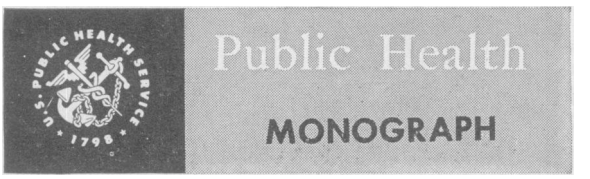
A Survey of Tobacco Smoking Patterns in the United States

As a supplement to the United States Bureau of the Census Current Population Survey for February 1955, smoking histories were collected from approximately 40,000 men and women 18 years of age and over. Persons in the survey were a representative cross section of the population of the United States. The questionnaire regarding smoking history was similar to that used by the American Cancer Society and the National Cancer Institute in their forward studies on the association of smoking and lung cancer. The questions covered the use of cigarettes, cigars, and pipe tobacco, attempted to distinguish between occasional and regular smokers, and included items on age at which smoking was started and the maximum consumption rate ever attained. The census information on age, sex, residence, race, and other population characteristics was made available for analysis.

The survey objective was to classify the population by broad smoking categories, and no attempt was made to validate verbal statements on rate of use by diaries or other records of consumption or purchases. Current cigarette consumption as estimated from the survey data was checked against the national aggregