believe in the benefits of smoking cessation of any of the groups shown (92.8 percent).

The beliefs that stopping smoking reduces risks of lung cancer, chronic bronchitis, cancer of the mouth and throat, and heart disease were similar in prevalence to that of emphysema. Between 90 and 92 percent of respondents who thought that these diseases were related to smoking believed that stopping smoking would reduce the risks of getting the disease. In each case, the belief was most common among former smokers and least common among current smokers. Despite the fact that a relatively smaller proportion of smokers believes in the efficacy of smoking cessation for prevention of these serious chronic diseases, it is noteworthy that between 87 and 89 percent of smokers who believed that smoking increased their chances of getting these diseases also believed that stopping could reduce these chances.

Table 5 suggests that smokers have somewhat different perceptions of their habit than former smokers or persons who have never smoked. For example, 25.0 percent of smokers agreed with the statement that "everything causes cancer anyway, so it does not really matter if you smoke," compared with 9.6 percent of former smokers and 8.6 percent of persons who had never smoked. The findings were similar for men and women. Similarly, whereas 93.5 percent of never smokers believed that smoking in pregnancy could harm the baby, 83.7 percent of smokers held this belief—a difference of 10 percentage points. The difference of opinion between smokers and nonsmokers was even greater on the question of the effect of passive smoking. About 67 percent of current smokers believed that smoke from someone else's cigarette was harmful to the nonsmoker, whereas 88.9 percent of never smokers and 83.4 percent of former smokers held this belief. Men were somewhat less likely than women to think that cigarette smoke was harmful to the nonsmoker (79.7 and 82.9 percent, respectively), with male current smokers the least likely to hold this belief (65.3 percent). When asked whether they agreed or disagreed with the statement that most deaths from lung cancer are caused by cigarette smoking, 70.2 percent of all persons agreed; only 55.0 percent of smokers agreed. Agreement was highest among persons who had never smoked (77.8 percent) followed by persons who had smoked and quit (72.8 percent).

About 30 percent of U.S. adults believed that smoking low tar and nicotine cigarettes reduces one's risk of cancer. This belief was more common among men (34.2 percent) than among women (27.2 percent). Female former smokers were least likely to hold this belief (24.0 percent) of any of the groups shown.

Smoking in public places has become a subject of considerable discussion and regulation in recent years. Overall, 80.9 percent of U.S. adults believed that smokers should not smoke in public places where it might disturb others. The opinions of never smokers and current smokers were widely divided: 89.1 percent of never smokers agreed that smokers should not smoke in public places compared with 67.4 percent of current smokers. Women were slightly more likely to hold this belief (82.5 percent) than men (79.1 percent), and this pattern held true across all smoking status categories.

Attempts to quit smoking

Table 6 shows the proportion of current and former smokers who have ever been advised by a doctor to quit smoking. About one-half of current smokers had received such advice, compared with one-third of former smokers. The reasons for this are unclear. It may be that many former smokers quit a long time ago, before physicians began strongly encouraging patients to quit. It may be that former smokers have forgotten that they received such advice. It also could be explained by duration of exposure. That is, on average, duration of smoking would be greater for current smokers than for former smokers, and this longer duration would provide more opportunities for getting a doctor's advice.

Current and former smokers' reasons for quitting or trying to quit are compared in table 6. For each, respondents were asked whether it had been a reason they had quit or tried to quit. Multiple reasons were allowed. The most common reasons given for trying to quit were concern for future health (22.7 percent of current smokers and 22.1 percent of former smokers) and a current health symptom or problem (16.5 percent of current smokers and 20.4 percent of former smokers). Twelve to fifteen percent of both groups reported a general concern for present health (in contrast to concern related to a specific health problem) or a concern about both present and future health. About 10 percent of current smokers and 9 percent of former smokers said that pressure from family and friends was among their reasons for trying to quit smoking.

Table 6 also compares current and former smokers in terms of the methods they have used in trying to quit. The statistics for current smokers include any quit attempts they

may have made, whereas the data for former smokers are limited to the most recent quit attempt. Due to this procedure, the statistics on the proportion of smokers using a given method generally are higher than those for former smokers. However, a clear pattern emerges in the relative ranking of the quitting methods. In both groups, quitting "cold turkey" was the most commonly used method: 84.0 percent of current smokers and 88.7 percent of former smokers reported quitting "cold turkey." The next most common method used was gradually decreasing the number of cigarettes smoked: 34.6 percent of current smokers had used this method; 7.7 percent of former smokers employed this method in their most recent quit attempt. The third most commonly used quitting method was switching to low tar and nicotine cigarettes, with 21.8 percent of smokers trying to quit this way. Only 3.5 percent of former smokers used this method in their last quit attempt, but this still ranked third among the quitting methods used by former smokers.

Reactions to cigarette smoking in public places

Table A presents data on actions taken by nonsmokers when a smoker lights a cigarette. Former smokers and persons who have never smoked differed somewhat in their reactions. Neither group was likely to ask the smoker not to smoke (about 4 percent). Persons who have never smoked were more likely than former smokers to move away from the smoke (55.4 versus 45.7 percent, respectively), whereas former smokers more often reported that they did nothing (47.2 percent, compared with 36.6 percent of never smokers). Among former smokers, women were more likely to move away from the smoke (49.7 percent) than were men (42.9 percent). Male former smokers were more likely to do nothing (49.8 percent) when faced with cigarette smoke than were their female counterparts (43.3 percent).

Table A also shows the extent to which smokers and nonsmokers were annoyed by others' cigarette smoke. Although smokers were the least likely of the three groups to find other people's smoke annoying, it is noteworthy that about one-third of them were at least somewhat annoyed by others' smoke. This tended to be the case more often for female smokers (39.1 percent) than male smokers (29.2 percent). As would be expected, persons who had never smoked were the most likely to find cigarette smoke very annoying (53.8 percent). Only about 12 percent of never smokers said they were not at all annoyed by other people's smoke, compared with about 25 percent of former smokers and 66 percent of current smokers. Overall, women were more likely to be annoyed by smoke than were men.

Relationship between cigarette smoking and other tobacco use

Table 7 shows the relationship between cigarette smoking and use of chewing tobacco, snuff, pipes, and cigars. Overall, there was not a great deal of overlap in use of the various forms of tobacco. Among male current cigarette smokers, only 4.1 percent also used chewing tobacco, 3.1 percent used snuff, 4.4 percent smoked pipes, and 7.8 percent smoked cigars.

With attention focused on the harmful effects of cigarette smoke and the increasing number of smoking bans in public places, the question arises as to whether cigarette smokers may switch to smokeless tobacco products that have not been banned and upon which less media attention has been focused. This does not appear to be the case. Among male former cigarette smokers, only 4.6 percent currently use chewing tobacco and 3.0 percent use snuff.

Smoking pipes and cigars also was not common among male cigarette smokers (4.4 and 7.8 percent, respectively). Furthermore, a substantial proportion of men who have given up cigarettes have also given up pipes (30.4 percent) and cigars (26.9 percent).

Use of noncigarette tobacco among women was very limited. The numbers of women using these products are so

Table A. Percent distribution of persons 18 years of age and over by action taken in public places when another lights a cigarette and annoyance from others' cigarette smoke, according to cigarette smoking status and sex: United States, 1987

Action and annoyance level	Both sexes				Male				Female			
	Total	Never smoker	Former smoker	Current smoker	Total	Never smoker	Former smoker	Current smoker	Total	Never smoker	Former smoker	Current smoker
	Percent distribution											
Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Action taken on smoking in public												
Ask person not to smoke	4.4	4.5	4.1	...	5.0	5.5	4.2	...	3.9	3.9	3.8	...
Move away	52.3	55.4	45.7	...	48.9	53.3	42.9	...	55.1	56.7	49.7	...
Do nothing	40.0	36.6	47.2	...	42.6	37.4	49.8	...	37.8	36.1	43.3	...
Something else	3.4	3.5	3.1	...	3.5	3.9	3.0	...	3.2	3.3	3.2	...
Annoyance from others' cigarette smoke												
Very annoying	36.3	53.8	36.2	6.9	31.2	48.9	33.4	6.0	41.0	56.9	40.5	7.8
Somewhat annoying	33.0	33.9	38.5	27.1	33.0	36.9	38.3	23.2	33.0	32.0	38.9	31.3
Not at all annoying	30.6	12.3	25.2	66.0	35.8	14.2	28.3	70.8	25.9	11.1	20.6	60.9

small that differences in use by cigarette smoking status are not significant.

Prevalence of use of chewing tobacco, snuff, pipes, and cigars

Smokeless tobacco

The two primary forms of smokeless tobacco are chewing tobacco and snuff. Both are used orally, although dry snuff may be taken nasally (DHHS, 1986b). Prior to this century smokeless tobacco was the most commonly used form of tobacco. But with the advent of antispitting laws and the development of the manufactured cigarette, prevalence declined (Christen, Swason, Glover, and Henderson, 1982). As recently as the early 1970's use was confined primarily to older males (Hartge, Hoover, and Kantor, 1985); occupational groups prohibiting smoking, such as mining, textile, and lumber workers (Blot and Fraumeni, 1977; Maxwell, 1980; and Shelton, 1982); and older women in the rural southeastern United States (Rosenfeld and Calloway, 1963). In the past 10 years numerous reports from schools, some national surveys, and manufacturing data have indicated an increase in use of smokeless tobacco, especially among young males (Boyd and Associates, 1987; DHHS 1986b).

Status for use of chewing tobacco and snuff was assessed in the 1987 NHIS-CEC in a manner similar to that used for smoking status. Persons who had used either product at least 20 times were considered to be "ever users," as opposed to "never users." Ever users who continued to use smokeless tobacco at the time of interview were classified as "current users," and those who were not using smokeless tobacco were classified as "former users."

Chewing tobacco use status is shown according to age and sex in table 8. Prevalence among women is low, 0.3 percent. Due to the very low prevalence, estimates are not sufficiently stable to comment on the age distribution. Among males, the overall prevalence of use, 4.0 percent, has increased little since 1970. An NHIS survey in that year estimated 3.8 percent of males were users of chewing tobacco (DHHS, 1986b). However, the age distribution of chewing tobacco users has changed radically. In 1970 prevalence increased regularly with increasing age. In 1987, however, the prevalence of chewing tobacco use among those 18–24 years of age was as high as that of men 65 years and over.

Similar data for use of snuff are reported in table 10. Again, prevalence was negligible among females, 0.5 percent. Among males the highest prevalence, 6.4 percent, was found in the age category 18–24 years. Unlike chewing tobacco, the overall prevalence of use among males has doubled since the 1970 NHIS, 3.1 percent compared with 1.4 percent.

Some individuals use chewing tobacco and snuff, so prevalence of any smokeless tobacco use cannot be computed just by adding the individual prevalence for each product. A new variable was constructed that reflects status for use of chewing tobacco or snuff. "Current users" are current users of either or both smokeless products. "Former users" do not currently use any smokeless tobacco but can be classified as former users of at least one type. "Never users" have never used any form of smokeless tobacco. Table B presents status on this combined smokeless tobacco variable according to age and sex. The overall prevalence among males was 6.1 percent, representing approximately 4.9 million individuals. Prevalence was greatest in the youngest and oldest age groups. An estimated 8.9 percent, or 1.1 million males, between the ages of 18 and 24 years were using some form of smokeless tobacco. Another 11.3 percent in this age group have at least experimented with smokeless tobacco sufficiently to be classified as former users. Prevalence among females was 0.6 percent, and was highest among those age 65 years and over. Fortunately, young women do not appear at this time to be taking up the use of smokeless tobacco.

Table B. Percent distribution of persons 18 years of age and over by combined use of chewing tobacco and snuff, according to sex and age: United States, 1987

Sex and age	Total	Combined chewing tobacco and snuff use[1]		
		Never user	Former user	Current user
	Percent distribution			
Both sexes				
All ages	100.0	91.9	4.9	3.2
18–24 years	100.0	89.8	5.7	4.5
25–44 years	100.0	92.9	4.3	2.8
45–64 years	100.0	92.7	4.6	2.6
65–74 years	100.0	90.1	6.1	3.8
75 years and over	100.0	88.9	6.6	4.5
Male				
All ages	100.0	84.1	9.8	6.1
18–24 years	100.0	79.8	11.3	8.9
25–44 years	100.0	86.1	8.5	5.4
45–64 years	100.0	85.9	9.1	5.0
65–74 years	100.0	81.0	12.6	6.4
75 years and over	100.0	76.7	15.5	7.9
Female				
All ages	100.0	98.8	0.5	0.6
18–24 years	100.0	99.2	*0.4	*0.3
25–44 years	100.0	99.5	0.3	0.2
45–64 years	100.0	98.8	0.7	0.6
65–74 years	100.0	97.7	0.7	1.6
75 years and over	100.0	96.3	1.3	2.4

[1]People who use chewing tobacco or snuff or both.

Tables 8 and 10 present data on the frequency of use of chewing tobacco and snuff. Most users of these products did so on a daily basis, and for chewing tobacco the likelihood of being a daily user increased with age. This suggests increasing dependence over time, although age of initiation should be considered in an analysis of this nature.

Tables 9 and 11 present chewing tobacco and snuff use status according to various sociodemographic variables. Use of smokeless tobacco follows a pattern similar to cigarette smoking with respect to the measures of socioeconomic status (SES), education, and income. Prevalence for both products is higher among those with less education and with lower income. Unlike cigarettes, those in households with an income less than $10,000 were more likely to use chewing tobacco than those earning between $10,000

and $19,999. Because it is relatively inexpensive compared with cigarettes, poverty may be less likely to be a barrier to use.

Prevalence of snuff use was lower among black males than among white and non-Hispanic males. Chewing tobacco use was low among Hispanic males, but the estimate, 0.9 percent, was unreliable. Black females, however, had higher prevalences for use of chewing tobacco and snuff than white females. There is a cultural tradition of use among older black women, particularly in rural areas, and this is reflected in the age distribution of smokeless tobacco use by women (tables 8 and 10) (Christen, Swason, Glover, and Henderson, 1982). In the absence of any unforeseen shift in product types and marketing strategies, it is likely that this racial difference in use by females will disappear over time and the overall prevalence of smokeless tobacco use by women will decline even further.

Use of smokeless tobacco was more common in the South and Midwest regions and least common in the Northeast region. That same pattern of regional differences was found for use of chewing tobacco and snuff, but the size of the regional differences was greater for chewing tobacco than for snuff. Whatever were the factors that caused regional variation in the long-established chewing tobacco market, they seem to be less influential in the more recently developed snuff market. Compared with chewing tobacco, the appeal of snuff use appears to be more general across different demographic groups.

Although the health risks associated with smokeless tobacco use have received extensive publicity over the past several years, these data suggest that the level of use remains relatively high. Recent data from the U.S. Department of the Treasury indicate an 8-percent increase in U.S. manufacture of snuff between 1987 and 1988 (Department of the Treasury, 1988). The prevalence of use, especially among young males, remains a cause for concern with implications for the future health of the U.S. population.

Pipes and cigars

Pipe and cigar smoking status was determined in a manner analogous to those used for cigarette smoking and smokeless tobacco use. Respondents first were asked whether they had smoked pipes (or cigars) at least 50 times. If they answered affirmatively they were subsequently asked whether they currently smoked a pipe (or cigars). Tables 12 and 14 present pipe and cigar smoking status according to age and sex. Use of either product by women was negligible; only 0.1 percent of women smoke cigars and fewer than 0.1 percent smoke pipes. Among males, 3.4 percent were current pipe smokers and 5.3 percent smoked cigars. This represents a marked decline in prevalence since the early 1970's. An estimated 17.9 percent of males smoked pipes in 1970 and 21.2 percent smoked cigars (DHEW, 1979). Differences in survey methodology and age categories cannot account for a difference of this magnitude.

Use of pipes and cigars increased with age and was most common among males 45 to 64 years. Use of both products was less common among younger men, but among men less than 45 years of age use of cigars was twice as common as use of pipes.

There was a clear pattern of heavy use of pipes and cigars increasing with age. Daily use by current users, the mean number of days per month on which pipes or cigars were smoked, and the number of times they were smoked per day all increased with age. These relationships with age are primarily a cohort effect: That is, older persons are more likely than younger persons to smoke pipes and cigars because at the time they began smoking, those forms of tobacco use were more common than they have been recently.

Pipe and cigar smoking, in tables 13 and 15, were not as clearly related to measures of SES as was cigarette smoking. Black and white males did not differ in prevalence of pipe smoking, but black persons were less likely than white persons to smoke cigars. Hispanic persons were less likely than non-Hispanic persons to smoke either product. Pipes and cigars were less prevalent in the West than in the other three regions of the country. The pattern of use according to marital status corresponded to the age distribution of use; that is, marital status groups with a young age composition (for example, never married) were less likely to use pipes and cigars than marital status groups with an older age composition (for example, separated and divorced).

Combinations of tobacco use habits

About 39 percent of U.S. men and about 27 percent of U.S. women used some form of tobacco on a regular basis (table C). Women's use was limited almost entirely to cigarette smoking: 26.4 percent of women smoked only cigarettes and used no other tobacco product. Among men, cigarette smoking was, by far, the most common smoking habit as well: 26.5 percent of men smoked cigarettes only. However, use of other tobacco products, either alone or in combination with cigarettes, was reported by a substantial number of men. About 1.8 percent of men smoked only

Table C. Percent of persons 18 years of age and over by sex and selected combinations of tobacco use habits: United States, 1987

Tobacco use	*Both sexes*	*Male*	*Female*
		Percent	
Any tobacco use	32.7	38.9	27.2
Cigarettes only	26.5	26.5	26.4
Pipes only	0.5	1.2	*–
Cigars only	0.9	1.8	*–
Chewing tobacco only	0.9	1.8	0.1
Snuff only	0.7	1.2	0.3
Chewing and snuff only	0.3	0.6	0.1
Any combination of cigarettes and other smoking tobacco (only)	1.4	2.9	–
Any combination of cigarettes and smokeless tobacco (only)	0.7	1.5	–
Any combination of cigarettes and any other tobacco or combination of tobaccos	2.2	4.7	–

cigars; another 1.8 percent used only chewing tobacco; and 1.2 percent used only snuff. Almost 5 percent of men smoked cigarettes in combination with at least one other tobacco product.

Oral cancer risks associated with noncigarette tobacco use

Table 16 shows the proportion of U.S. adults who believed that use of chewing tobacco, snuff, pipes, and cigars increases one's risk of developing oral cancer. The data are shown by smoking status to assess the extent to which current or former smokers may view noncigarette tobacco products as a "safe" alternative to cigarettes. The message that chewing tobacco increases the risk of oral cancer has reached about 84 percent of the adult population. Risks associated with snuff, pipes, and cigars were somewhat less well known. Still, over three-fourths of U.S. adults understand that these products increase the chances of developing cancer of the mouth and throat.

Current cigarette smokers were somewhat less likely to believe that cancer risks are increased by using any of these noncigarette tobacco products than are former or never smokers. Except in the case of chewing tobacco, male cigarette smokers tended to be more aware of the oral cancer risk associated with use of other tobacco products than were female cigarette smokers. In all cases, however, at least two-thirds of smokers recognized that use of noncigarette tobacco products was not risk free.

Relationship between cigarette smoking and selected health behaviors, beliefs, knowledge, and social conditions

Smoking has been shown to be related to other unhealthy behaviors (Hendershot and Bloom, 1987; NCHS, 1988d). Understanding the relationship between smoking and other health behaviors will assist policymakers and health educators in tailoring educational programs that will improve the success rate for general health risk reduction, especially smoking cessation.

Table 17 presents data on the extent to which smokers were more or less likely than former smokers and never smokers to engage in other health-related behaviors, hold particular health-related beliefs, maintain social ties conducive to health, seek preventive care, or have a family history of cancer. Each of these factors is known or suspected to be associated with health status. In some cases, the association with health lacks conclusive scientific evidence. Even in these cases, engaging in such behaviors may be suggestive of a general concern for one's health and a predisposition to take actions to increase the chances of favorable health outcomes. Overall, table 17 suggests that smokers were less likely to take health-protective action in their daily lives than were nonsmokers.

Alcohol consumption

The first set of behaviors shown in table 17 concerns consumption of beer, wine, and liquor. The NHIS-CEC contained separate questions on each type of alcoholic beverage. Beer was clearly the most popular alcoholic beverage among smokers and nonsmokers. Table 17 shows the percent of each group that reported drinking beer five times or more each week. Overall, 6.5 percent of the adult population drank beer this often. Smokers were more than three times as likely as never smokers to consume beer this frequently (10.7 compared with 3.0 percent). Men and women differed substantially in their beer consumption, with men more than five times as likely to be frequent beer drinkers (11.6 percent) as women (2.0 percent), regardless of smoking status. Among male current smokers, 17.1 percent drank beer five times or more per week compared with 4.0 percent of female current smokers.

Among people who drank beer, one-third said they consumed three beers or more at a time. Current smokers were the most likely to drink this heavily (44.6 percent) compared with former smokers (26.4 percent) and persons who have never smoked (28.3 percent).

Frequent consumption (five times or more per week) of wine or liquor was found to be uncommon. Only about 2 percent of respondents said they drank either of these beverages five times or more per week on the average. Wine consumption appeared to be slightly more popular among former smokers while consumption of liquor was about the same among current and former smokers and somewhat above that of persons who have never smoked. Among persons who drank these beverages, however, smokers still were the most likely to consume three drinks or more at a time when compared with nonsmokers.

Eating habits

Current smokers were less likely to eat three meals a day on weekdays and on weekends than were former or never smokers. Only about one-third of smokers reported eating three meals a day during the week or on weekends. Female current smokers were the least likely of any of the groups shown to eat regular meals, with less than 30 percent reporting this behavior. In contrast, about one-half of nonsmokers (both former and never) ate three meals a day during the week. Among these groups, the percents dropped somewhat on weekends to about 43–44 percent, still well above that of smokers.

Like breakfast, snacking habits may be an indicator of a general predisposition to taking care of one's health, although the findings in table 17 are unremarkable. Among women, snacking habits did not vary by smoking status. Overall, about one-fourth of women avoided eating snacks either during the week or on weekends. Among men, former smokers were somewhat more likely to avoid snacks than were either current smokers or men who had never smoked. Like women, about one in four men, overall, avoided snacks.

Respondents to the NHIS-CEC were asked directly if they had made any changes to their diet for health reasons and, if so, what those changes were. Table 17 shows the proportion who said they had made some changes but does not elaborate on the nature of those changes. A little more than one-third of respondents said they had made some changes to their diet. As might be expected, current smokers were the least likely (30.3 percent) and former smokers were the most likely (46.5 percent) to have made dietary changes. In each smoking status category, women were more likely than men to have made these changes.

Overweight is a reflection of a combination of health behaviors (eating habits, exercise levels) and genetics. About one-fourth of U.S. adults were 20 percent or more above their desirable body weight in 1987. Other research has shown smokers to be more likely to maintain desirable weight than nonsmokers, especially former smokers (NCHS, 1988d). The findings in table 17 substantiate this but the results vary somewhat by sex. Overall, current smokers were less likely to be overweight (22.1 percent) than were former smokers (30.5 percent) or never smokers (24.5 percent). Among women, 20.3 percent of current smokers were 20 percent or more above desirable body weight compared with 24.8 percent of former smokers and 24.3 percent of never smokers. Among men, 23.8 percent of current smokers were overweight, compared with 34.2 percent of former smokers and 24.9 percent of never smokers.

Vitamin use

Use of vitamins is included in table 17 as an indicator of concern for health. Taking vitamins is one action people can take to protect their health. The extent to which current smokers, former smokers, and never smokers engage in this behavior may be a reflection of a more global health orientation. The types of vitamins included were not selected for any particular known effect on health outcomes.

About one-half of U.S. adults took some type of vitamin or mineral supplement in 1987. About 4 in 10 took a multivitamin and about 1 in 4 took vitamin C. Use of vitamins A and E was much less common (4.2 and 10.0 percent, respectively). Among men, use of any vitamin or mineral supplement was substantially lower for smokers (38.7 percent) than for former smokers (47.3 percent) or men who had never smoked (46.5 percent). Among women, former smokers were the most likely to have used a supplement (65.2 percent) while current smokers and never smokers did not differ significantly in their rates of use (55.1 versus 56.7 percent, respectively).

Knowledge and beliefs

About 83 percent of U.S. adults believed that one's diet affects the risk of disease. Male smokers were the least likely (78.1 percent) and female former smokers were the most likely to hold this belief (88.6 percent). About 83–84 percent of the other groups held this belief.

The importance of fiber in the diet has received much attention in recent years. Table 17 suggests that the public has gotten the message. Ninety-six percent of NHIS-CEC respondents had heard of food fiber. Knowledge levels of men and women did not differ and were universally high across smoking status categories.

Social support

Social support systems have been suggested as having an important influence on mental and physical well-being. Social support can influence health in a number of ways. One of these is by encouraging people to engage in healthful behaviors. The social support characteristics shown in table 17 are suggestive of the extent to which current smokers, former smokers, and never smokers are "connected" to others around them and, therefore, are likely to be influenced to engage in healthful behaviors.

Male smokers and former smokers were less likely (82.5 percent) than men who had never smoked (87.0 percent) to have at least one friend they could call on for help. Male smokers also were less likely to have at least one relative they could call on (86.1 percent) compared with never smokers (89.5 percent). Like male smokers, female smokers were the least likely to have a relative they could call for help (89.9 percent), compared with former smokers (92.5 percent) and never smokers (93.0 percent), but the availability of a friend did not vary by smoking status for women.

Participation in social and religious activities is another indicator of social connectedness. NHIS-CEC respondents were asked the frequency with which they participated in group activities. Smokers were significantly less likely to report participation in group activities at least once a year (53.8 percent) compared with former smokers (64.1 percent) and persons who had never smoked (67.4 percent). Participation levels were about the same for men and women who were either current smokers or former smokers. Among never smokers, however, men were much more likely to have participated in group activities than were women.

Religious attendance was lowest among smokers: 55.5 percent attended a religious service at least once in the past year, compared with 68 percent of former smokers and 75.1 percent of never smokers. Women were more likely to have attended a religious service than men, across all smoking status categories, but the relationship to smoking was the same for both sexes: Current smokers were the least likely and never smokers were the most likely to report religious attendance.

Preventive care

Seeking preventive care is another important aspect of health promoting behavior. Table 17 highlights the extent to which current, former, and never smokers differ in their use of selected preventive care services: ever having had a digital rectal examination, a blood stool test, or a procto-

scopic examination; having had a Pap smear or breast examination in the past year; or ever having had a mammogram (women only). Except for Pap smear testing, table 17 shows that former smokers are much more likely to have obtained these tests than either current smokers or never smokers. This does not necessarily indicate that smoking cessation occurs as part of a constellation of health conscious behaviors. It may be that former smokers discovered a health problem through these tests and gave up smoking for this reason. It also could be, however, that people who are health conscious enough to quit smoking are prone to take care of their health in other ways.

Breast self-examination is somewhat different from the other behaviors shown in table 17 because it does not involve a health professional. It is, nonetheless, a preventive health behavior. This question was asked only of women over the age of 40 years. About 52 percent of this group reported that they did breast self-examination at least 12 times a year with no differences observed between smoking and nonsmoking women.

Cancer history

The final section of table 17 highlights differences in the personal and family histories of cancer of smokers and nonsmokers. Former smokers were almost twice as likely to have ever been diagnosed with cancer (8.2 percent) as were current smokers (4.8 percent) or persons who had never smoked (4.4 percent). Across all smoking status categories, women were more likely than men to have received a cancer diagnosis, with female current smokers about twice as likely as male current smokers to have been diagnosed with cancer (6.5 and 3.1 percent, respectively).

Having a parent or sibling who had been diagnosed with cancer was also more common among former smokers: 41.2 percent of former smokers reported having a blood relative who had had cancer, in contrast to 33.1 percent of current smokers and 30.3 percent of persons who had never smoked. Among men, having a family history of cancer was most common among former smokers, followed by current smokers. For women this same pattern is observed, but it was not statistically significant. Persons who had never smoked were least likely to have a relative with cancer. These differences may be explained, in part, by the inclination of smokers to quit smoking when they are faced with a cancer diagnosis either in themselves or in a family member. The low cancer prevalence among never smokers is consistent with a lower risk associated with abstinence from smoking. The lower prevalence of cancer in family members suggests that perhaps abstinence from smoking and practice of healthy behaviors in general may cluster in families.

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List of detailed tables

Cigarette smoking

Chewing tobacco, snuff, pipes and cigars

Cigarette smoking and other health behaviors

Table 1. Percent distribution of persons 18 years of age and over by cigarette smoking status and amount smoked, according to sex and age: United States, 1987

Sex and age	Total	Cigarette smoking status			Amount smoked			
		Never smoker	Former smoker	Current smoker	Less than 15	15–24	25–34	35 and more
Both sexes				Percent distribution				
All ages	100.0	48.4	22.8	28.8	31.8	41.0	13.5	12.8
18–24 years	100.0	64.9	8.0	27.1	44.7	42.3	8.8	3.7
25–44 years	100.0	47.2	19.6	33.2	30.5	40.6	14.4	13.6
45–64 years	100.0	39.3	29.8	30.9	25.7	41.3	15.0	17.2
65–74 years	100.0	44.2	36.8	19.0	34.1	43.4	11.4	10.0
75 years and over	100.0	61.5	29.6	8.9	50.1	33.2	9.7	*6.1
Male								
All ages	100.0	39.9	28.9	31.2	27.6	39.0	15.7	16.9
18–24 years	100.0	65.1	6.7	28.1	40.8	45.0	9.5	4.5
25–44 years	100.0	42.3	22.1	35.6	26.9	37.9	16.5	17.6
45–64 years	100.0	26.4	40.1	33.5	20.8	37.5	18.3	22.9
65–74 years	100.0	25.4	54.4	20.2	27.8	43.3	13.7	14.3
75 years and over	100.0	37.4	51.4	11.3	50.2	31.7	*7.1	*9.4
Female								
All ages	100.0	56.0	17.4	26.5	36.2	43.2	11.2	8.6
18–24 years	100.0	64.7	9.2	26.1	48.7	39.7	8.0	3.0
25–44 years	100.0	51.9	17.3	30.8	34.4	43.5	12.1	9.2
45–64 years	100.0	50.7	20.7	28.6	30.9	45.1	11.6	11.4
65–74 years	100.0	60.0	22.0	18.0	40.0	43.4	9.3	5.9
75 years and over	100.0	76.0	16.5	7.5	50.0	34.6	*12.1	*3.1

Table 2. Percent distribution of persons 18 years of age and over by sex and cigarette smoking status, according to selected sociodemographic characteristics: United States, 1987

Sociodemographic characteristic	Both sexes				Male				Female			
	Total	Never smoker	Former smoker	Current smoker	Total	Never smoker	Former smoker	Current smoker	Total	Never smoker	Former smoker	Current smoker
	Percent distribution											
All persons	100.0	48.4	22.8	28.8	100.0	39.9	28.9	31.2	100.0	56.0	17.4	26.5
Education level												
Less than 12 years	100.0	42.2	22.5	35.3	100.0	27.1	32.3	40.5	100.0	55.5	13.9	30.7
12 years	100.0	45.7	21.9	32.4	100.0	36.6	27.6	35.9	100.0	53.0	17.4	29.6
More than 12 years	100.0	54.8	24.1	21.1	100.0	49.9	28.2	22.0	100.0	60.0	19.8	20.3
13–15 years	100.0	52.2	22.3	25.6	100.0	46.7	26.5	26.8	100.0	57.2	18.4	24.4
16 years or more	100.0	57.7	26.0	16.3	100.0	52.9	29.7	17.4	100.0	63.5	21.5	15.1
Family income												
Less than $10,000	100.0	51.8	16.7	31.5	100.0	40.9	23.2	35.9	100.0	58.2	12.9	29.0
$10,000–$19,999	100.0	44.6	22.6	32.8	100.0	33.6	30.1	36.3	100.0	53.8	16.3	29.8
$20,000–$34,999	100.0	46.9	22.3	30.8	100.0	39.3	27.1	33.7	100.0	54.6	17.5	27.9
$35,000–$49,999	100.0	48.7	25.3	26.0	100.0	42.5	31.0	26.5	100.0	55.2	19.4	25.3
$50,000 or more	100.0	50.5	28.0	21.5	100.0	45.4	31.4	23.2	100.0	56.2	24.3	19.5
Race												
White	100.0	47.3	24.1	28.5	100.0	39.1	30.4	30.5	100.0	54.8	18.4	26.7
Black	100.0	52.3	14.8	32.9	100.0	42.3	18.8	39.0	100.0	60.3	11.6	28.0
Hispanic origin												
Hispanic	100.0	60.3	16.1	23.6	100.0	49.3	20.7	30.0	100.0	70.0	12.1	18.0
Non-Hispanic	100.0	47.5	23.4	29.2	100.0	39.2	29.5	31.3	100.0	54.9	17.9	27.2
Geographic region												
Northeast	100.0	48.0	24.8	27.2	100.0	40.8	30.7	28.5	100.0	54.4	19.6	26.0
Midwest	100.0	47.9	23.2	28.9	100.0	39.4	29.7	30.9	100.0	55.8	17.1	27.1
South	100.0	48.1	20.9	31.0	100.0	37.4	27.5	35.0	100.0	57.4	15.1	27.5
West	100.0	49.8	23.6	26.6	100.0	43.4	28.2	28.4	100.0	55.9	19.3	24.8
Marital status												
Currently married	100.0	44.9	26.9	28.1	100.0	35.1	34.3	30.5	100.0	54.7	19.6	25.8
Separated and divorced	100.0	36.6	19.4	43.9	100.0	27.4	24.5	48.0	100.0	42.3	16.3	41.4
Widowed	100.0	56.9	22.4	20.7	100.0	29.5	44.9	25.6	100.0	62.3	17.9	19.7
Never married	100.0	62.8	10.6	26.5	100.0	60.1	11.6	28.4	100.0	66.3	9.4	24.2

Table 3. Percent distribution of persons 18 years of age and over by knowledge of the health consequences of smoking, according to sex and cigarette smoking status: United States, 1987

Believe cigarette smoking is related to—	Both sexes				Male				Female			
	Total	Never smoker	Former smoker	Current smoker	Total	Never smoker	Former smoker	Current smoker	Total	Never smoker	Former smoker	Current smoker
	Percent distribution											
Total[1]	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Emphysema												
Yes, related	82.5	83.2	87.9	76.8	81.5	82.5	86.4	75.5	83.4	83.7	90.2	78.1
Strongly	68.8	70.6	76.4	59.4	66.8	69.5	74.0	56.3	70.5	71.2	79.9	62.8
Moderately	9.9	9.3	7.9	12.5	10.4	9.4	8.1	13.9	9.4	9.2	7.5	11.0
Slightly	1.7	1.4	1.5	2.4	2.0	1.7	1.8	2.6	1.5	1.3	1.0	2.2
Maybe	4.7	4.5	3.4	6.3	5.1	2.4	3.8	6.5	3.1	4.0	1.4	6.1
No, not related	3.4	2.3	2.0	6.3	3.7	5.1	2.4	6.5	4.3	2.3	2.8	6.1
Don't know if related	9.4	10.0	6.7	10.7	9.7	10.0	7.4	11.6	9.1	10.0	5.6	9.7
Lung cancer												
Yes, related	89.4	92.0	91.8	82.8	89.3	92.9	90.8	83.2	89.4	91.5	93.4	82.5
Strongly	80.1	85.2	83.6	68.7	79.4	86.6	81.9	67.7	80.7	84.3	86.1	69.6
Moderately	6.5	4.4	5.6	10.7	6.9	4.2	5.9	11.2	6.2	4.6	5.3	10.1
Slightly	1.0	0.6	0.9	1.7	1.3	0.7	1.1	2.3	0.7	0.5	*0.6	1.1
Maybe	5.0	3.6	3.5	8.6	5.2	3.7	3.7	8.7	4.1	3.5	3.2	8.4
No, not related	1.9	0.8	1.4	4.4	1.9	0.7	1.5	3.7	2.0	0.8	1.2	5.1
Don't know if related	3.7	3.6	3.3	4.2	3.6	2.7	4.0	4.3	3.8	4.2	2.2	4.0
Chronic bronchitis												
Yes, related	75.9	76.9	80.9	70.1	75.0	77.7	78.7	68.0	76.7	76.4	84.1	72.3
Strongly	55.5	56.9	63.0	47.1	54.2	56.5	60.5	45.1	56.8	57.2	66.7	49.3
Moderately	15.2	15.5	13.4	16.3	15.3	16.4	13.4	15.8	15.2	14.9	13.4	16.9
Slightly	2.8	2.4	2.3	3.6	3.1	2.9	2.6	3.8	2.5	2.2	1.9	3.5
Maybe	8.4	8.1	7.9	9.5	8.7	8.3	8.3	9.5	8.2	8.0	7.2	9.5
No, not related	6.2	4.7	3.7	10.7	6.3	4.9	3.8	10.6	6.0	4.6	3.4	10.8
Don't know if related	9.5	10.3	7.6	9.7	10.0	9.1	9.1	11.9	9.1	11.1	5.3	7.5
Cancer of the mouth and throat												
Yes, related	80.9	83.3	84.8	73.5	80.5	84.8	83.0	72.5	81.2	82.3	87.4	74.6
Strongly	62.8	67.3	67.9	51.2	59.9	66.0	63.8	48.1	65.5	68.1	73.9	54.4
Moderately	13.6	12.7	12.3	16.3	15.4	15.0	13.5	17.6	12.1	11.2	10.6	14.9
Slightly	2.7	1.8	2.7	4.0	3.5	2.3	3.5	4.9	1.9	1.6	1.4	3.1
Maybe	8.4	7.5	6.9	11.1	8.2	6.1	7.3	11.7	8.5	8.3	6.2	10.5
No, not related	4.9	3.3	3.2	9.1	5.4	3.7	3.8	9.2	4.4	3.0	2.3	9.0
Don't know if related	5.8	6.0	5.2	6.2	5.9	5.5	5.9	6.5	5.8	6.3	4.1	5.9
Heart disease												
Yes, related	76.5	76.2	82.0	72.5	78.0	79.3	81.1	73.3	75.2	74.2	83.4	71.6
Strongly	57.4	57.3	64.0	52.1	58.1	59.5	62.5	52.0	56.8	56.0	66.1	52.1
Moderately	15.2	15.2	13.9	16.2	15.5	16.1	13.8	16.4	14.9	14.7	14.0	15.9
Slightly	1.8	1.6	1.7	2.2	2.1	1.8	2.3	2.5	1.5	1.4	1.0	1.8
Maybe	8.0	7.6	6.7	9.9	7.6	6.6	6.8	9.5	8.4	8.2	6.4	10.3
No, not related	7.5	7.0	4.9	10.5	7.0	6.5	4.7	9.8	7.9	7.2	5.0	11.3
Don't know if related	8.0	9.3	6.5	7.2	7.5	7.6	7.4	7.4	8.5	10.4	5.1	6.9

[1]Does not add to 100 percent because "Don't know strength of relationship" is not shown separately.

Table 4. Percent distribution of persons 18 years of age and over who believed specific diseases were related to smoking by knowledge of the health benefits of stopping smoking, according to sex and cigarette smoking status: United States, 1987

Stopping cigarette smoking reduces risk of—	Both sexes				Male				Female			
	Total	Never smoker	Former smoker	Current smoker	Total	Never smoker	Former smoker	Current smoker	Total	Never smoker	Former smoker	Current smoker
	Percent distribution											
Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Emphysema												
Yes	89.7	90.1	92.2	86.6	90.7	91.3	92.8	87.5	88.8	89.3	91.4	85.7
No	4.5	3.9	2.9	7.2	4.1	3.4	2.9	6.4	4.9	4.2	3.0	8.0
Don't know	5.8	6.0	4.9	6.2	5.2	5.3	4.4	6.1	6.2	6.5	5.6	6.2
Lung cancer												
Yes	89.9	90.4	92.4	86.7	91.2	92.3	93.0	88.0	88.7	89.1	91.7	85.4
No	4.4	3.8	2.6	7.1	3.9	3.3	2.6	6.4	4.8	4.2	2.7	7.9
Don't know	5.7	5.8	4.9	6.2	4.8	4.5	4.5	5.7	6.5	6.7	5.6	6.7
Chronic bronchitis												
Yes	89.9	90.3	92.4	86.8	90.4	90.6	93.1	87.3	89.4	90.2	71.4	86.3
No	4.3	3.5	3.1	6.9	4.0	3.7	2.4	6.4	4.5	3.3	4.0	7.4
Don't know	5.8	6.2	4.5	6.3	5.5	5.7	4.4	6.4	6.1	6.5	4.6	6.3
Cancer of mouth and throat												
Yes	91.5	91.7	93.8	89.0	92.2	92.3	95.0	89.2	90.9	91.3	92.2	88.7
No	3.4	3.1	1.8	5.5	3.2	2.9	1.4	5.8	3.5	3.2	2.4	5.3
Don't know	5.1	5.2	4.4	5.5	4.5	4.8	3.6	5.0	5.6	5.5	5.4	6.0
Heart disease												
Yes	90.3	90.9	92.4	87.3	91.5	92.2	93.3	88.6	89.2	90.0	91.0	86.0
No	4.2	3.6	2.6	6.8	3.6	3.2	2.0	6.0	4.8	3.9	3.4	73.7
Don't know	5.5	5.5	5.0	5.9	4.9	4.6	4.7	5.4	6.0	6.0	5.5	6.3

Table 5. Percent distribution of persons 18 years of age and over by knowledge and opinions about cigarette smoking, according to sex and cigarette smoking status: United States, 1987

Knowledge and opinions	Both sexes				Male				Female			
	Total	Never smoker	Former smoker	Current smoker	Total	Never smoker	Former smoker	Current smoker	Total	Never smoker	Former smoker	Current smoker
	Percent distribution											
Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Everything causes cancer anyway so it doesn't really matter if you smoke												
Strongly agree	2.2	1.6	1.8	3.6	2.3	1.7	2.0	3.5	2.1	1.6	1.5	3.9
Agree	11.3	7.0	7.8	21.4	11.9	7.2	8.9	20.9	10.7	6.9	6.0	22.0
Disagree	53.9	53.1	56.5	53.1	53.4	50.6	57.2	53.5	54.3	54.3	55.5	52.7
Strongly disagree	25.3	31.7	27.3	12.8	24.9	34.6	24.7	12.6	25.6	29.9	31.1	13.0
No opinion	6.2	5.5	5.5	7.9	6.2	4.6	5.9	8.4	6.2	6.1	4.8	7.4
Smoking by a pregnant woman may harm the baby												
Strongly agree	39.7	46.1	39.2	29.1	37.3	45.3	35.1	28.9	41.8	46.6	45.3	29.3
Agree	50.3	47.4	51.0	54.6	52.3	47.6	54.3	56.4	48.5	47.2	46.1	52.8
Disagree	3.0	1.3	2.3	6.4	2.3	1.2	1.8	4.3	3.6	1.4	3.0	8.6
Strongly disagree	0.5	0.4	0.4	0.7	0.4	*0.3	*0.2	0.7	0.6	0.5	*0.6	0.8
No opinion	5.5	3.8	5.8	8.1	6.4	4.3	6.9	8.5	4.7	3.4	4.0	7.6
Smoke from someone else's cigarette is harmful to you												
Strongly agree	25.6	34.3	25.8	10.6	23.1	33.0	22.9	10.4	27.8	35.1	30.1	10.7
Agree	55.8	54.6	57.6	56.3	56.6	55.9	59.2	54.9	55.1	53.8	55.2	57.7
Disagree	10.0	4.7	8.1	20.5	11.0	4.8	8.6	21.4	9.1	4.7	7.4	19.5
Strongly disagree	0.9	0.4	0.9	1.9	1.2	0.4	1.0	2.4	0.7	0.4	*0.7	1.4
No opinion	6.6	4.9	5.8	9.7	6.8	4.6	6.8	9.6	6.5	5.2	5.6	9.8
Most deaths from lung cancer are caused by cigarette smoking												
Strongly agree	19.6	23.5	21.7	11.3	19.1	24.5	20.5	10.7	20.1	22.8	23.5	11.9
Agree	50.6	54.3	51.1	43.7	51.0	54.9	50.9	46.0	50.2	54.0	51.5	41.3
Disagree	14.8	8.8	12.6	26.7	14.8	8.2	12.9	25.2	14.7	9.2	12.1	28.4
Strongly disagree	1.0	0.4	0.6	2.1	1.0	0.5	0.6	2.1	0.9	0.4	0.7	2.1
No opinion	13.0	11.9	12.6	15.0	12.7	10.4	13.6	14.8	13.2	12.8	11.1	15.3
People who smoke low tar and nicotine cigarettes are less likely to get cancer than people who smoke high tar and nicotine cigarettes												
Strongly agree	2.0	2.2	1.9	1.9	2.5	2.8	2.1	2.4	1.7	1.8	1.6	1.5
Agree	28.4	28.0	27.2	30.3	31.7	32.4	30.3	31.9	25.5	25.1	22.4	28.5
Disagree	43.6	39.8	46.2	47.7	42.7	39.3	43.3	46.3	44.4	40.1	50.6	49.2
Strongly disagree	6.6	7.1	8.0	4.7	6.2	7.4	6.6	4.4	7.0	7.0	10.2	5.0
No opinion	18.1	21.7	15.3	14.3	15.6	16.6	16.1	13.7	20.4	25.0	14.1	14.9
If people want to smoke, they should not do so inside public places where it might disturb others												
Strongly agree	28.6	40.8	26.7	9.3	26.4	41.0	24.5	9.3	30.5	40.6	30.1	9.3
Agree	52.3	48.3	53.4	58.1	52.7	47.6	55.1	57.0	52.0	48.8	50.9	59.3
Disagree	9.6	4.2	9.4	18.9	10.7	4.7	9.6	19.4	8.7	3.9	9.2	18.4
Strongly disagree	1.4	0.5	1.1	3.4	1.9	0.6	1.3	4.1	1.1	0.4	0.7	2.7
No opinion	7.0	5.3	8.1	9.2	7.1	4.8	8.1	9.0	7.0	5.6	8.1	9.3

Table 6. Percent distribution of formerly and currently smoking persons 18 years of age and over by experience in quitting cigarette smoking, according to sex: United States, 1987

Characteristic	Former smokers			Current smokers		
	Total	Male	Female	Total	Male	Female
	Percent distribution					
Total	100.0	100.0	100.0	100.0	100.0	100.0
Doctor ever advised quitting						
Yes	33.6	34.0	33.0	49.5	45.9	53.3
No	66.4	66.0	67.0	50.5	54.1	46.7
Reasons (tried to) quit[1]						
Health symptom/problem	20.4	22.2	17.6	16.5	18.0	14.8
Present health	13.4	14.2	12.2	12.3	12.1	12.5
Future health	22.1	23.0	20.7	22.7	21.7	23.8
Both present and future health	15.1	16.1	13.6	14.1	15.3	12.9
Cost of cigarettes	6.3	6.7	5.7	9.2	9.3	9.1
Pressure from family and/or friends	9.3	7.3	12.3	10.3	9.9	10.7
Advice from doctor	3.5	3.7	3.2	3.0	2.9	3.1
Setting a good example for children	3.3	2.8	4.0	2.4	1.8	3.1
Effect on others	3.3	2.4	4.5	2.8	1.9	3.6
Pregnancy	4.1	*0.1	9.9	6.9	*0.3	13.7
Lost desire	8.5	8.8	8.1	3.7	4.3	3.1
Dirty habit	6.9	6.0	8.1	4.6	4.1	5.1
Other	20.0	20.7	19.0	23.3	24.8	21.8
Methods used in quit attempts[2]						
Switch to lower tar and nicotine	3.5	3.0	4.1	21.8	19.5	24.2
Use special filters or holders	1.9	1.6	2.2	8.5	6.9	10.2
Gradually decrease number of cigarettes	7.7	6.4	9.5	34.6	30.7	38.5
Use Nicorette[3]	1.5	1.2	2.0	10.1	10.0	10.3
Participate in Great American Smokeout	1.1	0.9	1.3	9.1	8.3	9.9
Stop with friends or relatives	3.0	2.3	4.1	16.5	14.3	18.7
Followed instructions in a book	1.2	1.2	1.0	7.9	6.4	9.4
Stopped "cold turkey"	88.7	89.6	87.4	84.0	86.2	81.7
Other	6.4	6.6	6.1	12.4	12.4	12.4
Total number of quitting methods ever used						
None reported	1.2	1.2	1.0	...	...	...
1 method	69.1	70.7	66.6	...	...	...
2–4 methods	27.1	26.0	28.7	...	...	...
5 methods or more	3.8	3.3	4.7	...	...	...

[1]For current smokers, denominator includes only smokers with at least 1 quit attempt.
[2]For former smokers, percent includes only the last attempt to quit.
[3]Mention of brand name is for the purpose of specific identification of the equipment or product used and does not imply endorsement by the U.S. Department of Health and Human Services.

Table 7. Percent distribution of persons 18 years of age and over by tobacco product and use status, according to sex and cigarette smoking status: United States, 1987

Tobacco product and use status	Both sexes				Male				Female			
	Total	Never smoker	Former smoker	Current smoker	Total	Never smoker	Former smoker	Current smoker	Total	Never smoker	Former smoker	Current smoker
	Percent distribution											
Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Chewing tobacco												
Never	93.8	96.7	89.8	92.0	87.6	92.5	83.5	85.3	99.3	99.3	99.2	99.2
Former	4.2	1.8	7.3	5.8	8.4	4.1	11.9	10.6	0.4	0.3	0.6	0.6
Current	2.0	1.5	2.9	2.2	4.0	3.4	4.6	4.1	0.3	0.4	*0.2	*0.2
Snuff												
Never	95.9	93.3	94.3	94.8	92.3	94.6	90.9	90.5	99.2	99.0	99.2	99.4
Former	2.4	1.1	3.8	3.5	4.7	2.4	6.1	6.4	0.4	0.3	0.5	0.5
Current	1.7	1.6	1.9	1.6	3.0	3.0	3.0	3.1	0.5	0.7	*0.3	*0.1
Pipe												
Never	91.1	97.4	79.3	89.7	81.5	93.5	65.9	80.5	99.7	100.0	99.2	99.5
Former	7.3	1.7	18.5	7.9	15.2	4.4	30.4	15.1	0.3	*0.0	0.8	0.4
Current	1.6	0.8	2.2	2.3	3.3	2.2	3.7	4.4	*0.0	*–	*0.0	*0.2
Cigars												
Never	91.1	97.0	80.5	89.7	81.7	92.5	67.8	80.8	99.6	99.8	99.4	99.2
Former	6.4	1.8	16.3	6.2	13.1	4.4	26.9	11.5	0.3	*0.1	0.6	0.6
Current	2.5	1.2	3.2	4.1	5.2	3.1	5.3	7.8	*0.1	*0.0	*0.0	*0.1

Table 8. Percent distribution of persons 18 years of age and over by tobacco chewing status, average days of use per month, number of times used on days of use, and mean number of days used per month, according to sex and age: United States, 1987

Sex and age	Total	Chewing tobacco status			Average number of days used per month			Average number of times used on days used			Mean use
		Never user	Former user	Current user	Daily	15–29	Less than 15	2 or less	3–5	6 or more	
Both sexes	Percent distribution										Days per month
All ages	100.0	93.7	4.2	2.1	50.4	10.8	27.1	31.5	30.5	19.9	21.2
18–24 years	100.0	92.8	4.5	2.8	42.8	14.2	34.0	35.9	31.5	18.6	19.2
25–44 years	100.0	94.8	3.5	1.7	40.2	13.9	33.8	32.4	29.5	20.4	18.6
45–64 years	100.0	93.9	4.2	1.9	52.4	*7.1	24.4	32.4	26.9	18.9	22.1
65–74 years	100.0	91.6	5.8	2.6	72.4	*9.6	*8.3	22.8	36.1	24.7	27.3
75 years and over	100.0	90.8	6.4	2.9	71.5	*2.6	*18.9	28.1	33.4	*16.6	25.3
Male											
All ages	100.0	87.5	8.4	4.0	50.5	11.1	27.4	30.2	30.8	21.0	21.2
18–24 years	100.0	85.6	8.8	5.5	41.9	14.5	34.4	35.9	31.1	18.7	19.0
25–44 years	100.0	89.9	6.9	3.2	40.4	14.5	34.0	31.9	29.7	21.3	18.7
45–64 years	100.0	87.9	8.2	3.9	52.5	*7.2	24.1	31.2	26.9	20.1	22.1
65–74 years	100.0	83.0	11.9	5.0	73.8	*9.7	*8.5	19.7	36.4	27.2	27.3
75 years and over	100.0	78.7	15.2	6.1	79.1	*–	*18.0	*19.7	38.9	*19.7	26.2
Female											
All ages	100.0	99.3	0.4	0.3	49.8	*6.7	*22.7	49.0	*26.3	*5.1	22.0
18–24 years	100.0	99.5	*0.4	*0.1	*85.7	*–	*14.3	28.6	*50.0	*14.3	28.4
25–44 years	100.0	99.6	0.2	0.2	*38.0	*2.8	*31.0	*40.8	*28.2	*5.6	17.3
45–64 years	100.0	99.2	0.6	*0.2	*53.6	*5.4	*28.6	*51.8	*26.8	*1.8	21.9
65–74 years	100.0	98.7	*0.7	*0.6	*62.5	*8.9	*7.1	*44.6	*35.7	*7.1	26.7
75 years and over	100.0	98.1	*1.0	*0.9	*39.7	13.8	*24.1	*63.8	*10.3	*3.4	21.3

Table 9. Percent distribution of persons 18 years of age and over by sex and tobacco chewing status, according to selected sociodemographic characteristics: United States, 1987

Sociodemographic characteristic	Both sexes				Male				Female			
	Total	Never user	Former user	Current user	Total	Never user	Former user	Current user	Total	Never user	Former user	Current user
	Percent distribution											
All persons	100.0	93.7	4.2	2.1	100.0	87.5	8.4	4.0	100.0	99.3	0.4	0.3
Education level												
Less than 12 years	100.0	89.8	6.5	3.7	100.0	80.9	12.4	6.7	100.0	99.7	1.4	1.0
12 years	100.0	93.8	4.2	2.0	100.0	86.2	9.3	4.4	100.0	99.7	*0.2	*0.1
More than 12 years	100.0	96.0	2.9	1.1	100.0	92.3	5.5	2.2	100.0	99.8	*0.1	*0.0
13–15 years	100.0	95.3	3.3	1.4	100.0	90.2	6.9	2.9	100.0	99.8	*0.2	*0.0
16 years or more	100.0	96.8	2.3	0.9	100.0	94.3	4.2	1.6	100.0	99.9	*0.1	*0.0
Family income												
Less than $10,000	100.0	92.3	4.7	2.9	100.0	82.8	10.7	6.6	100.0	98.0	1.2	0.8
$10,000–$19,999	100.0	92.0	5.6	2.4	100.0	83.4	11.6	5.0	100.0	99.1	0.5	*0.3
$20,000–$34,999	100.0	93.6	4.4	2.0	100.0	87.5	8.5	4.0	100.0	99.7	*0.2	*0.1
$35,000–$49,999	100.0	94.4	3.8	1.7	100.0	89.4	7.3	3.3	100.0	99.7	*0.2	*0.1
$50,000 or more	100.0	95.9	3.1	1.0	100.0	92.3	5.8	1.8	100.0	99.9	*0.1	*0.0
Race												
White	100.0	93.5	4.4	2.1	100.0	86.8	9.0	4.2	100.0	99.7	0.2	0.1
Black	100.0	94.2	3.4	2.4	100.0	91.4	5.3	3.4	100.0	96.4	1.9	1.7
Hispanic origin												
Hispanic	100.0	98.2	1.4	*0.4	100.0	96.3	2.8	*0.9	100.0	99.8	*0.2	*–
Non-Hispanic	100.0	93.4	4.4	2.2	100.0	86.8	8.8	4.3	100.0	99.3	0.4	0.3
Geographic region												
Northeast	100.0	97.1	2.2	0.8	100.0	93.8	4.5	1.7	100.0	99.9	*0.1	*–
Midwest	100.0	93.3	4.8	1.9	100.0	86.4	9.8	3.9	100.0	99.6	*0.3	*0.1
South	100.0	91.1	5.2	3.7	100.0	82.8	10.1	7.1	100.0	98.4	0.8	*0.7
West	100.0	95.1	4.0	0.9	100.0	90.1	8.1	1.8	100.0	99.7	0.2	*0.1
Marital status												
Currently married	100.0	93.4	4.5	2.1	100.0	87.3	8.7	4.1	100.0	99.5	0.3	0.2
Separated and divorced	100.0	94.3	3.9	1.8	100.0	86.6	9.3	4.2	100.0	99.0	*0.6	*0.4
Widowed	100.0	95.4	3.0	1.6	100.0	80.8	13.5	5.7	100.0	98.2	1.0	0.8
Never married	100.0	93.8	3.9	2.2	100.0	89.5	6.8	3.8	100.0	99.3	*0.4	*0.3

Table 10. Percent distribution of persons 18 years of age and over by snuff use status, average days of use per month, number of times used on days of use, and mean number of days used per month, according to sex and age: United States, 1987

Sex and age	Total	Snuff status			Average number of days used per month			Average number of times used on days used			Mean use
		Never user	Former user	Current user	Daily	15–29	Less than 15	2 or less	3–5	6 or more	
Both sexes	Percent distribution										Days per month
All ages	100.0	95.9	2.4	1.7	59.9	12.1	21.3	20.7	35.6	30.1	13.5
18–24 years	100.0	93.3	3.5	3.3	51.7	19.0	20.9	23.5	32.5	34.8	13.5
25–44 years	100.0	96.0	2.4	1.6	55.5	11.3	29.5	17.9	35.5	34.5	12.2
45–64 years	100.0	97.3	1.7	1.0	61.1	*8.8	16.1	23.2	32.2	23.5	16.3
65–74 years	100.0	95.8	2.6	1.5	85.4	*3.7	*3.0	*16.9	49.4	*17.2	14.1
75 years and over	100.0	95.1	2.8	2.2	80.3	*6.1	*11.4	*25.0	37.3	*17.1	14.8
Male											
All ages	100.0	92.2	4.7	3.1	57.8	13.8	21.9	19.0	34.3	34.0	13.5
18–24 years	100.0	86.6	6.9	6.4	53.8	20.0	17.4	21.0	32.9	36.5	13.9
25–44 years	100.0	92.2	4.8	3.1	54.7	11.9	29.8	17.7	34.0	35.8	12.1
45–64 years	100.0	95.3	3.1	1.6	57.8	11.4	*18.8	21.8	29.5	29.5	15.5
65–74 years	100.0	93.1	5.0	1.9	85.4	*5.3	*2.6	*13.2	46.4	*25.2	15.2
75 years and over	100.0	92.1	5.3	2.7	80.0	*6.7	*8.6	*15.2	*47.6	*21.9	16.2
Female											
All ages	100.0	99.2	0.4	0.5	*71.8	*2.1	17.7	30.8	42.9	*7.2	13.7
18–24 years	100.0	99.5	0.2	*0.3	*5.0	*–	*92.5	*72.5	*25.0	*–	5.8
25–44 years	100.0	99.7	*0.2	*0.1	*72.2	*–	*22.2	*20.4	*64.8	*5.6	13.1
45–64 years	100.0	99.1	0.5	0.4	71.1	*–	*7.2	*26.8	*41.2	*4.1	19.6
65–74 years	100.0	98.1	*0.6	1.2	85.3	*1.7	*3.4	*21.6	*53.4	*6.9	12.7
75 years and over	100.0	96.9	1.2	1.9	79.7	*5.7	*13.0	*33.3	*28.5	*12.2	13.6

Table 11. Percent distribution of persons 18 years of age and over by sex and snuff use status, according to selected sociodemographic characteristics: United States, 1987

Sociodemographic characteristic	Both sexes				Male				Female			
	Total	Never user	Former user	Current user	Total	Never user	Former user	Current user	Total	Never user	Former user	Current user
	Percent distribution											
All persons	100.0	95.9	2.4	1.7	100.0	92.2	4.7	3.1	100.0	99.2	0.4	0.5
Education level												
Less than 12 years	100.0	94.1	3.3	2.5	100.0	90.8	5.7	3.5	100.0	97.1	1.2	1.7
12 years	100.0	95.5	2.6	1.9	100.0	90.3	5.7	4.0	100.0	99.7	*0.1	0.2
More than 12 years	100.0	97.2	1.8	1.0	100.0	94.6	3.4	2.0	100.0	99.9	*0.1	*0.0
13–15 years	100.0	96.4	2.1	1.5	100.0	92.5	4.4	3.1	100.0	99.9	*0.1	*–
16 years or more	100.0	98.1	1.3	0.6	100.0	96.5	2.4	1.1	100.0	100.0	*0.0	*0.0
Family income												
Less than $10,000	100.0	94.2	3.2	2.7	100.0	88.7	6.5	4.8	100.0	97.4	1.2	1.4
$10,000–$19,999	100.0	95.2	2.8	2.0	100.0	90.4	5.7	3.9	100.0	99.1	0.4	0.5
$20,000–$34,999	100.0	95.7	2.7	1.6	100.0	91.6	5.3	3.1	100.0	99.9	*0.1	*0.1
$35,000–$49,999	100.0	96.3	2.3	1.4	100.0	93.1	4.4	2.6	100.0	99.7	*0.0	*0.3
$50,000 or more	100.0	97.4	1.7	0.9	100.0	95.2	3.2	1.7	100.0	99.9	*0.1	*0.0
Race												
White	100.0	95.7	2.6	1.7	100.0	91.4	5.2	3.3	100.0	99.5	0.2	0.3
Black	100.0	96.8	1.5	1.7	100.0	97.6	1.3	1.1	100.0	96.2	1.6	2.2
Hispanic origin												
Hispanic	100.0	98.5	1.0	*0.5	100.0	97.2	1.9	*0.9	100.0	99.8	*0.1	*0.1
Non-Hispanic	100.0	95.6	2.6	1.8	100.0	91.8	5.0	3.2	100.0	99.1	0.4	0.5
Geographic region												
Northeast	100.0	98.2	1.2	0.6	100.0	96.1	2.6	1.2	100.0	99.9	*0.1	*–
Midwest	100.0	95.1	3.0	1.9	100.0	90.2	6.0	3.8	100.0	99.6	*0.2	*0.1
South	100.0	94.9	2.8	2.4	100.0	91.2	5.0	3.8	100.0	98.1	0.8	1.1
West	100.0	95.9	2.5	1.6	100.0	92.0	5.0	3.0	100.0	99.6	*0.2	*0.3
Marital status												
Currently married	100.0	96.1	2.4	1.5	100.0	92.7	4.6	2.7	100.0	99.5	0.2	0.3
Separated and divorced	100.0	96.3	2.3	1.4	100.0	91.6	5.5	2.9	100.0	99.2	*0.4	*0.5
Widowed	100.0	96.8	1.6	1.6	100.0	94.3	3.8	*1.9	100.0	97.3	1.1	1.6
Never married	100.0	94.4	3.0	2.6	100.0	90.6	5.1	4.3	100.0	99.3	*0.3	*0.4

Table 12. Percent distribution of persons 18 years of age and over by pipe smoking status, average days of use per month, number of times used on days of use, and mean number of days used per month, according to sex and age: United States, 1987

Sex and age	Total	Pipe smoking status			Average number of days used per month			Average number of times used on days used			Mean use
		Never user	Former user	Current user	Daily	15–29	Less than 15	2 or less	3–5	6 or more	
Both sexes	Percent distribution										Days per month
All ages	100.0	91.0	7.4	1.6	43.6	8.2	35.1	37.7	25.4	25.0	19.1
18–24 years	100.0	98.8	0.9	0.4	*11.8	*–	76.5	76.5	*13.7	*–	7.5
25–44 years	100.0	93.9	4.7	1.5	26.6	8.5	51.4	45.9	25.9	13.9	14.3
45–64 years	100.0	86.2	11.5	2.4	47.5	10.0	27.2	26.9	24.5	31.0	20.9
65–74 years	100.0	82.6	15.1	2.3	71.5	*6.5	*12.6	17.4	31.5	38.0	26.3
75 years and over	100.0	86.1	12.4	1.5	84.6	*2.5	*5.6	*25.9	*20.4	43.8	28.9
Male											
All ages	100.0	81.4	15.2	3.4	44.3	8.0	35.0	34.7	25.6	25.1	19.3
18–24 years	100.0	97.6	1.6	0.8	*11.8	*–	76.5	76.5	*13.7	*–	7.5
25–44 years	100.0	87.8	9.3	2.9	27.7	7.9	51.7	46.3	26.4	13.8	14.5
45–64 years	100.0	71.0	23.9	5.1	47.6	10.1	27.3	27.0	24.6	31.1	20.9
65–74 years	100.0	62.1	32.9	5.0	71.5	*6.5	*12.6	17.4	31.5	38.0	26.3
75 years and over	100.0	63.2	32.8	4.1	84.6	*2.5	*5.6	*25.9	*20.4	43.8	28.9
Female											
All ages	100.0	99.7	0.3	*0.0	*–	*23.3	*41.9	*37.2	*14.0	*14.0	6.8
18–24 years	100.0	99.9	*0.1	*–	*–	*–	*–	*–	*–	*–	*–
25–44 years	100.0	99.7	0.2	*0.1	*–	*24.4	*43.9	*39.0	*14.6	*14.6	6.8
45–64 years	100.0	99.6	0.4	*0.0	*–	*–	*–	*–	*–	*–	*–
65–74 years	100.0	99.7	*0.3	*–	*–	*–	*–	*–	*–	*–	*–
75 years and over	100.0	99.9	*0.1	*–	*–	*–	*–	*–	*–	*–	*–

Table 13. Percent distribution of persons 18 years of age and over by sex and pipe smoking status, according to selected sociodemographic characteristics: United States, 1987

Sociodemographic characteristic	Both sexes				Male				Female			
	Total	Never user	Former user	Current user	Total	Never user	Former user	Current user	Total	Never user	Former user	Current user
	Percent distribution											
All persons	100.0	91.0	7.4	1.6	100.0	81.4	15.3	3.4	100.0	99.7	0.3	*0.0
Education level												
Less than 12 years	100.0	90.5	8.0	1.6	100.0	80.0	16.7	3.3	100.0	99.7	*0.3	*0.1
12 years	100.0	92.3	6.5	1.2	100.0	82.9	14.4	2.7	100.0	99.8	0.2	*0.0
More than 12 years	100.0	90.0	7.9	2.1	100.0	80.8	15.2	4.0	100.0	99.6	0.3	*0.1
13–15 years	100.0	91.9	6.4	1.7	100.0	83.3	13.2	3.4	100.0	99.7	*0.2	*0.1
16 years or more	100.0	87.9	9.6	2.6	100.0	78.4	17.0	4.6	100.0	99.5	*0.4	*0.1
Family income												
Less than $10,000	100.0	94.0	4.7	1.3	100.0	84.3	12.3	3.5	100.0	99.8	*0.2	*0.0
$10,000–$19,999	100.0	91.1	7.4	1.5	100.0	80.7	16.0	3.2	100.0	99.7	*0.3	*0.1
$20,000–$34,999	100.0	90.7	7.7	1.6	100.0	81.7	15.2	3.1	100.0	99.7	*0.3	*0.0
$35,000–$49,999	100.0	89.9	8.6	1.6	100.0	80.7	16.3	3.0	100.0	99.5	*0.4	*0.1
$50,000 or more	100.0	88.9	9.0	2.1	100.0	79.2	16.9	3.9	100.0	99.8	*0.2	*0.0
Race												
White	100.0	90.3	8.1	1.6	100.0	80.0	16.7	3.4	100.0	99.7	0.3	*0.1
Black	100.0	95.5	3.0	1.5	100.0	90.0	6.6	3.4	100.0	99.9	*0.1	*–
Hispanic origin												
Hispanic	100.0	96.7	2.7	0.5	100.0	93.1	5.7	1.2	100.0	99.9	*0.1	*–
Non-Hispanic	100.0	90.6	7.7	1.7	100.0	80.5	16.0	3.5	100.0	99.7	0.3	*0.0
Geographic region												
Northeast	100.0	91.6	6.6	1.7	100.0	82.4	13.9	3.7	100.0	99.8	*0.2	*0.0
Midwest	100.0	88.9	9.4	1.7	100.0	77.2	19.3	3.5	100.0	99.7	*0.2	*0.1
South	100.0	91.6	6.7	1.7	100.0	82.2	14.2	3.6	100.0	99.8	*0.2	*0.0
West	100.0	92.0	6.7	1.3	100.0	84.1	13.4	2.5	100.0	99.4	0.5	*0.1
Marital status												
Currently married	100.0	88.8	9.3	1.9	100.0	77.8	18.4	3.8	100.0	99.7	0.2	*0.0
Separated and divorced	100.0	91.9	6.4	1.7	100.0	79.3	16.3	4.4	100.0	99.6	*0.3	*0.1
Widowed	100.0	94.3	4.9	0.9	100.0	66.8	27.8	5.3	100.0	99.6	*0.4	*–
Never married	100.0	97.0	2.2	0.9	100.0	94.7	3.8	1.5	100.0	99.8	*0.1	*0.1

Table 14. Percent distribution of persons 18 years of age and over by cigar smoking status, average days of use per month, number of times used on days of use, and mean number of days used per month, according to sex and age: United States, 1987

Sex and age	Total	Cigar use status			Average number of days used per month			Average number of times used on days used			Mean use
		Never user	Former user	Current user	Daily	15–29	Less than 15	2 or less	3–5	6 or more	
Both sexes	Percent distribution										Days per month
All ages	100.0	91.0	6.5	2.6	22.9	6.8	49.3	54.8	17.5	7.2	12.2
18–24 years	100.0	98.2	1.1	0.8	*1.5	*2.5	73.8	60.4	*17.8	*4.5	3.8
25–44 years	100.0	92.8	4.3	2.9	12.4	5.5	59.7	57.6	14.1	5.4	8.0
45–64 years	100.0	86.4	10.3	3.3	30.8	9.3	38.8	52.1	19.4	8.8	15.6
65–74 years	100.0	85.7	11.9	2.4	48.0	*7.0	28.1	50.1	21.6	*11.8	21.2
75 years and over	100.0	87.7	10.7	1.5	54.8	*7.6	*28.0	45.2	*36.9	*9.6	22.2
Male											
All ages	100.0	81.4	13.3	5.3	23.0	6.8	49.5	55.3	17.5	7.2	12.2
18–24 years	100.0	96.4	2.0	1.6	*1.5	*2.5	72.9	60.3	*18.1	*4.0	3.8
25–44 years	100.0	85.9	8.3	5.8	12.4	5.6	60.2	58.0	14.3	5.4	7.9
45–64 years	100.0	71.6	21.4	7.0	30.9	9.2	38.8	52.8	18.8	8.2	15.5
65–74 years	100.0	69.0	25.9	5.2	48.7	*7.1	28.5	50.9	21.9	*11.9	21.2
75 years and over	100.0	67.9	28.1	3.9	55.5	*7.7	*26.5	44.5	*37.4	*9.7	22.3
Female											
All ages	100.0	99.6	0.3	*0.1	*15.3	*6.8	*32.2	*18.6	*20.3	*8.5	15.1
18–24 years	100.0	99.8	*0.2	*0.0	*–	*–	*100.0	*66.7	*–	*33.3	0.7
25–44 years	100.0	99.5	0.4	*0.1	*8.3	*–	*20.8	*16.7	*–	*–	9.7
45–64 years	100.0	99.5	0.4	*0.1	*30.4	*17.4	*39.1	*13.0	*52.2	*17.4	20.1
65–74 years	100.0	99.7	*0.2	*0.1	*–	*–	*–	*–	*–	*–	*–
75 years and over	100.0	99.7	*0.3	*0.0	*–	*–	*100.0	*100.0	*–	*–	15.5

Table 15. Percent distribution of persons 18 years of age and over by sex and cigar smoking status, according to selected sociodemographic characteristics: United States, 1987

Sociodemographic characteristic	Both sexes				Male				Female			
	Total	Never user	Former user	Current user	Total	Never user	Former user	Current user	Total	Never user	Former user	Current user
	Percent distribution											
All persons	100.0	91.0	6.5	2.6	100.0	81.4	13.3	5.3	100.0	99.6	0.3	*0.1
Education level												
Less than 12 years	100.0	89.5	8.0	2.5	100.0	78.3	16.5	5.2	100.0	99.5	0.4	*0.1
12 years	100.0	91.4	6.1	2.5	100.0	80.9	13.5	5.6	100.0	99.6	0.4	*0.0
More than 12 years	100.0	91.4	6.0	2.7	100.0	83.4	11.4	5.2	100.0	99.6	0.3	*0.1
13–15 years	100.0	92.4	5.4	2.2	100.0	84.4	11.0	4.6	100.0	99.6	*0.3	*0.1
16 years or more	100.0	90.3	6.6	3.2	100.0	82.5	11.8	5.7	100.0	99.7	*0.2	*0.1
Family income												
Less than $10,000	100.0	93.6	4.6	1.8	100.0	83.6	11.8	4.6	100.0	99.5	*0.4	*0.1
$10,000–$19,999	100.0	91.2	6.6	2.3	100.0	81.0	14.0	4.9	100.0	99.6	*0.4	*0.1
$20,000–$34,999	100.0	90.4	7.0	2.6	100.0	81.3	13.6	5.1	100.0	99.5	0.4	*0.0
$35,000–$49,999	100.0	89.8	7.0	3.2	100.0	80.4	13.5	6.1	100.0	99.6	*0.3	*0.1
$50,000 or more	100.0	89.4	7.4	3.2	100.0	80.1	13.9	6.0	100.0	99.8	*0.2	*–
Race												
White	100.0	90.3	7.0	2.7	100.0	80.1	14.4	5.6	100.0	99.6	0.4	*0.1
Black	100.0	95.0	3.2	1.8	100.0	89.2	6.8	4.0	100.0	99.7	*0.2	*0.1
Hispanic origin												
Hispanic	100.0	95.9	2.6	1.5	100.0	91.6	5.4	3.0	100.0	99.7	*0.2	*0.1
Non-Hispanic	100.0	90.6	6.8	2.6	100.0	80.6	13.9	5.5	100.0	99.6	0.4	*0.1
Geographic region												
Northeast	100.0	91.9	5.5	2.6	100.0	83.2	11.3	5.5	100.0	99.6	*0.3	*0.1
Midwest	100.0	88.8	8.1	3.1	100.0	77.0	16.6	6.4	100.0	99.7	*0.2	*0.0
South	100.0	91.2	6.3	2.5	100.0	81.6	13.2	5.2	100.0	99.6	0.3	*0.1
West	100.0	92.2	5.8	2.0	100.0	84.5	11.5	4.0	100.0	99.4	0.6	*0.0
Marital status												
Currently married	100.0	88.8	8.1	3.1	100.0	77.8	16.0	6.1	100.0	99.6	0.3	*0.1
Separated and divorced	100.0	91.7	5.8	2.5	100.0	79.5	14.2	6.3	100.0	99.3	*0.6	*0.1
Widowed	100.0	94.8	4.3	0.9	100.0	69.5	25.4	5.0	100.0	99.7	*0.2	*0.1
Never married	100.0	96.7	1.9	1.4	100.0	94.5	3.1	2.5	100.0	99.6	*0.3	*0.1

Table 16. Percent distribution of persons 18 years of age and over by knowledge of relationship between noncigarette tobacco use and risk of mouth and throat cancer, according to sex and cigarette smoking status: United States, 1987

Believe chances of getting mouth and throat cancer are increased by use of—	Both sexes				Male				Female			
	Total	Never smoker	Former smoker	Current smoker	Total	Never smoker	Former smoker	Current smoker	Total	Never smoker	Former smoker	Current smoker
	Percent distribution											
Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Chewing tobacco												
Yes, increased:	83.9	85.5	86.0	79.5	84.5	87.7	85.0	79.8	83.4	84.1	87.6	79.1
Strongly	67.8	70.9	70.6	60.2	67.8	72.7	68.3	60.9	67.8	69.7	73.9	59.5
Moderately	11.5	10.4	11.3	13.6	11.9	10.9	12.0	13.0	11.2	10.1	10.4	14.2
Slightly	1.9	1.6	1.8	2.7	2.3	1.9	2.2	2.9	1.6	1.3	1.3	2.5
Don't know	2.7	2.6	2.3	3.0	2.5	2.1	2.4	3.0	2.8	3.0	2.1	3.0
No, not increased	3.7	2.9	2.7	6.1	4.3	3.2	3.2	6.7	3.3	2.7	1.9	5.5
Don't know	12.3	11.6	11.3	14.5	11.3	9.1	11.8	13.6	13.1	13.2	10.5	15.4
Snuff												
Yes, increased:	78.9	80.9	80.8	73.9	80.5	84.0	80.8	75.6	77.4	78.9	80.7	72.1
Strongly	62.8	65.7	65.7	55.6	63.6	67.9	64.8	56.8	62.2	64.3	67.0	54.4
Moderately	11.5	10.9	10.9	13.0	12.2	11.8	11.4	13.4	10.9	10.3	10.2	12.5
Slightly	2.0	1.9	1.8	2.5	2.4	2.2	2.2	2.8	1.7	1.7	1.3	2.1
Don't know	2.5	2.4	2.4	2.8	2.4	2.0	2.5	2.7	2.7	2.7	2.2	3.0
No, not increased	3.9	3.0	3.0	6.3	4.3	3.1	3.4	6.7	3.6	2.9	2.3	5.9
Don't know	17.2	16.1	16.2	19.8	15.2	12.8	15.7	17.8	19.0	18.2	17.0	21.9
Smoking a pipe												
Yes, increased:	75.2	78.1	78.7	67.4	76.7	81.0	78.5	69.6	73.9	76.4	79.0	65.1
Strongly	49.3	53.1	52.6	40.3	49.8	54.8	50.9	42.2	48.9	52.0	55.1	38.3
Moderately	20.4	20.0	20.4	21.0	21.0	21.1	21.2	20.6	19.8	19.2	19.1	21.5
Slightly	3.4	3.0	3.5	3.9	4.0	3.4	3.9	4.8	2.9	2.7	3.0	3.1
Don't know	2.2	2.1	2.2	2.2	2.0	1.6	2.5	2.1	2.3	2.4	1.9	2.3
No, not increased	8.6	6.6	6.6	13.6	8.5	6.4	6.8	13.0	8.6	6.7	6.4	14.3
Don't know	16.2	15.3	14.7	18.9	14.7	12.7	14.7	17.4	17.5	16.9	14.6	20.6
Smoking cigars												
Yes, increased:	77.6	80.6	80.4	70.4	78.4	82.9	79.4	71.8	76.9	79.1	81.8	68.9
Strongly	53.8	57.8	56.2	44.9	53.3	58.5	53.7	46.2	54.2	57.4	60.0	43.6
Moderately	18.6	18.0	18.8	19.3	19.3	19.5	19.7	18.5	17.9	17.0	17.4	20.1
Slightly	3.0	2.5	3.1	3.7	3.7	3.1	3.7	4.6	2.3	2.2	2.1	2.8
Don't know	2.3	2.2	2.3	2.4	2.1	1.7	2.4	2.4	2.4	2.5	2.3	2.3
No, not increased	7.2	5.1	6.0	11.9	7.8	5.3	6.7	12.1	6.7	5.0	4.9	11.6
Don't know	15.1	14.3	13.7	17.7	13.8	11.8	13.9	16.1	16.3	15.8	13.3	19.4

Table 17. Percent of persons 18 years of age and over by selected health-related behaviors and characteristics, sex, and cigarette smoking status: United States, 1987

Health-related behavior, knowledge, or belief	Both sexes				Male				Female			
	Total	Never smoker	Former smoker	Current smoker	Total	Never smoker	Former smoker	Current smoker	Total	Never smoker	Former smoker	Current smoker
	Percent											
Alcohol consumption												
Drinks beer 5 times or more per week	6.5	3.0	8.5	10.7	11.6	6.4	12.6	17.1	2.0	0.9	2.3	4.0
Usually drinks 3 beers or more at a time	33.6	28.3	26.4	44.6	40.3	36.3	30.5	52.1	22.6	17.1	17.2	32.7
Drinks wine 5 times or more per week	2.0	1.2	3.6	1.8	1.9	1.2	3.1	1.7	2.0	1.3	4.3	1.9
Usually drinks 3 glasses or more of wine at a time	12.6	9.4	11.3	18.9	14.6	12.9	11.6	20.2	10.8	7.0	10.9	17.8
Drinks liquor 5 times or more per week	2.4	1.1	4.0	3.4	3.4	1.7	4.8	4.1	1.6	0.7	2.7	2.7
Usually drinks 3 drinks or more at a time	27.3	21.6	21.2	39.0	34.0	30.4	25.8	45.1	19.8	13.7	14.1	32.0
Eating habits												
Eats 3 meals a day on weekdays	44.4	49.5	50.3	31.2	44.2	48.6	50.9	32.8	44.6	50.1	49.5	29.5
Eats 3 meals a day on weekends	40.5	44.2	43.1	32.3	41.3	44.3	44.0	35.0	39.8	44.2	41.8	29.4
Avoids snacks on weekdays	26.8	25.8	29.1	26.7	26.8	24.5	30.5	26.5	26.8	26.6	26.9	26.8
Avoids snacks on weekends	23.5	22.6	25.3	23.6	23.1	21.0	25.9	23.6	23.8	23.6	24.4	23.6
Has changed diet for health reasons	37.4	37.3	46.5	30.3	35.2	35.0	44.8	26.4	39.5	38.7	49.0	34.5
Is 20 percent or more above desirable weight	25.1	24.5	30.5	22.1	27.1	24.9	34.2	23.8	23.3	24.3	24.8	20.3
Vitamin use												
Took any vitamin or mineral supplement in past 12 months	51.4	52.7	54.5	46.6	44.4	46.5	47.3	38.7	57.8	56.7	65.2	55.1
Took multivitamins in past 12 months	38.6	39.7	40.8	34.9	33.3	35.9	34.6	28.3	43.5	42.2	50.1	41.9
Took vitamin A in past 12 months[1]	4.2	4.1	4.8	3.9	3.9	3.9	4.2	3.7	4.5	4.2	5.6	4.1
Took vitamin C in past 12 months[1]	23.3	23.7	25.0	21.1	22.1	24.0	22.3	19.5	24.3	23.5	28.9	22.8
Took vitamin E in past 12 months[1]	10.0	9.4	12.3	9.3	9.0	8.0	11.2	8.3	11.0	10.3	13.9	10.4
Knowledge and beliefs												
Believes diet reduces risk of disease	83.4	84.5	85.9	81.2	82.1	84.7	84.2	78.1	84.7	84.3	88.6	84.4
Has heard of fiber	95.9	95.2	97.1	95.8	95.1	94.9	96.2	94.2	96.5	95.4	98.5	97.6
Social support												
Can call on at least 1 friend for help	85.7	86.8	84.8	84.7	84.3	87.0	82.5	82.5	87.1	86.7	88.0	87.0
Can call on at least 1 relative for help	90.2	91.6	89.8	88.0	88.0	89.5	87.9	86.1	92.1	93.0	92.5	89.9
Participates in group activities at least once a year	62.7	67.4	64.1	53.8	63.7	71.5	63.9	53.9	61.9	64.8	64.4	53.8
Attends religious activities at least once a year	67.9	75.1	68.0	55.5	63.7	70.6	66.7	52.1	71.6	78.0	69.9	59.1
Preventive care												
Has ever had a digital rectal exam	61.1	57.6	67.0	60.0	62.4	59.5	66.8	59.4	59.9	56.8	67.4	60.6
Has ever had a blood stool test	39.6	38.1	45.4	34.8	40.1	38.6	44.9	33.9	39.2	37.9	46.2	35.7
Has ever had a proctoscopic exam	23.4	21.7	27.5	21.0	24.8	24.0	27.7	21.0	22.2	20.8	27.2	21.1
Pap smear within the past year	40.4	39.2	43.5	40.7	...	...	...	...	40.4	39.2	43.5	40.7
Breast examination within the past year	35.9	34.8	40.3	34.0	...	...	...	...	35.9	34.8	40.3	34.0
Breast self-examination monthly	51.9	51.5	52.2	52.1	...	...	...	...	51.9	51.5	52.2	52.1
Has ever had a mammogram	39.3	38.5	46.7	35.1	...	...	...	...	39.3	38.5	46.7	35.1
Cancer												
Has ever been diagnosed with cancer	5.3	4.4	8.2	4.8	4.2	2.5	7.8	3.1	6.3	5.6	8.8	6.5
Has parents or siblings who have had cancer	33.4	30.3	41.2	33.1	31.6	25.6	41.5	30.5	35.1	33.2	40.9	35.8

[1]Does not include multivitamin supplements.

Appendixes

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Appendix I
Technical notes on methods

Background

This report is one of a series of statistical reports published by the staff of the National Center for Health Statistics (NCHS). It is based on information collected from a nationwide sample of households included in the National Health Interview Survey (NHIS). Data are obtained on the personal, sociodemographic, and health characteristics of the family members and unrelated individuals living in these households.

Field operations for the survey are conducted by the U.S. Bureau of the Census under specifications established by NCHS. The U.S. Bureau of the Census participates in the survey planning, selects the sample, and conducts the interviews. The data are then transmitted to NCHS for preparation, processing, and analysis.

Summary reports and reports on special topics for each year's data are prepared by the staff of the Division of Health Interview Statistics for publication in *Vital and Health Statistics,* Series 10, publications of NCHS. Data also are tabulated for other reports published by NCHS staff and for use by other organizations and by researchers within and outside the government. Since 1969, public use tapes have been prepared for each year of data collection.

It should be noted that the health characteristics described by NHIS estimates pertain only to the resident, civilian noninstitutionalized population of the United States living at the time of the interview. The sample does not include persons residing in nursing homes, members of the Armed Forces, institutionalized persons, or U.S. nationals living abroad.

Statistical design of NHIS

General design

The NHIS has been conducted continuously since 1957. The sample design of the survey has undergone changes following each decennial census. This periodic redesign of the NHIS sample allows the incorporation of the latest population information and statistical methodology into the survey design. The data presented in this report were collected using an NHIS sample design first used in 1985. It is anticipated that this design will be used until 1995.

The sample design plan of the NHIS follows a multistage probability design that permits continuous sampling of the civilian noninstitutionalized population residing in the United States. The survey is designed in such a way that the sample scheduled for each week is representative of the target population and the weekly samples are additive over time. This design permits estimates for frequent events or for large population groups to be produced from data collected over a short period of time. Estimates for infrequent events or for smaller population subgroups can be obtained from data collected over a longer period of time. The annual sample is designed so that tabulations can be provided for each of the four major geographic regions. Because interviewing is done throughout the year, there is no seasonal bias for annual estimates. The continuous data collection also has administrative and operational advantages because fieldwork can be handled on a continuing basis with an experienced, stable staff.

Sample selection

The target population for the NHIS is the civilian noninstitutionalized population residing in the United States. For the first stage of the sample design, the United States is considered to be a universe composed of approximately 1,900 geographically defined primary sampling units (PSU's). A PSU consists of a county, a small group of contiguous counties, or a metropolitan statistical area. The PSU's collectively cover the 50 States and the District of Columbia. The 52 largest PSU's are selected into the sample with certainty and are referred to as self-representing PSU's. The other PSU's in the universe are referred to as non-self-representing PSU's. These PSU's are clustered into 73 strata, and 2 sample PSU's are chosen from each stratum with probability proportional to population size. The selection of two PSU's per stratum allows more efficient variance estimation than was possible under the pre-1985 NHIS design in which only one PSU was selected per stratum (U.S. Bureau of the Census, 1985). The current selection procedure yields a total of 198 PSU's selected in the first stage.

Within a PSU, two types of second-stage units, referred to as segments, are used: area segments and permit area segments. Area segments are defined geographically and contain an expected eight households. Permit area segments cover geographical areas containing housing units built after the 1980 census. The permit area segments are defined using updated lists of building permits issued in the PSU since 1980 and contain an expected four households.

Within each segment all occupied households are targeted for interview. On occasion, a sample segment may contain a large number of households. In this situation the households are subsampled to provide a manageable interviewer workload. To increase the precision of estimates for black persons, differential sampling rates are applied in PSU's containing a population consisting of between 5 and 50 percent black persons. Within those PSU's, sampling rates for selection of segments are increased in areas known to have the highest concentrations of black persons; segment sampling rates are decreased in other areas within those PSU's to ensure that the total sample is the same size as it would have been without oversampling black persons.

The sample was designed so that a typical NHIS full sample for the data collection years 1985 to 1995 will consist of approximately 7,500 segments containing about 59,000 assigned households. Of these households, an expected 10,000 will be vacant, demolished, or occupied by persons not in the target population of the survey. The expected sample of 49,000 occupied households will yield a probability sample of about 127,000 persons.

The NHIS sample is designed so that it can serve as a sample frame for other NCHS population-based surveys. Four national subdesigns, or panels, constitute the full NHIS sample design. Each panel contains a representative sample of the U.S. civilian noninstitutionalized population. All four panels have identical sampling properties, and any combination of panels defines a national design. Panels were constructed to facilitate the linkage of NHIS to other surveys and also to efficiently make large reductions in the size of the sample by eliminating panels from the survey when budgetary constraints make this necessary.

In 1987 the sample consisted of 8,282 segments containing 61,009 assigned households. Of the 49,569 households eligible for interview, 47,240 households actually were interviewed, resulting in a sample of 122,859 persons.

Collection and processing of data

The NHIS questionnaire contains two major parts. The first, the basic health and demographic component, consists of topics that remain relatively unchanged from year to year. Among these topics are the incidence of acute conditions, the prevalence of chronic conditions, persons limited in activity due to chronic conditions, restriction in activity due to impairment or health problems, and utilization of health care services involving physician care and short-stay hospitalization. The second part, a special topics component, consists of additional topics that change from year to year.

Careful procedures are followed to assure the quality of data collected in the interview. Most households in the sample are contacted by mail before the interviewer arrives. Potential respondents are informed of the importance of the survey and assured that all information obtained in the interview will be held in strict confidence. Interviewers make repeated trips to a household when a respondent is not found on the first visit. The success of these procedures is indicated by the response rate for the survey, which has been between 96 and 98 percent over the years.

When contact is made, the interviewer attempts to have all family members of the household 19 years of age and over present during the interview. When this is not possible, proxy responses for absent adult family members are accepted. In most situations, proxy respondents are used for persons under 19 years of age. Persons 17 and 18 years of age may respond for themselves, however.

Interviewers undergo extensive training and retraining. The quality of their work is checked by means of periodic observation and by reinterview. Their work also is evaluated by statistical studies of the data they obtain in their interviews. A field edit is performed on all completed interviews so that if there are any problems with the information on the questionnaire, respondents may be recontacted to solve the problem.

Completed questionnaires are sent from the U.S. Bureau of the Census field offices to NCHS for coding and editing. To ensure the accuracy of coding, a 5-percent sample of all questionnaires is recoded and keyed by other coders. A 100-percent verification procedure is used if certain error tolerances are exceeded. Staff members of the Division of Health Interview Statistics then edit the files to remove impossible and inconsistent codes.

The interview, fieldwork, and data processing procedures summarized above are described in detail in Series 1, No. 18 (NCHS, 1985).

The NHIS of Cancer Epidemiology and Control

In general, one adult 18 years of age or older was randomly selected from each NHIS sample family to participate in the 1987 NHIS of Cancer Epidemiology and Control (NHIS-CEC). The procedure was somewhat different in families falling into a special "Hispanic oversample." Hispanic persons were oversampled in selected PSU's in three consolidated metropolitan statistical areas (CMSA's): the New York, New Jersey, Long Island, New York-New Jersey-Connecticut CMSA; the Chicago-Gary-Lake County-Illinois-Indiana-Wisconsin CMSA; and the Miami-Fort Lauderdale, Florida CMSA. In Hispanic families in the PSU's selected for the oversample, up to two additional sample persons were included, yielding an additional 354 Hispanic respondents. In households where only Spanish was spoken, interviews were conducted with the aid of a Spanish Translation Guide (U.S. Bureau of the Census, 1987a, 1987b).

Self-response was required for NHIS-CEC and callbacks were made as necessary. Two questionnaires were used for the survey: one for cancer epidemiology and one for cancer control. One-half of the sample was interviewed with each questionnaire. The questionnaires were systematically assigned to every other sample person at the time of sample selection. A total of 22,080 persons were interviewed with the cancer epidemiology questionnaire and

22,043 with the cancer control questionnaire. The total of 44,123 interviewed persons represents a response rate of approximately 86 percent of identified eligible respondents. The combined overall response rate for the CEC can be estimated as the product of the response rate for the basic questionnaire (95 percent) and the CEC questionnaire (86 percent), or 82 percent. The survey included a wide range of information related to cancer including questions on acculturation, medical care, food knowledge, cancer knowledge and attitudes, cancer screening knowledge and practice, smoking and other tobacco use, occupational exposures, height and weight, food intake frequency, vitamin and mineral intake, reproduction and hormone use, family history of cancer, cancer survival, and social relationships and activities.

Estimation procedures

Because the design of the NHIS is a complex multistage probability sample, it is necessary to reflect these complex procedures in the derivation of estimates. The estimates presented in this report are based upon 1987 NHIS-CEC sample person counts weighted to produce national estimates. The weight for each sample person is the product of five component weights:

1. *Probability of selection*—The basic weight for each person is obtained by multiplying the reciprocals of the probabilities of selection at each step in the design: PSU, segment, and household.
2. *Household nonresponse adjustment within segment*—In NHIS, interviews are completed in about 96 percent of all eligible households. Because of household nonresponse, a weighting adjustment is required. The nonresponse adjustment weight is a ratio with the number of households in a sample segment as the numerator and the number of households actually interviewed in that segment as the denominator. This adjustment reduces bias in an estimate to the extent that persons in the noninterviewed households have the same characteristics as the persons in the interviewed households in the same segment. For nonresponse by NHIS-CEC sample persons, an additional adjustment was performed (see below).
3. *First-stage ratio adjustment*—The weight for persons in the non-self-representing PSU's is ratio adjusted to the 1980 population within four race-residence classes of the non-self-representing strata within each geographic region.
4. *Adjustment for the probability of selection within household*—The weight for each NHIS-CEC sample person is multiplied by the within-family sampling weight, which is the inverse of the person's probability of selection within the family. The within-family sampling weight then is multiplied by 2 because each questionnaire was administered in only one out of every two sample families. For example, in a family of four adults, the sample person had a 1 in 4 probability of selection. That person's weight is multiplied by 4, then doubled. In the Hispanic oversample, the within-family sampling weight is calculated using a more complex formula that takes into account the number of eligibles and the distribution of eligibles by Hispanic status.
5. *Poststratification by age-sex-race*—Within each of 20 age-sex-race cells (table I), a weight is constructed each quarter to ratio adjust the first-stage population estimate based on the NHIS to an independent estimate of the population of each cell. These independent estimates are prepared by the U.S. Bureau of the Census and are updated quarterly.

Table I. The 20 poststratification age-sex-race cells in the National Health Interview Survey of Cancer Epidemiology and Control: United States, 1987

Age	Black		All other	
	Male	Female	Male	Female
18–24 years	X	X	X	X
25–34 years	X	X	X	X
35–44 years	X	X	X	X
45–54 years	X	X	X	X
55 years and over	X	X	X	X

The main effect of the ratio-estimating process is to make the sample more closely representative of the target population by age, sex, race, and residence. The poststratification adjustment helps to reduce the component of bias resulting from sampling frame undercoverage; furthermore, this adjustment frequently reduces sampling variance.

In some households responding to the basic health and demographic component of the NHIS, there is nonresponse to the special topic questionnaire. While the NHIS estimation procedures include no separate adjustment factor to reduce the bias due to this type of nonresponse, the poststratification by age-sex-race also serves to reduce the nonresponse bias in estimates derived from the special topic sections, to the extent that nonrespondents to the special topic questionnaire are similar to respondents in each poststratification adjustment cell.

Types of estimates

As noted, NHIS data are collected on a weekly basis, with each week's sample representing the resident civilian noninstitutionalized population of the United States living during that week. The weekly samples are consolidated to produce quarterly files (each consisting of data for 13 weeks). Weights to adjust the data to represent the U.S. population are assigned to each of the four quarterly files. These quarterly files are later consolidated to produce the annual file, which is the basis of most tabulations of NHIS data.

NHIS uses various reference periods to reduce the amount of bias associated with respondent memory loss. A 2-week reference period is used in collecting data on the incidence of acute conditions, restriction in activity due to a health problem, and work loss days. Each of these measure health events that may be forgotten soon after they occur.

Examples of such events are telephoning a physician about a minor illness, missing a day from work because of a routine health problem, or having a cold. Either a 12- or 6-month (depending on the type of statistic) reference period is used for hospitalization data because hospitalization ordinarily involves a major event in a person's life and is not quickly forgotten. Chronic condition prevalence estimates are based on a 12-month reference period.

Because most NHIS estimates based on a 2-week reference period are designed to represent the number of health events for a 12-month period, these data must be adjusted to an annual basis. Data based on a 2-week reference period are multiplied by 6.5 to produce the 13-week estimate for the quarter. These reference period adjustments are made at the time the quarterly files are produced. Therefore, the data can be used to produce estimates for each quarter and are used that way to study seasonal variation. The data from the four quarterly files (representing the number of events in each quarter) are summed to produce the annual estimate. Although these data are collected for only 2 weeks for each person included in the survey, any unusual event that may have occurred during a particular 2-week period does not bias the estimate because the quarterly estimate is a sum of the estimate produced for each week's sample during the entire quarter and the annual estimate is the sum of the four quarters.

For prevalence statistics, such as the proportion of persons who believe that smoking causes lung cancer, the annual estimate results from summing the weighted quarterly files and dividing by 4. This division is necessary because, as noted above, each quarterly file has been weighted to produce an estimate of the number of persons in the U.S. population with a given characteristic. Summing the quarters and dividing by 4 in effect averages these quarterly results for the year. Thus, the type of prevalence estimate ordinarily derived from NHIS data is an annual average prevalence estimate.

For data related to short-stay hospital discharges based on a 6-month reference period, cases identified during any quarter of data collection are multiplied by 2 to produce a quarterly estimate of the annual number of characteristics associated with short-stay hospital discharges. The NHIS average annual estimate of hospital discharges is derived by summing the four quarterly estimates and dividing by 4, just as the prevalence estimates are.

As noted above, two questionnaires were employed for the NHIS-CEC. Each sample person was systematically assigned one of the two questionnaires. Most of the questions were unique to each of the questionnaires; a few were asked on both. For this report, in instances where data were drawn only from one of the instruments, the estimation procedures were the same as those just described. In cases where identical questions were asked on both questionnaires, the data were pooled. In the latter case, an average annual estimate was derived by summing the eight quarterly estimates (four from each file) and dividing by 8.

Reliability of the estimates

Because NHIS estimates are based on a sample, they may differ somewhat from the figures that would have been obtained if a complete census had been taken using the same survey and processing procedures. There are two types of errors possible in an estimate based on a sample survey: sampling and nonsampling errors. To the extent possible, these types of errors are kept to a minimum by methods built into the survey procedures described elsewhere (NCHS, 1973). Although it is very difficult to measure the extent of bias in NHIS, several studies have been conducted to examine this problem. The results have been published in several reports (NCHS, 1965a, 1965b, 1967, 1968).

Nonsampling errors

Interviewing process—Information, such as the number of days of restricted activity caused by the condition, can be obtained more accurately from household members than from any other source because only the persons concerned are in a position to report this information. However, there are limitations to the accuracy of diagnostic and other information collected in household interviews. For example, 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. Further, a respondent may not answer a question in the intended manner because he or she has not properly understood the question, has forgotten the event, does not know, or does not wish to divulge the answer. Regardless of the type of measure, all NHIS data are estimates of known reported morbidity, disability, and so forth.

Reference period bias—NHIS estimates do not represent a complete measure of any given topic during the specified calendar period because data are not collected in the interview for persons who died or became institutionalized during the reference period. For many types of statistics collected in the survey, the reference period is 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 (such as 1 year) might be significant, especially within older age groups.

Population estimates—Some of the published tables include population figures for specified categories. Except for overall totals for the 20 age, sex, and race groups, which are adjusted to independent estimates, these figures are based on the sample of households in NHIS. They are given primarily to provide denominators for rate computation, and for this purpose they 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 race

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

Rounding of numbers—In published tables, the figures are rounded to the nearest thousand, although they are not necessarily accurate to that detail. Derived statistics, such as rates and percent distributions, are computed after the estimates on which they are based have been rounded to the nearest thousand.

Sampling errors

The standard error is primarily a measure of sampling error, that is, the variations that might occur by chance because only a sample of the population is surveyed. The chances are about 68 in 100 that an estimate from the sample would differ from a complete census by less than the standard error. The chances are about 95 in 100 that the difference would be less than twice the standard error and about 99 in 100 that it would be less than 2½ times as large.

Individual standard errors were not computed for each estimate in this report. Instead, standard errors were computed for a broad spectrum of estimates. Regression techniques then were applied to produce equations from which a standard error for any estimate can be approximated. The regression equations, represented by parameters *a* and *b*, are presented in table II. Rules explaining their use are presented in the section below.

Table II. Estimated standard error parameters for the National Health Interview Survey of Cancer Epidemiology and Control: United States, 1987

Parameter set	Characteristic	Estimated parameters a	b
	Cancer epidemiology or control (separate files):		
I	Population estimates for demographic, socioeconomic, and health characteristics	0.0000	10,000
II	Age-sex-race population based upon combining the poststratification cells of table I	0.0	0.0
	Cancer epidemiology and control (combined files):		
I	Population estimates for demographic, socioeconomic, and health characteristics	0.000021	6,100
II	Age-sex-race population based upon combining the poststratification cells of table I	0.0	0.0

The reader is cautioned that this procedure will give an approximate standard error of an estimate rather than the precise standard error. The reader is further cautioned that particular care should be exercised when the denominator is small.

Denominators to be used in calculating approximate standard errors are shown in tables III–VIII. For 14 of the 17 tables presented in this report, the denominator provided is the exact denominator used in calculating the statistics shown. For the remaining three tables, tables 3, 5, and 16, the data were actually tabulated using the Cancer Control file only. Separate denominators are not shown for these tables. Rather, the denominators for smoking status by sex, shown in table V (and used for tables based on the pooled Cancer Epidemiology and Control files), are to be used for calculating standard errors for these tables. Parameters for the separate files (table II) should be used. Differences between the separate and the pooled denominators range from 0.3 percent for the total population to 1.8 percent for female former smokers. Use of the pooled denominators should have little effect on the standard errors calculated.

General rules for determining standard errors

To produce approximate standard errors for NHIS estimates, the reader must first determine the type of characteristic to be estimated, that is, the parameter set in table II to be used. The reader then must determine the type of estimate for which the standard error is needed. The type of estimate corresponds to one of five general rules for

Table III. Number of persons 18 years of age and over by sex, age, and known tobacco use status: United States, 1987

Sex and age	Cigarettes	Chewing tobacco	Snuff	Pipes	Cigars
	Number in thousands				
Both sexes	169,870	173,172	172,977	173,257	172,510
18–24 years	25,345	25,836	25,816	25,861	25,792
25–44 years	73,896	75,173	75,071	75,241	74,948
45–64 years	43,134	44,147	44,094	44,159	43,920
65–74 years	17,185	17,497	17,494	17,500	17,410
75 years and over	10,309	10,520	10,502	10,497	10,440
Male	80,406	82,034	81,912	82,053	81,684
18–24 years	12,281	12,570	12,571	12,587	12,538
25–44 years	36,115	36,775	36,735	36,833	36,679
45–64 years	20,285	20,743	20,701	20,736	20,625
65–74 years	7,852	7,966	7,954	7,942	7,910
75 years and over	3,873	3,980	3,952	3,955	3,931
Female	89,463	91,138	91,065	91,204	90,826
18–24 years	13,064	13,265	13,245	13,274	13,254
25–44 years	37,781	38,398	38,337	38,408	38,268
45–64 years	22,849	23,404	23,393	23,422	23,295
65–74 years	9,333	9,531	9,540	9,558	9,500
75 years and over	6,436	6,539	6,550	6,542	6,509

NOTE: For use in calculating standard errors for tables 1, 8, 10, 12, and 14.

Table IV. Number of persons 18 years of age and over by selected sociodemographic characteristics and known tobacco use status: United States, 1987

Sociodemographic characteristic	Cigarettes	Chewing tobacco	Snuff	Pipes	Cigars
Both sexes			Number in thousands		
Total	169,870	173,172	172,977	172,738	172,510
Education level:					
Less than 12 years	38,899	39,545	39,523	39,556	39,423
12 years	66,228	67,350	67,298	67,416	67,092
More than 12 years	64,234	65,757	65,637	65,766	65,475
Family income:					
Less than $10,000	22,886	23,307	23,299	23,303	23,214
$10,000–$19,999	33,081	33,664	33,610	33,674	33,564
$20,000–$34,999	44,889	45,816	45,786	45,844	45,600
$35,000–$49,999	26,781	27,349	27,285	27,353	27,245
$50,000 or more	22,876	23,345	23,311	23,379	23,276
Race:					
White	146,159	149,115	148,934	149,150	148,465
Black	18,655	18,904	18,902	18,927	18,883
Hispanic origin:					
Hispanic	12,266	12,640	12,604	12,625	12,590
Non-Hispanic	157,122	160,039	159,887	160,142	159,437
Geographic region:					
Northeast	36,482	37,184	37,153	37,250	37,069
Midwest	41,690	42,384	42,384	42,451	42,259
South	57,476	58,543	58,503	58,574	58,303
West	34,221	34,954	34,938	34,981	34,879
Marital status:					
Currently married	109,809	111,977	111,817	111,991	111,494
Separated and divorced	15,778	16,070	16,037	16,080	16,001
Widowed	12,463	12,712	12,730	12,729	12,675
Never married	31,650	32,244	32,225	32,298	32,181
Male					
Total	80,406	82,034	81,912	81,809	81,684
Education level:					
Less than 12 years	18,214	18,583	18,545	18,553	18,504
12 years	29,231	29,703	29,681	29,734	29,598
More than 12 years	32,722	33,504	33,442	33,523	33,337
Family income:					
Less than $10,000	8,467	8,650	8,644	8,626	8,630
$10,000–$19,999	15,039	15,294	15,244	15,285	15,219
$20,000–$34,999	22,430	22,941	22,917	22,948	22,838
$35,000–$49,999	13,687	14,017	14,007	14,036	13,960
$50,000 or more	12,016	12,273	12,253	12,306	12,235
Race:					
White	69,582	71,044	70,930	71,037	70,707
Black	8,319	8,419	8,413	8,423	8,394
Hispanic origin:					
Hispanic	5,717	5,949	5,931	5,931	5,905
Non-Hispanic	74,474	75,865	75,761	75,901	75,561
Geographic region:					
Northeast	17,070	17,419	17,396	17,466	17,430
Midwest	20,000	20,344	20,284	20,296	20,193
South	26,730	27,320	27,285	27,331	27,188
West	16,606	16,951	16,947	16,960	16,872
Marital status:					
Currently married	54,706	55,828	55,729	55,814	55,582
Separated and divorced	5,993	6,123	6,101	6,121	6,083
Widowed	2,041	2,064	2,065	2,073	2,063
Never married	17,603	17,958	17,956	17,993	17,905

Table IV. Number of persons 18 years of age and over by selected sociodemographic characteristics and known tobacco use status: United States, 1987—Con.

Sociodemographic characteristic	*Cigarettes*	*Chewing tobacco*	*Snuff*	*Pipes*	*Cigars*
Female			Number in thousands		
Total	89,463	91,138	91,065	90,929	90,826
Education level:					
Less than 12 years	20,685	20,962	20,978	20,003	20,919
12 years	36,997	37,647	37,617	37,682	37,493
More than 12 years	31,513	32,253	32,195	32,244	32,138
Family income:					
Less than $10,000	14,419	14,657	14,655	14,677	14,584
$10,000–$19,999	18,041	18,370	18,366	18,389	18,346
$20,000–$34,999	22,459	22,875	22,869	22,869	22,762
$35,000–$49,999	13,095	13,332	13,277	13,317	13,285
$50,000 or more	10,860	11,072	11,058	11,073	11,041
Race:					
White	76,577	78,070	78,004	78,113	77,757
Black	10,337	10,485	10,489	10,504	10,489
Hispanic origin:					
Hispanic	6,549	6,691	6,672	6,694	6,684
Non-Hispanic	82,649	84,174	84,127	84,241	83,876
Geographic region:					
Northeast	19,412	19,766	19,756	19,784	19,638
Midwest	21,690	22,147	22,100	22,155	22,066
South	30,746	31,223	31,218	31,243	31,115
West	17,615	18,003	17,991	18,012	18,007
Marital status:					
Currently married	55,103	56,149	56,087	56,177	55,912
Separated and divorced	9,785	9,947	9,936	9,959	9,918
Widowed	10,422	10,648	10,665	10,656	10,612
Never married	14,047	14,286	14,269	14,305	14,276

NOTE: For use in calculating standard errors for tables 2, 9, 11, 13, and 15.

Table V. Number of persons 18 years of age and over known to use cigarettes only and known to use paired combinations of cigarettes and chewing tobacco, snuff, pipes, and cigars, by sex and cigarette smoking status: United States, 1987

Sex and cigarette smoking status	Known cigarette smoking only	Known cigarette smoking and known use of—			
		Chewing tobacco	Snuff	Pipes	Cigars
Both sexes	Number in thousands				
Total	169,870	168,932	168,750	169,014	168,278
Never	82,206	81,692	81,667	81,794	81,443
Former	38,795	38,551	38,493	38,562	38,360
Current	48,868	48,689	48,590	48,657	48,475
Male					
Total	80,406	79,918	79,805	79,931	79,571
Never	32,070	31,856	31,848	31,886	31,750
Former	23,217	23,055	23,016	23,052	22,916
Current	25,120	25,007	24,941	24,993	24,904
Female					
Total	89,463	89,014	88,944	89,082	88,707
Never	50,137	49,836	49,819	49,908	49,692
Former	15,579	15,496	15,477	15,510	15,444
Current	23,748	23,682	23,649	23,664	23,571

NOTE: For use in calculating standard errors for table 7. "Cigarette only" column is for use in calculating standard errors for tables 3, 5, and 16.

Table VI. Number of persons 18 years of age and over who believe that smoking is related to emphysema, lung cancer, chronic bronchitis, cancer of the mouth and throat, and heart disease, by sex and cigarette smoking status: United States, 1987

Sex and cigarette smoking status	Emphysema	Lung cancer	Chronic bronchitis	Cancer of the mouth and throat	Heart disease
Both sexes	Number in thousands				
Total	139,600	151,239	128,423	136,846	129,428
Never	67,959	75,123	62,780	68,001	62,189
Former	34,699	36,248	31,922	33,452	32,365
Current	36,941	39,869	33,722	35,393	34,874
Male					
Total	65,245	71,481	60,049	64,419	62,403
Never	26,210	29,501	24,677	26,925	25,181
Former	20,400	21,440	18,585	19,586	19,135
Current	18,636	20,539	16,786	17,908	18,087
Female					
Total	74,354	79,759	68,375	72,427	67,025
Never	41,749	45,622	38,103	41,076	37,008
Former	14,300	14,808	13,337	13,867	13,231
Current	18,306	19,330	16,935	17,484	16,787

NOTE: For use in calculating standard errors for table 4.

Table VII. Number of current smokers who have tried to quit smoking at least once and number of former smokers, by sex and known response status on selected questions related to quitting smoking: United States, 1987

Quitting smoking topics	Both sexes	Male	Female
Current smokers[1]	Number in thousands		
Doctor's advice	47,800	24,499	23,301
Other reasons tried to quit smoking	30,539	15,444	15,095
Methods used in any quit attempts			
Lower tar and nicotine	31,129	15,821	15,308
Special filters	31,067	15,808	15,259
Decrease number	31,096	15,812	15,285
Nicorette[2]	31,077	15,821	15,257
Smokeout	31,029	15,791	15,238
Stop with friends or relatives	31,049	15,775	15,274
Book	30,894	15,647	15,247
"Cold turkey"	31,651	16,135	15,517
Other	30,439	15,425	15,014
Former smokers			
Doctor's advice	37,984	22,754	15,230
Other reasons for quitting	37,416	22,371	15,045
Methods used in last quit attempt[3]	38,640	23,171	15,469

[1]With at least 1 quit attempt.
[2]Mention of brand name is for the purpose of specific identification of the equipment or product used and does not imply endorsement by the U.S. Department of Health and Human Services.
[3]No unknowns for methods used last time.

NOTE: For use in calculating standard errors for table 6.

Table VIII. Number of persons 18 years of age and over with known response status by sex, smoking status, and selected health behaviors: United States, 1987

Selected health behavior	*Total*[1]	*Never*	*Former*	*Current*
Both sexes		Number in thousands		
Number of times consumed beer per week	172,730	82,030	37,638	48,960
Number of beers consumed on drinking days	89,124	35,466	20,589	30,651
Number of times consumed wine per week	172,398	81,778	37,457	49,040
Number of glasses of wine consumed on drinking days	79,932	36,310	19,551	21,749
Number of times consumed liquor per week	172,357	81,756	37,564	48,887
Number of shots of liquor consumed on drinking days	74,894	30,326	17,895	24,715
Number of meals per day on weekdays	173,388	82,190	37,764	49,363
Number of meals per day on weekends	173,286	82,151	37,739	49,330
Number of snacks per day on weekdays	171,612	81,367	37,323	48,897
Number of snacks per day on weekends	171,064	81,138	37,159	48,758
Have changed diet for health reasons	173,914	82,387	38,005	49,508
Desirable weight	167,834	79,399	36,672	48,011
Took any vitamin or mineral supplement in last 12 months	174,285	82,593	38,045	49,558
Took multivitamin in last 12 months	89,143	43,253	20,644	22,956
Took vitamin A in last 12 months	88,411	42,987	20,379	22,766
Took vitamin C in last 12 months	89,286	43,322	20,660	23,033
Took vitamin E in last 12 months	89,284	43,310	20,676	23,019
Diet versus disease	175,263	82,775	38,125	49,611
Heard of fiber	172,217	81,624	37,727	49,046
Number of friends can call on for help	170,568	80,902	37,136	48,836
Number of relatives can call on for help	171,079	81,195	37,313	48,868
Number of times per year participates in social activities	171,168	81,100	37,382	48,969
Number of times per year attends religious services	171,639	81,262	37,646	48,996
Parents or siblings ever diagnosed with cancer	55,526	23,729	14,946	15,562
Personal history of cancer	173,599	82,394	37,949	49,408
Ever had a digital rectal exam	85,295	35,286	25,608	21,784
Ever had a blood stool test	84,512	35,009	25,320	21,627
Ever had a proctoscopic exam	84,963	35,170	25,549	21,681
Interval since last Pap smear	...	...	...	...
Ever had a mammogram	...	...	...	...
Time since last breast physical exam	...	...	...	...
Frequency of performing breast physical exam per year	...	...	...	...
Male				
Number of times consumed beer per week	81,785	32,108	22,482	25,192
Number of beers consumed on drinking days	55,217	20,762	14,244	18,766
Number of times consumed wine per week	81,663	31,991	22,452	25,214
Number of glasses of wine consumed on drinking days	36,860	14,901	10,744	10,185
Number of times consumed liquor per week	81,617	31,981	22,440	25,178
Number of shots of liquor consumed on drinking days	39,311	14,257	10,835	13,181
Number of meals per day on weekdays	82,175	32,210	22,577	25,394
Number of meals per day on weekends	82,124	32,199	22,557	25,374
Number of snacks per day on weekdays	81,342	31,939	22,280	25,150
Number of snacks per day on weekends	80,983	31,815	22,146	25,056
Have changed diet for health reasons	82,426	32,240	22,714	25,491
Desirable weight	79,116	30,869	21,964	24,473
Took any vitamin or mineral supplement in last 12 months	82,620	32,298	22,754	25,536
Took multivitamin in last 12 months	36,499	14,950	10,735	9,797
Took vitamin A in last 12 months	36,102	14,769	10,603	9,705
Took vitamin C in last 12 months	36,553	14,939	10,749	9,840
Took vitamin E in last 12 months	36,518	14,914	10,744	9,836
Diet versus disease	83,074	32,382	22,826	25,555
Heard of fiber	81,550	31,954	22,574	25,155
Number of friends can call on for help	80,418	31,605	22,044	24,968
Number of relatives can call on for help	80,801	31,808	22,178	25,022
Number of times per year participates in social activites	81,000	31,666	22,301	25,212
Number of times per year attends religious services	81,292	31,827	22,493	25,148
Parents or siblings ever diagnosed with cancer	24,861	7,827	9,029	7,411
Personal history of cancer	82,307	32,268	22,691	25,434
Ever had a digital rectal exam	38,768	10,236	16,393	10,959
Ever had a blood stool test	38,216	10,081	16,116	10,870
Ever had a proctoscopic exam	38,742	10,293	16,308	10,986
Interval since last Pap smear	...	...	...	...
Ever had a mammogram	...	...	...	...
Time since last breast physical exam	...	...	...	...
Frequency of performing breast physical exam year year	...	...	...	...

Table VIII. Number of persons 18 years of age and over with known response status by sex, smoking status, and selected health behaviors: United States, 1987—Con.

Selected health behavior	*Total*[1]	*Never*	*Former*	*Current*
Female		Number in thousands		
Number of times consumed beer per week	90,945	49,922	15,156	23,767
Number of beers consumed on drinking days	33,908	14,704	6,364	11,885
Number of times consumed wine per week	90,734	49,787	15,004	23,826
Number of glasses of wine consumed on drinking days	43,072	21,409	8,807	11,563
Number of times consumed liquor per week	90,740	49,775	15,124	23,709
Number of shots of liquor consumed on drinking days	35,583	16,069	7,060	11,534
Number of meals per day on weekdays	91,213	49,981	15,187	23,969
Number of meals per day on weekends	91,162	49,953	15,183	23,956
Number of snacks per day on weekdays	90,270	49,428	15,043	23,748
Number of snacks per day on weekends	90,081	49,323	15,014	23,702
Have changed diet for health reasons	91,489	50,147	15,291	24,016
Desirable weight	88,718	48,530	14,708	23,538
Took any vitamin/mineral supplement in last 12 months	91,665	50,295	15,290	24,022
Took multivitamin in last 12 months	52,644	28,304	9,909	13,159
Took vitamin A in last 12 months	52,309	28,219	9,776	13,061
Took vitamin C in last 12 months	52,733	28,383	9,911	13,193
Took vitamin E in last 12 months	52,766	28,396	9,933	13,184
Diet versus disease	92,189	50,393	15,299	24,056
Heard of fiber	90,667	49,670	15,153	23,891
Number of friends can call on for help	90,151	49,297	15,092	23,868
Number of relatives can call on for help	90,278	49,387	15,135	23,846
Number of times per year participates in social activities	90,168	49,435	15,081	23,756
Number of times per year attends religious services	90,347	49,435	15,153	23,849
Parents or siblings ever diagnosed with cancer	30,664	15,902	5,916	8,151
Personal history of cancer	91,292	50,126	15,258	23,974
Ever had a digital rectal exam	46,527	25,050	9,215	10,825
Ever had a blood stool test	46,296	24,928	9,204	10,757
Ever had a proctoscopic exam	46,221	24,877	9,241	10,695
Interval since last Pap smear	86,951	47,126	15,120	22,368
Ever had a mammogram	46,580	25,107	9,265	10,773
Time since last breast physical exam	44,476	23,822	8,930	10,326
Frequency of performing breast physical exam per year	83,793	45,593	14,465	21,487

[1]Total includes persons with unknown smoking status.

determining standard errors. Examples of their use are available (NCHS, 1988c).

Rule 1. *Proportions and percents when the denominator is not generated by the poststratification age-sex-race classes*—If p represents an estimated percent, b is the parameter from table II associated with the numerator characteristics, and y is the number of persons in the denominator upon which p is based, then the standard error of p may be approximated by

$$\mathrm{SE}(p) = \sqrt{\frac{bp\,(100-p)}{y}} \qquad (1)$$

(If p is a proportion, then this formula can be used with 100 replaced by 1.0.)

Rule 2. *For rates, proportions, and percents when the denominator is generated by the poststratification age-sex-race classes* (table I)—In this case, the denominator has no sampling error. For example, rule 2 would apply to the estimated proportion of smokers among black persons age 65 years and over because the denominator is a combination of the poststratification cells. Approximate standard errors for such estimates can be computed using table II a and b parameters associated with the numerator characteristics along with formula 2 below.

If the estimate of rate, proportion, or percent p is the ratio of two estimated numbers, $p = x/Y$ (where p may be inflated by 100 for percents or 1,000 for rates per 1,000 persons), with Y having no sampling error, then the approximate standard error for p is given by the formula

$$\mathrm{SE}(p) = p\sqrt{a + \frac{b}{x}} \qquad (2)$$

In this report, the value of the denominator Y is always provided, but in most cases the numerator value x is not published. For these cases the value of x may be computed by the formula

$x = pY$ if p is a proportion or rate per unit, or

$x = \frac{pY}{100}$ if p is a percent or rate per 100 units, or

$x = \frac{pY}{1{,}000}$ if p is a rate per 1,000 units

Rule 3. *Estimated number of people or events*—For the estimated number of people or events derived from this report, there are two cases to consider. For the first case, if the estimated number is any combination of the poststratification age-sex-race cells in table I, then its value has been adjusted to official U.S. Bureau of the Census figures and its standard error is assumed to be 0.0. This corresponds to parameter set IV in table II. As an example, this would be the case for the number of persons in the U.S. target population or the number of black persons in the group 18–44 years of age. Although the race class "white" is not specifically adjusted to U.S. Bureau of the Census figures, it dominates the poststratification "all other" race class; consequently, age-sex-"all other" race combinations of table I can be treated as age-sex-white combinations for the purpose of approximating standard errors.

For the second case, the standard errors for all other estimates of numbers of people or events, such as the number of people limited in activity or the number of bed days, are approximated by using the parameters provided in table II and formula 3 below.

If the aggregate x for a characteristic has associated parameters a and b, then the approximate standard error for x, SE(x), can be computed by the formula

$$\mathrm{SE}(x) = \sqrt{ax^2 + bx} \qquad (3)$$

Rule 4. *Rates when the denominator is not generated by the poststratification age-sex-race classes*—If the estimated rate p is expressed as the ratio of two estimates, $p = x/y$ (inflated by 100 or 1,000 when appropriate), then the estimated standard error for p is given by the formula

$$\mathrm{SE}(p) = p\sqrt{\frac{\mathrm{SE}(x)^2}{x^2} + \frac{\mathrm{SE}(y)^2}{y^2} - 2r\,\frac{\mathrm{SE}(x)}{x}\,\frac{\mathrm{SE}(y)}{y}} \qquad (4)$$

where SE(x) and SE(y) are computed using rule 3 and x and y are obtained from the tables. No estimates of r, the correlation between the numerator and denominator, are presented in this report; therefore, only the first two terms are available. The reader must assume that $r = 0.0$. Assuming $r = 0.0$ will yield an overestimate of the standard error if r is actually positive and an underestimate if r is negative.

Rule 5. *Difference between two statistics (mean, rate, total, and proportion)*—If x_1 and x_2 are two estimates, then the standard error of the difference $(x_1 - x_2)$ can be computed as follows:

$$\mathrm{SE}(x_1 - x_2) = \sqrt{\mathrm{SE}(x_1)^2 + \mathrm{SE}(x_2)^2 - 2r\,\mathrm{SE}(x_1)\,\mathrm{SE}(x_2)} \qquad (5)$$

where SE(x_1) and SE(x_2) are computed using rules 1–4 as appropriate and r is the correlation coefficient between x_1 and x_2.

Assuming $r = 0.0$ will result in an accurate standard error if the two estimates are actually uncorrelated. An overestimate of the standard error will result if the correlation is positive and an underestimate will result if the correlation is negative.

Relative standard errors

Prior to 1985, relative standard error (RSE) curves were presented in NHIS reports for approximating relative standard error. For readers who wish to continue using them, the following provides guidance. The RSE of an estimate is obtained by dividing the standard error (SE) of the estimate by the estimate x itself. This quantity is expressed as a percent of the estimate:

$$\text{RSE} = 100 \frac{\text{SE}(x)}{x}$$

Appendix II
Definitions of certain terms used in this report

Tobacco use

Cigarette smoking status—Persons are classified according to reports of having smoked at least 100 cigarettes in their entire lifetimes.

- *Current smoker*—A person who has smoked at least 100 cigarettes in his or her lifetime and is still smoking.
- *Former smoker*—A person who has smoked at least 100 cigarettes in his or her lifetime but is not currently smoking.
- *Never smoker*—A person who has never smoked cigarettes or has smoked less than 100 cigarettes in his or her lifetime.

Chewing tobacco use status—Persons are classified according to reports of having used chewing tobacco at least 20 times in their entire lifetimes.

- *Current user*—A person who has used chewing tobacco at least 20 times in his or her lifetime and is still using it.
- *Former user*—A person who has used chewing tobacco at least 20 times in his or her lifetime but is not still using it.
- *Never user*—A person who has never used chewing tobacco or has used it less than 20 times in his or her lifetime.

Snuff use status—Persons are classified according to reports of having used snuff at least 20 times in their entire lifetimes.

- *Current user*—A person who has used snuff at least 20 times in his or her lifetime and is still using it.
- *Former user*—A person who has used snuff at least 20 times in his or her lifetime but is not still using it.
- *Never user*—A person who has never used snuff or has used it less than 20 times in his or her lifetime.

Pipe smoking status—Persons are classified according to reports of having smoked a pipe at least 50 times in their entire lifetimes.

- *Current smoker*—A person who has smoked a pipe at least 50 times in his or her lifetime and is still smoking.
- *Former smoker*—A person who has smoked a pipe at least 50 times in his or her lifetime but is not currently smoking.
- *Never smoker*—A person who has never smoked a pipe or has smoked a pipe less than 50 times in his or her lifetime.

Cigar smoking status—Persons are classified according to reports of having smoked at least 50 cigars in their entire lifetimes.

- *Current smoker*—A person who has smoked at least 50 cigars in his or her lifetime and is still smoking.
- *Former smoker*—A person who has smoked at least 50 cigars in his or her lifetime but is not currently smoking.
- *Never smoker*—A person who has never smoked a cigar or has smoked less than 50 cigars in his or her lifetime.

Health-related behaviors (nontobacco)

Desirable weight—In this report, desirable body weight for height is classified according to 1983 Metropolitan Life Insurance Company (MLIC) standards (MLIC, 1983). Data on body weight are based on self-reported height and weight, without shoes. The midpoint of the medium frame weight category for a particular height was used as the desirable weight for that height. The MLIC standards were developed based on weight in indoor clothing and height with 1-inch heels for men and 2-inch heels for women. The National Health Interview Survey (NHIS) asked respondents to report their heights without shoes. The MLIC standards were adjusted by subtracting 2 pounds from the midpoint of the medium frame category for both sexes, and subtracting 1 inch from the height for men and 2 inches from the height for women.

The MLIC desirable weight standards are based on the mortality experience of a group of life insurance policyholders. Because persons who obtain life insurance are not representative of the general population, the appropriateness of these standards for some population subgroups is unknown (National Institutes of Health, 1985). The 1983 MLIC standards are slightly higher than the earlier published 1960 MLIC standards (Metropolitan Life Insurance Company, 1960). Both MLIC and NHIS data were based on self-reported height and weight. Self-reported height and weight data produce conservative estimates of the extent of overweight in the population because heavier

people tend to report lighter body weights than are obtained by actual physical measurements.

A variety of measures of overweight status are in use both within the National Center for Health Statistics and by outside researchers (National Institutes of Health, 1985). A major source of data on the prevalence of overweight in the U.S. population is the Second National Health and Nutrition Examination Survey (NHANES II). Data released from the NHANES II on overweight status are computed using measured height and weight and expressed as body mass index (BMI), calculated as weight divided by height, squared. Although not identical, the proportions of the population defined as "20 percent or more overweight" using the body mass index NHANES II cutpoints and the 1983 MLIC standards are not substantially different (National Institutes of Health, 1985).

Cancer diagnosis

Cancer diagnosis (respondent)—Cancer diagnoses include those diagnoses made by a respondent's physician and reported by the respondent. Diagnoses reported as cancer but not classified as such in the NHIS medical coding manual (NCHS, 1988e) are not included.

Cancer diagnosis (family)—History of cancer diagnosis among parents and siblings refers only to cancer diagnoses for full blood relatives. Half-siblings, stepparents, and adoptive parents and siblings are excluded.

Demographic 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 on the purpose of the table.

Educational level—Each person 18 years of age and over is classified by education according to the highest grade of school completed. Only grades completed in regular schools, where persons are given a formal education, are included. A regular school is one that 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.

Family income—Each member of a family is classified according to the total income of the family of which he or she 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 incomes.

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

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:

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

Hispanic origin—In this report, the population has been subdivided into two groups: Hispanic and non-Hispanic. Persons identifying themselves as belonging to any one of seven Hispanic origin groups (Puerto Rican, Cuban, Mexican or Mexicano, Mexican-American, Chicano, other Latin American, other Spanish) are classified as Hispanic. All others are classified as non-Hispanic.

Marital status:

- *Currently married* includes all married persons not separated from their spouses for reasons of marital discord. Persons living apart due to circumstances of their employment are considered married. Persons living together as husband and wife are considered married, regardless of legal status.
- *Separated and divorced* includes persons who are legally separated or divorced or who are living apart for reasons of marital discord.
- *Widowed* includes persons who have lost their spouse to death.
- *Never married* includes persons who were never married and persons whose only marriage was annulled.

Race—The population is divided into three racial groups, "white," "black," and "all other." "All other" includes Aleut, Eskimo or American Indian, Asian, or Pacific Islander, and any other races. Race characterization is based on the respondent's description of his or her racial background. Because of the mixed composition of the "other" category, only white and black are shown in this report.

Appendix III Questionnaire items from National Health Interview Survey—Epidemiology Study

57a. **During the past year or so, how often did you drink beer?**	0011 ☐ Everyday/daily Times per { 2 ☐ Week, 3 ☐ Month, 4 ☐ Year } 0000 ☐ Never *(58)*	111–114
b. **On the days you drank beer, how many cans, bottles or glasses did you drink?**	Number 99 ☐ DK	115–116
c. **Were they small, medium, or large?**	1 ☐ Small 2 ☐ Medium (12 oz.) 3 ☐ Large (16 oz.)	117

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Section BB — FOOD FREQUENCY — Continued

3–4

58a. During the past year or so, how often did you drink wine?	0011 ☐ Everyday/daily ____ Times per { 2 ☐ Week, 3 ☐ Month, 4 ☐ Year } 0000 ☐ Never *(59)*	5–8
b. On the days you drank wine, how many glasses did you drink?	____ Number 99 ☐ DK	9–10
c. Were they small, medium, or large?	1 ☐ Small 2 ☐ Medium (1med. wine glass) 3 ☐ Large	11
59a. During the past year or so, how often did you drink liquor?	0011 ☐ Everyday/daily ____ Times per { 2 ☐ Week, 3 ☐ Month, 4 ☐ Year } 0000 ☐ Never *(60)*	12–15
b. On the days you drank liquor, how many drinks did you have?	____ Number 99 ☐ DK	16–17
c. Were they small, medium, or large?	1 ☐ Small 2 ☐ Medium (1shot) 3 ☐ Large	18
60a. Was there ever a period in your life when you drank five or more drinks of any alcoholic beverage almost every day?	1 ☐ Yes 2 ☐ No 9 ☐ DK } *(61)*	19
b. For how long did that period last?	____ Number { 1 ☐ Days, 2 ☐ Weeks, 3 ☐ Months, 4 ☐ Years } 9999 ☐ DK	20–23
61. When you eat chicken or other poultry, how often do you eat it with the skin on? Would you say often, sometimes, rarely or never?	1 ☐ Often or always 2 ☐ Sometimes 3 ☐ Rarely 4 ☐ Never 0 ☐ Don't eat chicken or poultry	24
62. When you eat red meat, how often do you eat the fat? Would you say often, sometimes, rarely or never?	1 ☐ Often or always 2 ☐ Sometimes 3 ☐ Rarely 4 ☐ Never 0 ☐ Don't eat red meat	25
63a. On most weekdays, how many meals do you usually eat each day?	0 ☐ Less than one a day ____ Meals 9 ☐ DK	26
b. On most weekdays, how many snacks do you usually eat each day, including snacks after dinner?	0 ☐ Less than one a day ____ Snacks 9 ☐ DK	27
c. On most Saturdays or Sundays, how many meals do you usually eat each day?	0 ☐ Less than one a day ____ Meals 9 ☐ DK	28
d. On most Saturdays or Sundays, how many snacks do you usually eat each day?	0 ☐ Less than one a day ____ Snacks 9 ☐ DK	29
64. In a typical week, how many meals do you usually get in restaurants, cafeterias, or fast food places?	00 ☐ Less than one a week ____ Meals 99 ☐ DK	30–31

Notes

Section CC — VITAMIN AND MINERAL INTAKE

1. **During the past 12 months, that is, since *(12 month date)* a year ago, did you take any vitamin or mineral supplements of any kind?** — 32

1 ☐ Yes
2 ☐ No *(section DD)*

2a. **During the past 12 months, that is, since *(12 month date)* a year ago, did you take any MULTIPLE vitamins?** — 33

1 ☐ Yes
2 ☐ No *(3)*

b. **What is the brand name of the multiple vitamins?** — 34–78

If more than one brand, ask:

What is the name of the brand you took most often during the past 12 months?

_____
Brand Name

☐ DK/Refused *(Ask probe for type)*

If known, mark without asking, otherwise ask:

Is that a therapeutic type, a stress-tab type or a one-a-day type? — 79

1 ☐ Therapeutic
2 ☐ Stress-tabs
3 ☐ One-a-day
8 ☐ None of these
9 ☐ DK

Mark first type listed

c. **For how many of the past 12 months did you take [*(name in 2b)*/multiple vitamins]?** — 80–81

00 ☐ Less than one
12 ☐ All of them
_____ Number of months

d. **During [the/those] *(number in 2c)* month(s), about how many days per month did you take [*(name in 2b)*/multiple vitamins]?** — 82–83

98 ☐ Everyday
_____ Number of days per month
88 ☐ Other

e. **On the days you took [*(name in 2b)*/multiple vitamins], how many pills did you take per day?** — 84–85

_____ Pills per day
99 ☐ DK

If less than 12 in 2c, ask:

f. **Did you take any multiple vitamins in the past month?** — 86

1 ☐ Yes
2 ☐ No

(The following questions are about vitamins not including the multiple vitamins you already told me about.)

3a. **During the past 12 months, did you take any vitamin A?** — 87

1 ☐ Yes
2 ☐ No *(4)*

b. **For how many of the past 12 months did you take vitamin A?** — 88–89

00 ☐ Less than one
12 ☐ All of them
_____ Number of months

c. **During [the/those] *(number in 3b)* month(s), about how many days per month did you take vitamin A?** — 90–91

98 ☐ Everyday
_____ Number of days per month
88 ☐ Other

d. **On the days you took vitamin A, how many pills did you usually take per day?** — 92–93

_____ Pills per day
99 ☐ DK

e. **How many units of vitamin A are in each of the pills you took?** — 94–98

_____ Units
99999 ☐ DK

If less than 12 in 3b, ask:

f. **Did you take any vitamin A in the past month?** — 99

1 ☐ Yes
2 ☐ No

4a. **During the past 12 months, did you take any vitamin C?** — 100

1 ☐ Yes
2 ☐ No *(5)*

b. **For how many of the past 12 months did you take vitamin C?** — 101–102

00 ☐ Less than one
12 ☐ All of them
_____ Number of months

c. **During [the/those] *(number in 4b)* month(s), about how many days per month did you take vitamin C?** — 103–104

98 ☐ Everyday
_____ Number of days per month
88 ☐ Other

d. **On the days you took vitamin C, how many pills did you usually take per day?** — 105–106

_____ Pills per day
99 ☐ DK

e. **How many milligrams of vitamin C are in each of the pills you took?** — 107–111

_____ Mgs.
99999 ☐ DK

If less than 12 in 4b, ask:

f. **Did you take any vitamin C in the past month?** — 112

1 ☐ Yes
2 ☐ No

Notes

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Section CC — VITAMIN AND MINERAL INTAKE — Continued

3–4

5a. **During the past 12 months, did you take any vitamin E?**	1 ☐ Yes 2 ☐ No *(6)*	5
b. **For how many of the past 12 months did you take vitamin E?**	00 ☐ Less than one 12 ☐ All of them _____ Number of months	6–7
c. **During [the/those] *(number in 5b)* month(s), about how many days per month did you take vitamin E?**	98 ☐ Everyday _____ Number of days per month 88 ☐ Other	8–9
d. **On the days you took vitamin E, how many pills did you usually take per day?**	_____ Pills per day 99 ☐ DK	10–11
e. **How many units of vitamin E are in each of the pills you took?**	_____ Units 99999 ☐ DK	12–16
If less than 12 in 5b, ask: **f.** **Did you take any vitamin E in the past month?**	1 ☐ Yes 2 ☐ No	17
6a. **During the past 12 months, did you take any calcium?**	1 ☐ Yes 2 ☐ No *(section DD)*	18
b. **For how many of the past 12 months did you take calcium?**	00 ☐ Less than one 12 ☐ All of them _____ Number of months	19–20
c. **During [the/those] *(number in 6b)* month(s), about how many days per month did you take calcium?**	98 ☐ Everyday _____ Number of days per month 88 ☐ Other	21–22
d. **On the days you took calcium, how many pills did you usually take per day?**	_____ Pills per day 99 ☐ DK	23–24
e. **How many milligrams of calcium are in each of the pills you took?**	_____ Mgs. 99999 ☐ DK	25–29
If less than 12 in 6b, ask: **f.** **Did you take any calcium in the past month?**	1 ☐ Yes 2 ☐ No	30

Notes

Section DD — FOOD KNOWLEDGE

1a. Have you ever made any LASTING and MAJOR changes in what you eat and drink for health reasons? — 31

1 ☐ Yes
2 ☐ No *(2)*

b. In making these changes, what foods do you eat MORE of?

Enter response verbatim, one food per line. Do not probe.

MORE

_____ 32–34
_____ 35–37
_____ 38–40
_____ 41–43

000 ☐ None
999 ☐ DK

c. What foods do you eat LESS of?

Enter response verbatim, one food per line. Do not probe.

LESS

_____ 44–46
_____ 47–49
_____ 50–52
_____ 53–55

000 ☐ None
999 ☐ DK

d. Have you made these changes in what you eat and drink in the past five years? — 56

1 ☐ Yes
2 ☐ No } *(1f)*
9 ☐ DK }

e. Did you make these changes in the past year? — 57

1 ☐ Yes
2 ☐ No
9 ☐ DK

f. Have there been any changes in the ways your food is cooked? — 58

1 ☐ Yes
2 ☐ No } *(2)*
9 ☐ DK }

g. What are these changes?

MORE	LESS		
1 ☐	2 ☐	Baking	59
1 ☐	2 ☐	Boiling	60
1 ☐	2 ☐	Broiling	61
1 ☐	2 ☐	Steaming	62
1 ☐	2 ☐	Frying	63
1 ☐	2 ☐	Stir-frying/wok	64
1 ☐	2 ☐	Sautéeing	65
1 ☐	2 ☐	Grilling/barbecuing	66
1 ☐	2 ☐	Salting	67
1 ☐	2 ☐	Microwaving	68
1 ☐	2 ☐	Pressure-cooking	69
1 ☐	2 ☐	Using non-stick pans	70
1 ☐	2 ☐	Other	71

1 ☐ DK — 72

73

2. I am going to read two statements. Please tell me which one you agree with most.

(a) What people eat or drink has little effect on whether they will develop major diseases.

OR

(b) By eating certain kinds of foods, people can reduce their chances of developing major diseases.

1 ☐ a *(5)*
2 ☐ b *(3)*
9 ☐ DK *(4)*

3. Which major diseases do you think may be related to what people eat and drink?

1 ☐ Cancer	74
1 ☐ Heart disease	75
1 ☐ Obesity/Overweight	76
1 ☐ Diabetes	77
1 ☐ Hypertension/ High Blood Pressure	78
1 ☐ Other	79
1 ☐ None	80
1 ☐ DK	81

Section DD — FOOD KNOWLEDGE

DD1 *Refer to 3*		82 1 ☐ Cancer in 3 *(5)* 8 ☐ Other *(4)*
4.	**Do you think cancer may be related to what people eat and drink?**	83 1 ☐ Yes 2 ☐ No 3 ☐ Probably/maybe/could be/etc. 9 ☐ DK
5a.	**Some foods contain fiber. Have you heard of fiber?**	84 1 ☐ Yes 2 ☐ No } *(6)* 9 ☐ DK } *(6)*
b.	**Overall, would you say your diet is high, medium, or low in fiber?**	85 1 ☐ High 2 ☐ Medium 3 ☐ Low 9 ☐ DK
6.	**Overall, would you say your diet is high, medium, or low in fat?**	86 1 ☐ High 2 ☐ Medium 3 ☐ Low 9 ☐ DK
7.	**Have you gone on a diet for weight loss or any other medical reason during the past 12 months?**	87 1 ☐ Yes 2 ☐ No

Notes

Section EE — SMOKING HABITS

These next questions are about cigarette smoking.

1.	**Have you smoked at least 100 cigarettes in your entire life?** *If asked: approximately 5 packs*	88 1 ☐ Yes 2 ☐ No } *(section FF)* 9 ☐ DK }
2.	**How old were you when you first started smoking cigarettes fairly regularly?**	89–90 _____ Age 00 ☐ Never smoked regularly *(section FF)* 99 ☐ DK
3.	**Do you smoke cigarettes now?**	91 1 ☐ Yes *(5)* 2 ☐ No
4.	**How old were you when you stopped smoking cigarettes?**	92–93 _____ Age 99 ☐ DK
5.	**On the average, how many cigarettes [did/do] you usually smoke a day?**	94–95 00 ☐ Less than one cigarette per day _____ Cigarettes per day 99 ☐ DK
6.	**For how many years [have you been/were you] a regular smoker, do not include the times you may have stayed off cigarettes?**	96–97 00 ☐ Less than one year _____ Years 99 ☐ DK

Notes

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Section FF — OTHER TOBACCO USE

3–4

5

These next questions are about the use of other tobacco products.

1a. Have you ever used chewing tobacco, such as Redman, Levi Garrett, or Beechnut?

1 ☐ Yes
2 ☐ No *(6)*
9 ☐ DK Chewing tobacco *(6)*

6

b. Have you used chewing tobacco at least 20 times?

1 ☐ Yes
2 ☐ No
9 ☐ DK
(6)

7–8

2. How old were you when you first used chewing tobacco?

_____ Age
99 ☐ DK

9

3. Do you use chewing tobacco now?

1 ☐ Yes
2 ☐ No

10–12

4. Altogether, about how long [did you use/have you used] chewing tobacco?

000 ☐ Less than one month
_____ 1 ☐ Months / 2 ☐ Years
999 ☐ DK

13–14

5a. On the average, how many days per month [did/do] you use chewing tobacco?

00 ☐ Less than one day a month
97 ☐ Never used regularly *(6)*
98 ☐ Everyday
_____ Days per month
99 ☐ DK

15–16

b. On the days that you use(d) chewing tobacco, how many times [did/do] you use it?

_____ Times per day
99 ☐ DK

17

6a. Have you ever used snuff, such as Skoal, Skoal Bandits, or Copenhagen?

1 ☐ Yes
2 ☐ No *(12)*
9 ☐ DK Snuff *(12)*

18

b. Have you used snuff at least 20 times?

1 ☐ Yes
2 ☐ No
9 ☐ DK
(12)

19–20

7. How old were you when you first used snuff?

_____ Age
99 ☐ DK

21

8. Do you use snuff now?

1 ☐ Yes
2 ☐ No

22–24

9. Altogether, about how long [did you use/have you used] snuff?

000 ☐ Less than one month
_____ 1 ☐ Months / 2 ☐ Years
999 ☐ DK

25–26

10a. On the average, how many days per month [did/do] you use snuff?

00 ☐ Less than one day a month
97 ☐ Never used regularly *(12)*
98 ☐ Everyday
_____ Days per month
99 ☐ DK

27–28

b. On the days you use(d) snuff, how many times [did/do] you use it?

_____ Times per day
99 ☐ DK

29

11. [Did/Do] you use snuff by sniffing it or by placing it in your mouth?

1 ☐ Sniffing
2 ☐ Mouth
3 ☐ Both

30

12a. Have you ever smoked a pipe?

1 ☐ Yes
2 ☐ No *(17)*

31

b. Have you smoked a pipe at least 50 times?

1 ☐ Yes
2 ☐ No
9 ☐ DK
(17)

32–33

13. How old were you when you first smoked a pipe?

_____ Age
99 ☐ DK

Section FF — OTHER TOBACCO USE — Continued

14. **Do you smoke a pipe now?**	1 ☐ Yes 2 ☐ No	34
15. **Altogether, about how long [did you smoke/have you smoked] a pipe?**	000 ☐ Less than one month _____ { 1 ☐ Months / 2 ☐ Years } 999 ☐ DK	35–37
16a. **On the average, how many days per month [did/do] you smoke a pipe?**	00 ☐ Less than one day a month 97 ☐ Never smoked a pipe regularly *(17)* 98 ☐ Everyday _____ Days per month 99 ☐ DK	38–39
b. **On the days you smoke(d) a pipe, how many pipefuls of tobacco [did/do] you smoke?**	00 ☐ Less than one _____ Pipefuls per day 99 ☐ DK	40–41
17a. **Have you ever smoked cigars?**	1 ☐ Yes 2 ☐ No *(section GG)*	42
b. **Have you smoked at least 50 cigars in your entire life?**	1 ☐ Yes 2 ☐ No 9 ☐ DK } *(section GG)*	43
18. **How old were you when you first smoked cigars?**	_____ Age 99 ☐ DK	44–45
19. **Do you smoke cigars now?**	1 ☐ Yes 2 ☐ No	46
20. **Altogether, about how long [did you smoke/have you smoked] cigars?**	000 ☐ Less than one month _____ { 1 ☐ Months / 2 ☐ Years } 999 ☐ DK	47–49
21a. **On the average, how many days per month [did/do] you smoke cigars?**	00 ☐ Less than one day a month 97 ☐ Never smoked cigars regularly *(section GG)* 98 ☐ Everyday _____ Days per month 99 ☐ DK	50–51
b. **On the days you smoke(d) cigars, how many [did/do] you smoke?**	00 ☐ Less than one _____ Cigars per day 99 ☐ DK	52–53

Notes

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Section HH — FAMILY HISTORY OF CANCER

3–4

These next questions are about your natural or birth mother and father. Do not include step or adoptive parents.

Ask 1–2 for mother, then for father.

		MOTHER	FATHER
1a. In what year was your natural [mother/father] born?	1a.	5–8 _____ Year 9999 ☐ DK	22–25 _____ Year 9999 ☐ DK
b. Is your [mother/father] still living?	b.	9 1 ☐ Yes *(2)* 2 ☐ No *(1c)* 9 ☐ DK *(2)* 7 ☐ Never knew natural mother *(1 for father)*	26 1 ☐ Yes *(2)* 2 ☐ No *(1c)* 9 ☐ DK *(2)* 7 ☐ Never knew natural father *(3)*
c. At what age did your [mother/father] die?	c.	10–11 _____ Age 99 ☐ DK	27–28 _____ Age 99 ☐ DK
2a. Was your [mother/father] ever diagnosed by a doctor as having cancer?	2a.	12 1 ☐ Yes 2 ☐ No 9 ☐ DK *(1 for father)*	29 1 ☐ Yes 2 ☐ No 9 ☐ DK *(3)*
b. What kind of cancer was it?	b.	13–15 _____ *(2d)* 799 ☐ DK *(2c)*	30–32 _____ *(2d)* 799 ☐ DK *(2c)*
c. What part of the body was affected?	c.	_____ ☐ DK	_____ ☐ DK
d. Did your [mother/father] have any other kind of cancer that was diagnosed by a doctor?	d.	16 1 ☐ Yes 2 ☐ No 9 ☐ DK *(2g)*	33 1 ☐ Yes 2 ☐ No 9 ☐ DK *(2g)*
e. The FIRST time [she/he] was diagnosed with cancer, what kind of cancer was it?	e.	17–19 000 ☐ Same as 2b/c *(2g)* _____ *(2g)* 799 ☐ DK *(2f)*	34–36 000 ☐ Same as 2b/c *(2g)* _____ *(2g)* 799 ☐ DK *(2f)*
f. What part of the body was affected?	f.	_____ ☐ DK	_____ ☐ DK
g. How old was your [mother/father] when cancer was first diagnosed by a doctor?	g.	20–21 _____ Age 99 ☐ DK *(1 for father)*	37–38 _____ Age 99 ☐ DK

Notes

Section HH — FAMILY HISTORY OF CANCER — Continued

Read to respondent: **Now I'm going to ask about your sisters and brothers who have the same natural or birth mother AND father as you. Do not include step, half, or adoptive sisters and brothers.**

3a. How many sisters do you have, including any that may have died?	3a.	00☐ None _____ Sisters 99☐ DK	39–40
b. How many brothers do you have, including any that may have died?	b.	00☐ None _____ Brothers 99☐ DK	41–42
If "None" in 3a and 3b, skip to 9. **4.** Have any of your [brothers /(or) sisters] ever been diagnosed by a doctor as having cancer?	4.	1☐Yes 2☐No } *(9)* 9☐DK }	43
5. What are the first names of your [brothers/(or) sisters] who had cancer? *Record each person in a separate column* **Anyone else?**	5.	_____ Name Sex: 1☐Male 2☐Female 9☐DK	44
		_____ Name Sex: 1☐Male 2☐Female 9☐DK	62
Ask 6—8 for the first person listed in 5 before asking 6—8 for the next person. **6a.** What kind of cancer did *(name in 5)* have?	6a.	_____ *(6c)* 799☐DK *(6b)*	45–47
		_____ *(6c)* 799☐DK *(6b)*	63–65
b. What part of the body was affected?	b.	_____ ☐DK	
		_____ ☐DK	
c. Did *(name in 5)* have any other kind of cancer that was diagnosed by a doctor?	c.	1☐Yes 2☐No } *(7)* 9☐DK }	48
		1☐Yes 2☐No } *(7)* 9☐DK }	66
d. The FIRST time [he/she] was diagnosed with cancer, what kind of cancer was it?	d.	000☐Same as 6a/b *(7)* _____ *(7)* 799☐DK *(6e)*	49–51
		000☐Same as 6a/b *(7)* _____ *(7)* 799☐DK *(6e)*	67–69
e. What part of the body was affected?	e.	_____ ☐DK	
		_____ ☐DK	
7. How old was *(name in 5)* when cancer was first diagnosed by a doctor?	7.	_____ Age 99☐DK	52–53
		_____ Age 99☐DK	70–71
8a. In what year was *(name in 5)* born?	8a.	_____ Year 9999☐DK	54–57
		_____ Year 9999☐DK	72–75
If known, mark without asking. **b.** Is *(name in 5)* still living?	b.	1☐Yes *(HH1)* 2☐No *(8c)* 9☐DK *(HH1)*	58
		1☐Yes *(HH1)* 2☐No *(8c)* 9☐DK *(HH1)*	76
c. At what age did *(name in 5)* die?	c.	_____ Age 99☐DK	59–60
		_____ Age 99☐DK	77–78
HH1 *Refer to entries in 5.*	HH1	1☐Additional siblings *(6)* 2☐No more siblings *(9)*	61
		1☐Additional siblings *(6)* 2☐No more siblings *(9)*	79

Notes

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Section II — CANCER SURVIVORSHIP

3–4

1. **Has a doctor or other health professional ever told you that you had cancer of any kind (including any cancer you have already mentioned)?** — 5

1 ☐ Yes
2 ☐ No *(section JJ)*

2a. **What kind of cancer was it?** — 6–8

_____ *(3)*

799 ☐ DK *(2b)*

b. **What part of the body was affected?**

_____

☐ DK

3. **How old were you when this cancer was first diagnosed by a doctor?** — 9–10

_____ Age

99 ☐ DK

4. **Besides this cancer, has a doctor ever told you that you had any other kind of cancer?** — 11

1 ☐ Yes
2 ☐ No *(section JJ)*

5a. **What kind of cancer was it?** — 12–14

_____ *(6)*

799 ☐ DK *(5b)*

b. **What part of the body was affected?**

_____

☐ DK

6. **How old were you when THIS cancer was first diagnosed by a doctor?** — 15–16

_____ Age

99 ☐ DK

Notes

Section KK — HEIGHT, WEIGHT, RELATIONSHIPS, AND SOCIAL ACTIVITIES

1. About how tall are you without shoes? — 28–30

_____ Feet

_____ Inches

2. About how much do you weigh without shoes? — 31–33

_____ Pounds

3. When you weighed the most, how much did you weigh (not including pregnancy)? — 34–36

_____ Pounds

These next questions are about social activities and relationships.

4a. (Not including your [husband/wife]) Of all your friends, how many are there that you can talk to about private matters or can call on for help? — 37–38

_____ Friends

00☐ None

b. (Not including your [husband/wife]) How many relatives do you have that you can talk to about private matters or can call on for help? — 39–40

_____ Relatives

00☐ None

If None in 4a and 4b, skip to 5.

c. How many of these friends and relatives do you see or talk to at least once a month? — 41–42

_____ Friends and relatives

00☐ None

5a. How often do you participate in or attend group meetings or activities, for example, social clubs, PTA, sporting events, church groups or other community service groups? — 43–45

_____ Times per { 2☐ Week, 3☐ Month, 4☐ Year }

000☐ Never

b. How often do you go to church, temple, or other religious services? — 46–48

_____ Times per { 2☐ Week, 3☐ Month, 4☐ Year }

000☐ Never

Notes

Appendix IV
Questionnaire items from National Health Interview Survey—Cancer Control

RT 69

Section S — CANCER SCREENING KNOWLEDGE AND PRACTICE — 3–4

S1 *Refer to age and sex* — 5

1 ☐ Male, under 40 *(41)*
2 ☐ Male, 40+ *(21)*
3 ☐ Female *(1)*

These next questions are about certain kinds of medical tests and examinations. — 6

1a. Have you ever heard of a Pap smear test?

1 ☐ Yes
2 ☐ No } *(7)*
9 ☐ DK }

b. Have you ever had a Pap smear? — 7

1 ☐ Yes
2 ☐ No *(6)*
9 ☐ DK *(7)*

c. When did you have your last Pap smear? — 8–11

___/___ mo. / 19__ year **OR** ____ { 1 ☐ Days ago; 2 ☐ Weeks ago; 3 ☐ Months ago; 4 ☐ Years ago } *If 3 years ago or less (2) If more than 3 years ago (4)*

999 ☐ DK *(1d)* — 12–14

d. Was it within the past year or a year or more ago? — 15

1 ☐ Within past year *(1e)*
2 ☐ 1 year or more *(1f)*
9 ☐ DK *(4)*

e. Was it less than three months, or 3 or more months ago? — 16

1 ☐ Less than 3 months
2 ☐ 3 or more months } *(2)*
9 ☐ DK

f. Was it 3 years ago or less, between three and 5 years, or 5 or more years ago? — 17

1 ☐ 3 years or less *(2)*
2 ☐ Between 3 and 5 years
3 ☐ 5 or more years } *(4)*
9 ☐ DK

2. Where was this Pap smear done — in a doctor's office, a clinic, a hospital, or some other place? — 18

1 ☐ Doctor's office
2 ☐ Clinic
3 ☐ Hospital
8 ☐ Other place *(Specify)* _____
9 ☐ DK

3a. Did you go for your last Pap smear because of a health problem? — 19

1 ☐ Yes
2 ☐ No } *(3c)*
9 ☐ DK }

b. What was the problem?

Mark all mentioned, do not probe.

1 ☐ Follow-up tests/treatment — 20
1 ☐ Bleeding — 21
1 ☐ Pain — 22
1 ☐ Discharge — 23
1 ☐ Itching — 24
1 ☐ Burning — 25
1 ☐ Infection — 26
1 ☐ Unrelated medical problem — 27
1 ☐ Other — 28
1 ☐ DK — 29

c. How were you told the results of the test — in person, over the telephone, through the mail, or some other way? — 30

1 ☐ In person
2 ☐ Telephone
3 ☐ Through the mail
4 ☐ Combination of methods
5 ☐ Never told; meaning results normal
6 ☐ Never told; DK if problem
8 ☐ Other

Section S — CANCER SCREENING KNOWLEDGE AND PRACTICE — Continued

5a. Have you ever had a Pap smear where the results were NOT normal? — 43
1 ☐ Yes
2 ☐ No } *(S3)*
9 ☐ DK

b. Because of the abnormal results, did you have any additional tests? — 44
1 ☐ Yes
2 ☐ No
9 ☐ DK

c. Because of the abnormal results, did you have any surgery or other treatment? — 45
1 ☐ Yes
2 ☐ No
9 ☐ DK

d. Did the [Pap smear/additional tests/surgery or other treatment] indicate that you had cancer? — 46
1 ☐ Yes
2 ☐ No } *(S3)*
9 ☐ DK

e. When were you diagnosed as having cancer? — 47–50
____ / 19 ____ mo. / year OR ____
1 ☐ Days ago
2 ☐ Weeks ago
3 ☐ Months ago
4 ☐ Years ago
999 ☐ DK — 51–53

S3 *Refer to 1c and 1f.* — 54
1 ☐ More than 3 years in 1c or 1f *(6)*
8 ☐ Other *(7)*

6. What is the most important reason why you have [never had a Pap smear/not had a Pap smear in the past few years]? — 55–56
00 ☐ Procrastinated/Put it off
01 ☐ Had a hysterectomy *(8)*
02 ☐ Didn't know I should
03 ☐ Not needed/not necessary
04 ☐ Cost too much
05 ☐ No insurance coverage
06 ☐ Don't go to doctors
07 ☐ Don't have a doctor
08 ☐ Not recommended by doctor/Dr. never said it was needed
09 ☐ Dr. said it wasn't needed
10 ☐ Too embarrassing
11 ☐ Haven't had any problems
12 ☐ Fear
88 ☐ Other
99 ☐ DK

7a. Do you have menstrual periods? — 57
1 ☐ Yes *(8)*
2 ☐ No *(7b)*
3 ☐ Never had menstrual periods *(7c)*

b. Did they stop due to surgery? — 58
1 ☐ Yes } *(8)*
2 ☐ No

c. Was this due to surgery? — 59
1 ☐ Yes
2 ☐ No

8a. Do you know how to examine your own breasts for lumps? — 60
1 ☐ Yes
2 ☐ No *(S4)*

b. About how often do you examine your breasts for lumps? — 61–63
____ Times per
1 ☐ Day
2 ☐ Week
3 ☐ Month
4 ☐ Year
000 ☐ Never
888 ☐ Other *(Specify)* ↓
_____
999 ☐ DK

c. Who taught you how to examine your breasts? — 64–70
Mark all mentioned, do not probe.
1 ☐ Doctor
1 ☐ Nurse
1 ☐ Other health professional
1 ☐ Learned in a class/meeting
1 ☐ Read in a book, pamphlet, magazine, etc.
1 ☐ Television
1 ☐ Other *(Specify)* ↓
_____
1 ☐ DK — 71

Section S — CANCER SCREENING KNOWLEDGE AND PRACTICE — Continued

S4 *Refer to age.*

72
1 ☐ Under 40 *(39)*
2 ☐ 40 and over *(9)*

9a. **A breast physical exam is when the breast is felt for lumps by a doctor or medical assistant. Have you ever heard of a breast physical examination?**

73
1 ☐ Yes
2 ☐ No } *(15)*
9 ☐ DK }

b. **Have you ever had a breast physical exam?**

74
1 ☐ Yes
2 ☐ No *(14)*
9 ☐ DK *(15)*

c. **When did you have your last breast physical exam?**

75–78
__/__ mo. __ year **OR** ____ 1 ☐ Days ago / 2 ☐ Weeks ago / 3 ☐ Months ago / 4 ☐ Years ago — *If 3 years ago or less (10)* / *If more than 3 years ago (12)*

999 ☐ DK *(9d)*

79–81

d. **Was it within the past year or a year or more ago?**

82
1 ☐ Within past year *(9e)*
2 ☐ 1 year or more *(9f)*
9 ☐ DK *(12)*

e. **Was it less than three months, or 3 or more months ago?**

83
1 ☐ Less than 3 months
2 ☐ 3 or more months } *(10)*
9 ☐ DK

f. **Was it 3 years ago or less, between three and 5 years, or 5 or more years ago?**

84
1 ☐ 3 years or less *(10)*
2 ☐ Between 3 and 5 years
3 ☐ 5 or more years } *(12)*
9 ☐ DK

10. **Where was this exam done — in a doctor's office, a clinic, a hospital, or some other place?**

85
1 ☐ Doctor's office
2 ☐ Clinic
3 ☐ Hospital
8 ☐ Other place *(Specify)* _____
9 ☐ DK

11a. **Did you go for your last breast physical exam because of a health problem?**

86
1 ☐ Yes
2 ☐ No } *(11c)*
9 ☐ DK }

b. **What was the problem?**

Mark all mentioned, do not probe.

1 ☐ Follow-up tests/treatment — 87
1 ☐ Soreness — 88
1 ☐ Swelling — 89
1 ☐ Lumps — 90
1 ☐ Pain — 91
1 ☐ Discharge — 92
1 ☐ Complications related to breast feeding — 93
1 ☐ Unrelated medical problem — 94
1 ☐ Other — 95
1 ☐ DK — 96

c. **How were you told the results of the test — in person, over the telephone, through the mail, or some other way?**

97
1 ☐ In person
2 ☐ Telephone
3 ☐ Through the mail
4 ☐ Combination of methods
5 ☐ Never told; meaning results normal
6 ☐ Never told; DK if problem
8 ☐ Other

S5 *Refer to 11a.*

98
1 ☐ Yes *(13)*
2 ☐ No } *(12)*
9 ☐ DK }

12a. **Have you EVER had a breast physical exam because of a health problem?**

99
1 ☐ Yes
2 ☐ No } *(13)*
9 ☐ DK }

b. **What was the problem?**

Mark all mentioned, do not probe.

1 ☐ Follow-up tests/treatment — 100
1 ☐ Soreness — 101
1 ☐ Swelling — 102
1 ☐ Lumps — 103
1 ☐ Pain — 104
1 ☐ Discharge — 105
1 ☐ Complications related to breast feeding — 106
1 ☐ Unrelated medical problem — 107
1 ☐ Other — 108
1 ☐ DK — 109

Section S — CANCER SCREENING KNOWLEDGE AND PRACTICE — Continued

Question	Response	Column
HAND CARD S **15a. A mammogram is when an x-ray is taken only of the breasts by a machine that presses against the breast while the picture is taken. Have you ever heard of a mammogram?**	1 ☐ Yes 2 ☐ No } (21) 9 ☐ DK } (21)	19
b. Have you ever had a mammogram?	1 ☐ Yes 2 ☐ No (20) 9 ☐ DK (21)	20
c. When did you have your last mammogram?	___/ 19 ___ (mo. / year) OR ______ { 1 ☐ Days ago, 2 ☐ Weeks ago, 3 ☐ Months ago, 4 ☐ Years ago } *If 3 years ago or less (16)* *If more than 3 years ago (18)* 999 ☐ DK (15d)	21–24 25–27
d. Was it within the past year or a year or more ago?	1 ☐ Within past year (15e) 2 ☐ 1 year or more (15f) 9 ☐ DK (18)	28
e. Was it less than three months, or 3 or more months ago?	1 ☐ Less than 3 months } (16) 2 ☐ 3 or more months } (16) 9 ☐ DK } (16)	29
f. Was it 3 years ago or less, between three and 5 years, or 5 or more years ago?	1 ☐ 3 years or less (16) 2 ☐ Between 3 and 5 years } (18) 3 ☐ 5 or more years } (18) 9 ☐ DK } (18)	30
16. Where was this test done — in a doctor's office, a clinic, a hospital, or some other place?	1 ☐ Doctor's office 2 ☐ Clinic 3 ☐ Hospital 4 ☐ Imaging center/x-ray lab 8 ☐ Other place *(Specify)* ______ 9 ☐ DK	31
17a. Did you go for your last mammogram because of a health problem?	1 ☐ Yes 2 ☐ No } (17c) 9 ☐ DK } (17c)	32
b. What was the problem? *Mark all mentioned, do not probe.*	1 ☐ Thickening	33
	1 ☐ Soreness	34
	1 ☐ Swelling	35
	1 ☐ Lumps	36
	1 ☐ Pain	37
	1 ☐ Discharge	38
	1 ☐ Unrelated medical problem	39
	1 ☐ Other	40
	1 ☐ DK	41
c. How were you told the results of the test — in person, over the telephone, through the mail, or some other way?	1 ☐ In person 2 ☐ Telephone 3 ☐ Through the mail 4 ☐ Combination of methods 5 ☐ Never told; meaning results normal 6 ☐ Never told; DK if problem 8 ☐ Other	42
S7 — *Refer to 17a.*	1 ☐ Yes (19) 2 ☐ No } (18) 9 ☐ DK } (18)	43
18a. Have you EVER had a mammogram because of a health problem?	1 ☐ Yes 2 ☐ No } (19) 9 ☐ DK } (19)	44
b. What was the problem? *Mark all mentioned, do not probe.*	1 ☐ Thickening	45
	1 ☐ Soreness	46
	1 ☐ Swelling	47
	1 ☐ Lumps	48
	1 ☐ Pain	49
	1 ☐ Discharge	50
	1 ☐ Unrelated medical problem	51
	1 ☐ Other	52
	1 ☐ DK	53

Section S — CANCER SCREENING KNOWLEDGE AND PRACTICE — Continued

(These next questions are about certain kinds of medical tests and examinations.)

21a. Have you ever heard of a digital rectal exam, that is when a finger is inserted in the rectum to check for problems? — 68

1 ☐ Yes
2 ☐ No } (27)
9 ☐ DK }

b. Have you ever had a digital rectal exam? — 69

1 ☐ Yes
2 ☐ No (28)
9 ☐ DK (27)

c. When did you have your last digital rectal exam? — 70–73

____/19____ mo. year OR _____ { 1 ☐ Days ago; 2 ☐ Weeks ago; 3 ☐ Months ago; 4 ☐ Years ago } If 3 years ago or less (22) / If more than 3 years ago (24)

999 ☐ DK (21d) — 74–76

d. Was it within the past year or a year or more ago? — 77

1 ☐ Within past year (21e) 9 ☐ DK (24)
2 ☐ 1 year or more (21f)

e. Was it less than three months, or 3 or more months ago? — 78

1 ☐ Less than 3 months } (22)
2 ☐ 3 or more months }
9 ☐ DK }

f. Was it 3 years ago or less, between three and 5 years, or 5 or more years ago? — 79

1 ☐ 3 years or less (22)
2 ☐ Between 3 and 5 years } (24)
3 ☐ 5 or more years }
9 ☐ DK }

22. Where was this exam done — in a doctor's office, a clinic, a hospital, or some other place? — 80

1 ☐ Doctor's office
2 ☐ Clinic
3 ☐ Hospital
8 ☐ Other place (Specify) _____
9 ☐ DK

23a. Did you go for your last digital rectal exam because of a health problem? — 81

1 ☐ Yes
2 ☐ No } (23c)
8 ☐ DK }

b. What was the problem?

Mark all mentioned, do not probe.

1 ☐ Pain — 82
1 ☐ Constipation — 83
1 ☐ Bowel trouble — 84
1 ☐ Blood in stool — 85
1 ☐ Difficulty urinating — 86
1 ☐ Prostate enlargement — 87
1 ☐ Bleeding — 88
1 ☐ Hemorrhoids — 89
1 ☐ Diverticulitis — 90
1 ☐ Unrelated medical problem — 91
1 ☐ Other — 92
1 ☐ DK — 93

c. How were you told the results of the test — in person, over the telephone, through the mail, or some other way? — 94

1 ☐ In person
2 ☐ Telephone
3 ☐ Through the mail
4 ☐ Combination of methods
5 ☐ Never told; meaning results normal
6 ☐ Never told; DK if problem
8 ☐ Other

S9 *Refer to 23a.* — 95

1 ☐ Yes (25)
2 ☐ No } (24)
9 ☐ DK }

24a. Have you EVER had a digital rectal exam because of a health problem? — 96

1 ☐ Yes
2 ☐ No } (25)
9 ☐ DK }

b. What was the problem?

Mark all mentioned, do not probe.

1 ☐ Pain — 97
1 ☐ Constipation — 98
1 ☐ Bowel trouble — 99
1 ☐ Blood in stool — 100
1 ☐ Difficulty urinating — 101
1 ☐ Prostate enlargement — 102
1 ☐ Bleeding — 103
1 ☐ Hemorrhoids — 104
1 ☐ Diverticulitis — 105
1 ☐ Unrelated medical problem — 106
1 ☐ Other — 107
1 ☐ DK — 108

Section S — CANCER SCREENING KNOWLEDGE AND PRACTICE — Continued

27a. A blood stool test is when the stool is examined to determine whether it contains blood. Have you ever heard of a blood stool test? — 19

1 ☐ Yes
2 ☐ No } *(33)*
9 ☐ DK }

b. Have you ever had a blood stool test? — 20

1 ☐ Yes
2 ☐ No *(32)*
9 ☐ DK *(33)*

c. When did you have your last blood stool test? — 21–24

___/ 19___ OR ——— { 1 ☐ Days ago / 2 ☐ Weeks ago / 3 ☐ Months ago / 4 ☐ Years ago } *If 3 years ago or less (28) / If more than 3 years ago (30)*
mo. year

999 ☐ DK *(27d)* — 25–27

d. Was it within the past year or a year or more ago? — 28

1 ☐ Within past year *(27e)*
2 ☐ 1 year or more *(27f)*
9 ☐ DK *(30)*

e. Was it less than three months, or 3 or more months ago? — 29

1 ☐ Less than 3 months } *(28)*
2 ☐ 3 or more months }
9 ☐ DK

f. Was it 3 years ago or less, between three and 5 years, or 5 or more years ago? — 30

1 ☐ 3 years or less *(28)*
2 ☐ Between 3 and 5 years } *(30)*
3 ☐ 5 or more years }
9 ☐ DK

28. Did you do the blood stool test yourself or was it done by a doctor or other medical person? — 31

1 ☐ Self-administered
2 ☐ Doctor/medical person

29a. Was your last blood stool test done because of a health problem? — 32

1 ☐ Yes
2 ☐ No } *(29c)*
9 ☐ DK }

b. What was the problem?

Mark all mentioned, do not probe.

1 ☐ Hemorrhoids — 33
1 ☐ Bleeding — 34
1 ☐ Pain — 35
1 ☐ Constipation — 36
1 ☐ Bowel trouble — 37
1 ☐ Blood in stool — 38
1 ☐ Ulcers — 39
1 ☐ Unrelated medical problem — 40
1 ☐ Other — 41
1 ☐ DK — 42

c. How were you told the results of the test — in person, over the telephone, through the mail, or some other way? — 43

1 ☐ In person
2 ☐ Telephone
3 ☐ Through the mail
4 ☐ Combination of methods
5 ☐ Never told; meaning results normal
6 ☐ Never told; DK if problem
8 ☐ Other

S11 *Refer to 29a.* — 44

1 ☐ Yes *(31)*
2 ☐ No } *(30)*
9 ☐ DK }

30a. Have you EVER had a blood stool test because of a health problem? — 45

1 ☐ Yes
2 ☐ No } *(31)*
9 ☐ DK }

b. What was the problem?

Mark all mentioned, do not probe.

1 ☐ Hemorrhoids — 46
1 ☐ Bleeding — 47
1 ☐ Pain — 48
1 ☐ Constipation — 49
1 ☐ Bowel trouble — 50
1 ☐ Blood in stool — 51
1 ☐ Ulcers — 52
1 ☐ Unrelated medical problem — 53
1 ☐ Other — 54
1 ☐ DK — 55

Section S — CANCER SCREENING KNOWLEDGE AND PRACTICE

33a. A proctoscopic exam is when a tube is inserted in the rectum to check for problems. Have you ever heard of a proctoscopic exam? — 70

1 ☐ Yes
2 ☐ No } *(S15)*
9 ☐ DK }

b. Have you ever had a proctoscopic exam? — 71

1 ☐ Yes
2 ☐ No *(38)*
9 ☐ DK *(S15)*

c. When did you have your last proctoscopic exam? — 72–75

____ / 19____ mo. / year **OR** ____ { 1 ☐ Days ago; 2 ☐ Weeks ago; 3 ☐ Months ago; 4 ☐ Years ago } *If 3 years ago or less (34); If more than 3 years ago (36)*

999 ☐ DK *(33d)* — 76–78

d. Was it within the past year or a year or more ago? — 79

1 ☐ Within past year *(33e)*
2 ☐ 1 year or more *(33f)*
9 ☐ DK *(36)*

e. Was it less than three months, or 3 or more months ago? — 80

1 ☐ Less than 3 months } *(34)*
2 ☐ 3 or more months }
9 ☐ DK }

f. Was it 3 years ago or less, between three and 5 years, or 5 or more years ago? — 81

1 ☐ 3 years or less *(34)*
2 ☐ Between 3 and 5 years } *(36)*
3 ☐ 5 or more years }
9 ☐ DK }

34. Where was this exam done — in a doctor's office, a clinic, a hospital, or some other place? — 82

1 ☐ Doctor's office
2 ☐ Clinic
3 ☐ Hospital
4 ☐ Other place *(Specify)* → _____
9 ☐ DK

35a. Did you go for your last proctoscopic exam because of a health problem? — 83

1 ☐ Yes
2 ☐ No } *(35c)*
9 ☐ DK }

b. What was the problem? — 84–91

Mark all mentioned, do not probe.

1 ☐ Bleeding — 84
1 ☐ Pain — 85
1 ☐ Constipation — 86
1 ☐ Bowel trouble — 87
1 ☐ Blood in stool — 88
1 ☐ Unrelated medical problem — 89
1 ☐ Other — 90
1 ☐ DK — 91

c. How were you told the results of the test — in person, over the telephone, through the mail, or some other way? — 92

1 ☐ In person
2 ☐ Telephone
3 ☐ Through the mail
4 ☐ Combination of methods
5 ☐ Never told; meaning results normal
6 ☐ Never told; DK if problem
8 ☐ Other

S13 *Refer to 35a.* — 93

1 ☐ Yes *(37)*
2 ☐ No } *(36)*
9 ☐ DK }

36a. Have you EVER had a proctoscopic exam because of a health problem? — 94

1 ☐ Yes
2 ☐ No *(37)*

b. What was the problem? — 95–102

Mark all mentioned, do not probe.

1 ☐ Bleeding — 95
1 ☐ Pain — 96
1 ☐ Constipation — 97
1 ☐ Bowel trouble — 98
1 ☐ Blood in stool — 99
1 ☐ Unrelated medical problem — 100
1 ☐ Other — 101
1 ☐ DK — 102

Section T — SMOKING HABITS

These next questions are about cigarette smoking.

41

1. Have you smoked at least 100 cigarettes in your entire life?

If asked: approximately 5 packs

1 ☐ Yes
2 ☐ No
9 ☐ DK
(4)

42–43

2. How old were you when you first started smoking cigarettes fairly regularly?

_____ Age
00 ☐ Never smoked regularly *(4)*
99 ☐ DK

44

3. Do you smoke cigarettes now?

1 ☐ Yes *(section V)*
2 ☐ No *(section U)*

45

4. When you are inside public places that have no rules about smoking and someone lights up a cigarette, what are you most likely to do — ask the person not to smoke, move away from the person, just do nothing, or something else?

1 ☐ Ask person not to smoke
2 ☐ Move away
3 ☐ Do nothing
8 ☐ Something else
(section W)

Notes

Section U — FORMER SMOKER

1. About how long has it been since you last smoked cigarettes regularly? — 46–48

000☐ Never smoked regularly *(section W)*

_____ { 1☐ Days / 2☐ Weeks / 3☐ Months / 4☐ Years

999☐ DK

2. On the average, how many cigarettes did you usually smoke a day? — 49–50

00☐ Less than one cigarette per day

_____ Cigarettes per day

99☐ DK

3. How many minutes or hours after awakening did you usually have your first cigarette? — 51–53

000☐ Immediately

_____ { 1☐ Minutes / 2☐ Hours

999☐ DK

4. Before you quit *(entry in 1)* ago, did you make any other serious attempts to stop smoking? — 54

1☐ Yes
2☐ No *(7)*

5. Including the last time you quit smoking, how many times did you make a serious attempt to stop smoking cigarettes? — 55–56

_____ Times

99☐ DK

6. Before you quit smoking *(entry in 1)* ago, what was the longest period you stayed off cigarettes? — 57–59

000☐ Less than one day

_____ { 1☐ Days / 2☐ Weeks / 3☐ Months / 4☐ Years

999☐ DK

7. For how many years were you a regular smoker (do not include the times when you stayed off cigarettes)? — 60–61

00☐ Less than one year

_____ Years

99☐ DK

I'm going to read a list of methods which some people use to stop smoking cigarettes.

8a. [When you quit did you ever/In any of your quit attempts did you ever] —

	Yes	No	
1) switch to lower tar or nicotine cigarettes?	1☐	2☐	62
2) use special filters or cigarette holders to regulate the amount of smoke inhaled?	1☐	2☐	63
3) gradually decrease the number of cigarettes you smoked in a day?	1☐	2☐	64
4) use prescription chewing gum called "nicorette"?	1☐	2☐	65
5) participate in the Great American Smoke-out?	1☐	2☐	66
6) stop smoking along with friends or relatives who were also trying to quit?	1☐	2☐	67
7) stop by following instructions in a book or pamphlet?	1☐	2☐	68
8) stop "cold turkey", that is, stopping all at once without cutting down?	1☐	2☐	69
9) use some other method?	1☐	2☐	70

If "No" in 4 or only 1 method in 8a, mark box(es) without asking and skip to 9; otherwise ask:

b. Thinking of the methods you just mentioned, which ones did you use the last time you quit smoking?

Mark all applicable boxes, do not probe.

1☐ Switch to lower tar/nicotine cigarettes — 71
1☐ Use special filters/cigarette holders — 72
1☐ Gradually decrease number smoked — 73
1☐ Use "nicorette" — 74
1☐ Great American Smoke-out — 75
1☐ Stop with friends or relatives — 76
1☐ Follow instructions in pamphlet or book — 77
1☐ Stop "cold turkey" — 78
1☐ Other — 79
1☐ DK — 80

	RT 73
Section U — FORMER SMOKER — Continued	3–4

9. Thinking of the time(s) you tried to quit smoking, please tell me the reasons you had for trying to quit.

Mark all mentioned, do not probe.

If for health reasons in general ask:

Was that concern for your health at the time or concern for your future health?

1 ☐ Health symptom/problem	5
1 ☐ Present health	6
1 ☐ Future health	7
1 ☐ Both present and future health	8
1 ☐ Cost of cigarettes	9
1 ☐ Pressure from family and friends	10
1 ☐ Advice from my doctor	11
1 ☐ Setting a good example for children	12
1 ☐ Effect my smoking had on others	13
1 ☐ Pregnancy	14
1 ☐ Lost desire	15
1 ☐ Dirty habit	16
1 ☐ Other	17
1 ☐ DK	18

10a. Did you ever try to quit smoking because of a health condition you had at the time?

1 ☐ Yes	19
2 ☐ No *(11)*	

b. What was the health condition?

Mark all mentioned, do not probe.

1 ☐ Heart trouble/problem	20
1 ☐ High blood pressure	21
1 ☐ Cancer	22
1 ☐ Emphysema	23
1 ☐ Cough	24
1 ☐ Shortness of breath	25
1 ☐ Cold/flu/virus	26
1 ☐ Other respiratory problem	27
1 ☐ Sore throat	28
1 ☐ Pregnancy	29
1 ☐ Other	30
1 ☐ DK	31

11. Did a doctor ever advise you to quit smoking?

1 ☐ Yes	32
2 ☐ No	
9 ☐ DK	

12a. Do you believe your smoking affected your health in any way?

1 ☐ Yes	33
2 ☐ No } *(13)*	
9 ☐ DK }	

b. How did smoking affect your health?

Mark all mentioned, do not probe.

1 ☐ Heart trouble/problem	34
1 ☐ High blood pressure	35
1 ☐ Cancer	36
1 ☐ Emphysema	37
1 ☐ Cough	38
1 ☐ Shortness of breath	39
1 ☐ Cold/flu/virus	40
1 ☐ Other respiratory problem	41
1 ☐ Sore throat	42
1 ☐ Other	43.
1 ☐ DK	44

13. When you are inside public places that have no rules about smoking and someone lights up a cigarette, what are you most likely to do — ask the person not to smoke, move away from the person, just do nothing, or something else?

1 ☐ Ask person not to smoke } *(section W)*	45
2 ☐ Move away	
3 ☐ Do nothing	
8 ☐ Something else	

Notes

Section V — CURRENT SMOKER

If telephone interview, skip to 1b.

1a. **In order to get an accurate record of the brand of cigarette you smoke most often, I'd like to see the cigarette package. Do you have the pack handy?**

☐ Yes *(Record UPC, THEN 3)* — 46–57

☐ No

b. **What brand or type of cigarette do you smoke most often?** — 58–60

_____ Brand/Type name

2. **What type of cigarettes are the** *(brand in 1b)* **that you smoke? Are they —**

a. **filter tip or non-filter tip?** — 61

1 ☐ Filter tip
2 ☐ Non-filter tip

b. **hard pack or soft pack?** — 62

1 ☐ Hard pack
2 ☐ Soft pack

c. **menthol or plain?** — 63

1 ☐ Menthol
2 ☐ Plain

d. **regular, king-size, 100, or 120 millimeter?** — 64

1 ☐ Regular
2 ☐ King-size
3 ☐ 100 millimeter
4 ☐ 120 millimeter
9 ☐ DK

e. **regular, lights or ultra lights?** — 65

1 ☐ Regular
2 ☐ Lights
3 ☐ Ultra lights
9 ☐ DK

3. **On the average, how many cigarettes do you usually smoke a day?** — 66–67

00 ☐ Less than one cigarette per day
_____ Cigarettes per day
99 ☐ DK

4. **How many minutes or hours after awakening do you have your first cigarette?** — 68–70

000 ☐ Immediately
_____ { 1 ☐ Minutes / 2 ☐ Hours }
999 ☐ DK

5. **What are the reasons you smoke cigarettes?**

Mark all mentioned, do not probe.

1 ☐ Addicted — 71
1 ☐ Relaxes or calms me/nerves/stress/helps me cope — 72
1 ☐ To keep my weight down — 73
1 ☐ Wakes me up — 74
1 ☐ Gives me something to do with my hands — 75
1 ☐ Keeps me going/helps me concentrate/excuse to take a break — 76
1 ☐ Habit — 77
1 ☐ I like it/enjoy it — 78
1 ☐ Social reasons — 79
1 ☐ Other — 80
1 ☐ DK — 81

6a. **Have you ever made a serious attempt to stop smoking cigarettes?** — 82

1 ☐ Yes
2 ☐ No } *(12)*
9 ☐ DK }

b. **Have you made more than one serious attempt?** — 83

1 ☐ Yes
2 ☐ No *(6d)*

c. **How many times within the last year have you made a serious attempt to stop smoking cigarettes?** — 84–85

01 ☐ Once *(6d)*
00 ☐ Never *(6e)*
_____ Times } *(6e)*
99 ☐ DK }

d. **When did you make the serious attempt to quit smoking?** — 86–89

_____ / 19 _____ *(7a)*
month year

e. **When did you last make a serious attempt to quit smoking?** — 90–93

_____ / 19 _____ *(7b)*
month year

7a. **When you tried to quit, how long did you stay off cigarettes?** — 94–96

000 ☐ Less than a day
_____ { 1 ☐ Days / 2 ☐ Weeks / 3 ☐ Months / 4 ☐ Years } *(8)*
999 ☐ DK

Section V — CURRENT SMOKER — Continued

RT 74 | 3–4

7b. When you tried to quit in *(entry in 6e)*, for how long did you stay off cigarettes? — 5–7

000☐ Less than a day
___ 1☐ Days 2☐ Weeks 3☐ Months 4☐ Years
999☐ DK

c. Of all the times you have tried to quit smoking, what was the longest period you stayed off cigarettes? — 8–10

000☐ Less than a day
___ 1☐ Days 2☐ Weeks 3☐ Months 4☐ Years
999☐ DK

I'm going to read a list of methods which some people use to stop smoking cigarettes.

8a. [When you tried to quit did you ever/In any of your quit attempts did you ever] —

	Yes	No	
1) switch to lower tar or nicotine cigarettes?	1☐	2☐	11
2) use special filters or cigarette holders to regulate the amount of smoke inhaled?	1☐	2☐	12
3) gradually decrease the number of cigarettes you smoked in a day?	1☐	2☐	13
4) use prescription chewing gum called "nicorette"?	1☐	2☐	14
5) participate in the Great American Smoke-out?	1☐	2☐	15
6) stop smoking along with friends or relatives who were also trying to quit?	1☐	2☐	16
7) stop by following instructions in a book or pamphlet?	1☐	2☐	17
8) stop "cold turkey", that is, stopping all at once without cutting down?	1☐	2☐	18
9) use some other method?	1☐	2☐	19

If "No" in 6b, or only 1 method in 8a, mark box(es) without asking and skip to 9, otherwise ask:

b. Thinking of the methods you just mentioned, which ones did you use the last time you tried to quit smoking?

Mark all applicable boxes, do not probe.

1☐ Switch to lower tar/nicotine cigarettes	20
1☐ Use special filters/cigarette holders	21
1☐ Gradually decrease number smoked	22
1☐ Use "nicorette"	23
1☐ Great American Smoke-out	24
1☐ Stop with friends or relatives	25
1☐ Follow instructions in pamphlet or book	26
1☐ Stop "cold turkey"	27
1☐ Other	28
1☐ DK	29

9. Thinking of the time(s) you tried to quit smoking, please tell me the reasons you had for trying to quit.

Mark all mentioned, do not probe.

If for health reasons in general ask:

Was that concern for your health at the time or concern for your future health?

1☐ Health symptom/problem	30
1☐ Present health	31
1☐ Future health	32
1☐ Both present and future health	33
1☐ Cost of cigarettes	34
1☐ Pressure from family and friends	35
1☐ Advice from my doctor	36
1☐ Setting a good example for children	37
1☐ Effect my smoking had on others	38
1☐ Pregnancy	39
1☐ Lost desire	40
1☐ Dirty habit	41
1☐ Other	42
1☐ DK	43

10a. Did you ever try to quit smoking because of a health condition you had at the time?

1☐ Yes	44
2☐ No *(11)*	

b. What was the health condition?

Mark all mentioned, do not probe.

1☐ Heart trouble/problem	45
1☐ High blood pressure	46
1☐ Cancer	47
1☐ Emphysema	48
1☐ Cough	49
1☐ Shortness of breath	50
1☐ Cold/flu/virus	51
1☐ Other respiratory problem	52
1☐ Sore throat	53
1☐ Pregnancy	54
1☐ Other	55
1☐ DK	56

Section V — CURRENT SMOKER — Continued

11a. After your attempt(s) to quit, what were the reasons you started to smoke again?

Mark all mentioned, do not probe.

00 ☐	Fear of gaining weight	57–58
01 ☐	Actual weight gain	59–60
02 ☐	Headaches/irritability/difficulty concentrating/drowsiness	61–62
03 ☐	Bored/blue/depressed	63–64
04 ☐	Nervous/tense/angry/frustrated/stress	65–66
05 ☐	Stressful life event	67–68
06 ☐	Pressure from others to smoke	69–70
07 ☐	No support from others	71–72
08 ☐	Habit/situation where used to smoke regularly	73–74
09 ☐	Addiction/craving	75–76
10 ☐	Pleasure of smoking/enjoy it	77–78
11 ☐	Others smoking around me	79–80
12 ☐	Not ready to quit/didn't want to quit	81–82
13 ☐	Didn't try hard enough/no will power	83–84
14 ☐	Any mention of alcohol	85–86
88 ☐	Other	87–88
99 ☐	DK	89–90

If only one reason in 11a, mark box without asking and skip to 12; otherwise ask:

b. Of the reasons you have told me, which of these was the MOST IMPORTANT to you as a reason for starting to smoke again.

91–92

MOST IMPORTANT

00 ☐	06 ☐	12 ☐
01 ☐	07 ☐	13 ☐
02 ☐	08 ☐	14 ☐
03 ☐	09 ☐	88 ☐
04 ☐	10 ☐	99 ☐
05 ☐	11 ☐	

12. Have you ever switched to a lower tar and nicotine cigarette just to reduce your health risk? — 93

1 ☐ Yes
2 ☐ No

13a. Do you believe your smoking has affected your health in any way? — 94

1 ☐ Yes
2 ☐ No
9 ☐ DK } *(14)*

b. How has your smoking affected your health?

Mark all mentioned, do not probe.

1 ☐	Heart trouble/problem	95
1 ☐	High blood pressure	96
1 ☐	Cancer	97
1 ☐	Emphysema	98
1 ☐	Cough	99
1 ☐	Shortness of breath	100
1 ☐	Cold/flu/virus	101
1 ☐	Other respiratory problem	102
1 ☐	Other	103
1 ☐	DK	104

14. Has a doctor ever advised you to quit smoking? — 105

1 ☐ Yes
2 ☐ No

15. For how many years have you been a regular smoker (do not include the times when you stayed off cigarettes)? — 106–107

00 ☐ Less than one year
_____ Years
99 ☐ DK

16a. Could you quit smoking permanently if you wanted to? — 108

1 ☐ Yes
2 ☐ No *(17)*
9 ☐ DK

b. How hard do you think it would be to quit smoking cigarettes entirely — very hard, somewhat hard, or not hard at all? — 109

1 ☐ Very hard
2 ☐ Somewhat hard
3 ☐ Not hard at all
9 ☐ DK

17. When you are inside public places that have no rules about smoking, what are you most likely to do — light up a cigarette if you wish, look around to see if others are smoking and then light up, ask if others would mind, just not smoke, or something else? — 110

1 ☐ Light up
2 ☐ Look around
3 ☐ Ask others
4 ☐ Not smoke
8 ☐ Something else

Notes

RT 75

Section W — OTHER TOBACCO USE

3–4

These next questions are about the use of other tobacco products.

5

1a. Have you ever used chewing tobacco, such as Redman, Levi Garrett, or Beechnut?

1 ☐ Yes
2 ☐ No *(6)*
9 ☐ DK Chewing tobacco *(6)*

b. Have you used chewing tobacco at least 20 times?

6

1 ☐ Yes
2 ☐ No } *(6)*
9 ☐ DK

2. How old were you when you first used chewing tobacco?

7–8

_____ Age
99 ☐ DK

3. Do you use chewing tobacco now?

9

1 ☐ Yes
2 ☐ No

4. Altogether, about how long [did you use/have you used] chewing tobacco?

10–12

000 ☐ Less than one month
_____ { 1 ☐ Months / 2 ☐ Years
999 ☐ DK

5a. On the average, how many days per month [did/do] you use chewing tobacco?

13–14

00 ☐ Less than one day a month
97 ☐ Never used regularly *(6)*
98 ☐ Everyday
_____ Days per month
99 ☐ DK

b. On the days that you use(d) chewing tobacco, how many times [did/do] you use it?

15–16

_____ Times per day
99 ☐ DK

6a. Have you ever used snuff, such as Skoal, Skoal Bandits, or Copenhagen?

17

1 ☐ Yes
2 ☐ No *(12)*
9 ☐ DK Snuff *(12)*

b. Have you used snuff at least 20 times?

18

1 ☐ Yes
2 ☐ No } *(12)*
9 ☐ DK

7. How old were you when you first used snuff?

19–20

_____ Age
99 ☐ DK

8. Do you use snuff now?

21

1 ☐ Yes
2 ☐ No

9. Altogether, about how long [did you use/have you used] snuff?

22–24

000 ☐ Less than one month
_____ { 1 ☐ Months / 2 ☐ Years
999 ☐ DK

10a. On the average, how many days per month [did/do] you use snuff?

25–26

00 ☐ Less than one day a month
97 ☐ Never used regularly *(12)*
98 ☐ Everyday
_____ Days per month
99 ☐ DK

b. On the days you use(d) snuff, how many times [did/do] you use it?

27–28

_____ Times per day
99 ☐ DK

11. [Did/Do] you use snuff by sniffing it or by placing it in your mouth?

29

1 ☐ Sniffing
2 ☐ Mouth
3 ☐ Both

12a. Have you ever smoked a pipe?

30

1 ☐ Yes
2 ☐ No *(17)*

b. Have you smoked a pipe at least 50 times?

31

1 ☐ Yes
2 ☐ No } *(17)*
9 ☐ DK

13. How old were you when you first smoked a pipe?

32–33

_____ Age
99 ☐ DK

Section W — OTHER TOBACCO USE — Continued

14. **Do you smoke a pipe now?**

1 ☐ Yes
2 ☐ No

34

15. **Altogether, about how long [did you smoke/have you smoked] a pipe?**

000 ☐ Less than one month
_____ { 1 ☐ Months / 2 ☐ Years }
999 ☐ DK

35–37

16a. **On the average, how many days per month [did/do] you smoke a pipe?**

00 ☐ Less than one day a month
97 ☐ Never smoked a pipe regularly *(17)*
98 ☐ Everyday
_____ Days per month
99 ☐ DK

38–39

b. **On the days you smoke(d) a pipe, how many pipefuls of tobacco [did/do] you smoke?**

00 ☐ Less than one
_____ Pipefuls per day
99 ☐ DK

40–41

17a. **Have you ever smoked cigars?**

1 ☐ Yes
2 ☐ No *(22)*

42

b. **Have you smoked at least 50 cigars in your entire life?**

1 ☐ Yes
2 ☐ No } *(22)*
9 ☐ DK }

43

18. **How old were you when you first smoked cigars?**

_____ Age
99 ☐ DK

44–45

19. **Do you smoke cigars now?**

1 ☐ Yes
2 ☐ No

46

20. **Altogether, about how long [did you smoke/have you smoked] cigars?**

000 ☐ Less than one month
_____ { 1 ☐ Months / 2 ☐ Years }
999 ☐ DK

47–49

21a. **On the average, how many days per month [did/do] you smoke cigars?**

00 ☐ Less than one day a month
97 ☐ Never smoked cigars regularly *(22)*
98 ☐ Everyday
_____ Days per month
99 ☐ DK

50–51

b. **On the days you smoke(d) cigars, how many [did/do] you smoke?**

00 ☐ Less than one
_____ Cigars per day
99 ☐ DK

52–53

Notes

22a. Do you believe cigarette smoking is related to —

HAND CARD W
ASK 22b for each "Yes" in 22a.

b. Do you think there is a strong, moderate, or slight relationship between cigarette smoking and (condition)?

ASK 22c for each "Yes" in 22a.

c. Do you believe that if a person stops smoking completely, his chances of getting (condition) are reduced?

22a. Condition	a.	b.	c.
1) emphysema?	1 ☐ Yes (2) 2 ☐ No (2) 3 ☐ Maybe (2) 9 ☐ DK (2) 54	1 ☐ Strong (2) 2 ☐ Moderate (2) 3 ☐ Slight (2) 9 ☐ DK (2) 55	1 ☐ Yes 2 ☐ No 9 ☐ DK 56
2) gallstones?	1 ☐ Yes (3) 2 ☐ No (3) 3 ☐ Maybe (3) 9 ☐ DK (3) 57	1 ☐ Strong (3) 2 ☐ Moderate (3) 3 ☐ Slight (3) 9 ☐ DK (3) 58	1 ☐ Yes 2 ☐ No 9 ☐ DK 59
3) lung cancer?	1 ☐ Yes (4) 2 ☐ No (4) 3 ☐ Maybe (4) 9 ☐ DK (4) 60	1 ☐ Strong (4) 2 ☐ Moderate (4) 3 ☐ Slight (4) 9 ☐ DK (4) 61	1 ☐ Yes 2 ☐ No 9 ☐ DK 62
4) chronic bronchitis?	1 ☐ Yes (5) 2 ☐ No (5) 3 ☐ Maybe (5) 9 ☐ DK (5) 63	1 ☐ Strong (5) 2 ☐ Moderate (5) 3 ☐ Slight (5) 9 ☐ DK (5) 64	1 ☐ Yes 2 ☐ No 9 ☐ DK 65
5) diabetes?	1 ☐ Yes (6) 2 ☐ No (6) 3 ☐ Maybe (6) 9 ☐ DK (6) 66	1 ☐ Strong (6) 2 ☐ Moderate (6) 3 ☐ Slight (6) 9 ☐ DK (6) 67	1 ☐ Yes 2 ☐ No 9 ☐ DK 68
6) cancer of the mouth and throat?	1 ☐ Yes (7) 2 ☐ No (7) 3 ☐ Maybe (7) 9 ☐ DK (7) 69	1 ☐ Strong (7) 2 ☐ Moderate (7) 3 ☐ Slight (7) 9 ☐ DK (7) 70	1 ☐ Yes 2 ☐ No 9 ☐ DK 71
7) heart disease?	1 ☐ Yes (22b) 2 ☐ No (22b) 3 ☐ Maybe (22b) 9 ☐ DK (22b) 72	1 ☐ Strong (22c) 2 ☐ Moderate (22c) 3 ☐ Slight (22c) 9 ☐ DK (22c) 73	1 ☐ Yes 2 ☐ No 9 ☐ DK 74

W1	*Mark appropriate box*	1 ☐ Sample 871 *(23)* 2 ☐ Sample 872–874 *(W2)*	75
W2	*Mark race. Refer to question 3, page 42 or 43 on HIS-1.*	1 ☐ White *(section X)* 8 ☐ All others *(23)*	76

23a. Do you think that using chewing tobacco on a regular basis can increase a person's chances of getting mouth and throat cancer?

HAND CARD W
Ask 23b for each "Yes" in 23a

b. Do you think there is a strong, moderate or slight connection between mouth and throat cancer and (YES in 23a)?

What about (YES in 23a)?

23a.	a.	b.
1) Using chewing tobacco?	1 ☐ Yes (2) 2 ☐ No (2) 9 ☐ DK (2) 77	1 ☐ Strong 2 ☐ Moderate 3 ☐ Slight 9 ☐ DK 78
What about — 2) Using snuff by mouth?	1 ☐ Yes (3) 2 ☐ No (3) 9 ☐ DK (3) 79	1 ☐ Strong 2 ☐ Moderate 3 ☐ Slight 9 ☐ DK 80
3) Smoking a pipe?	1 ☐ Yes (4) 2 ☐ No (4) 9 ☐ DK (4) 81	1 ☐ Strong 2 ☐ Moderate 3 ☐ Slight 9 ☐ DK 82
4) Smoking cigars?	1 ☐ Yes (23b) 2 ☐ No (23b) 9 ☐ DK (23b) 83	1 ☐ Strong 2 ☐ Moderate 3 ☐ Slight 9 ☐ DK 84

Section W — OTHER TOBACCO USE — Continued

HAND CARD R2

24. Now I'm going to read a list of statements about cigarette smoking. After I read each one, please tell me whether you strongly agree, agree, disagree, or strongly disagree, or if you have no opinion.

a.	**Everything causes cancer anyway so it doesn't really matter if you smoke.**	85 1 ☐ Strongly agree 2 ☐ Agree 3 ☐ Disagree 4 ☐ Strongly disagree 5 ☐ No opinion
b.	**Smoking by a pregnant woman may harm the baby.**	86 1 ☐ Strongly agree 2 ☐ Agree 3 ☐ Disagree 4 ☐ Strongly disagree 5 ☐ No opinion
c.	**The smoke from someone else's cigarette is harmful to you.**	87 1 ☐ Strongly agree 2 ☐ Agree 3 ☐ Disagree 4 ☐ Strongly disagree 5 ☐ No opinion
d.	**Most deaths from lung cancer are caused by cigarette smoking.**	88 1 ☐ Strongly agree 2 ☐ Agree 3 ☐ Disagree 4 ☐ Strongly disagree 5 ☐ No opinion
e.	**People who smoke low tar and nicotine cigarettes are less likely to get cancer than people who smoke high tar and nicotine cigarettes.**	89 1 ☐ Strongly agree 2 ☐ Agree 3 ☐ Disagree 4 ☐ Strongly disagree 5 ☐ No opinion
f.	**If people want to smoke, they should not do so inside public places where it might disturb others.**	90 1 ☐ Strongly agree 2 ☐ Agree 3 ☐ Disagree 4 ☐ Strongly disagree 5 ☐ No opinion

Notes

RT 76 3–4

Section X — OCCUPATIONAL EXPOSURE

X1	*Refer to HIS-1, C1*	1 ☐ Wa/Wb box marked *(1)* 8 ☐ All others *(6)*	5
1.	**On your current job, are you exposed to any substances that would be harmful if you breathed them or got them on your skin?**	1 ☐ Yes 2 ☐ No } *(3a)* 9 ☐ DK }	6
2a.	**Do you know how these substances could affect your health?**	1 ☐ Yes 2 ☐ No *(3a)*	7
b.	**Where did you learn how these substances could affect your health?** *Mark all mentioned, do not probe.*	1 ☐ Employer 1 ☐ Union 1 ☐ Health clinic at work 1 ☐ Magazines 1 ☐ Newspapers 1 ☐ Notices posted at work 1 ☐ Doctor 1 ☐ Television 1 ☐ Read container label 1 ☐ Other 1 ☐ DK	8 9 10 11 12 13 14 15 16 17 18
3a.	**Do you spend at least half your work day in an office building or some other type of building or do you work mostly outside?**	1 ☐ Inside 2 ☐ Outside } *(6)* 9 ☐ DK }	19
b.	**Are there at least five other people working in the building?**	1 ☐ Yes 2 ☐ No } *(6)* 9 ☐ DK }	20
4a.	**Is smoking allowed where you work?**	1 ☐ Yes 2 ☐ No *(4c)* 9 ☐ DK *(6)*	21
b.	**Do you have smoking and non-smoking areas where you work?**	1 ☐ Yes 2 ☐ No } *(5)* 9 ☐ DK }	22
c.	**Does your employer restrict smoking (to certain areas) for health reasons and personal comfort, or for some other reasons?**	1 ☐ Health/personal comfort 2 ☐ Other reasons 3 ☐ Both 9 ☐ DK	23
5.	*If "No" in 4a, skip to 6; otherwise ask:* **Would you say your immediate work area is very smoky from tobacco, somewhat smoky, or not smoky at all?**	1 ☐ Very smoky 2 ☐ Somewhat smoky 3 ☐ Not smoky at all 9 ☐ DK	24
6.	**In general, would you say the smoke from other people's cigarettes is very annoying to you, somewhat annoying to you, or not at all annoying to you?**	1 ☐ Very annoying 2 ☐ Somewhat annoying 3 ☐ Not at all annoying	25

Notes

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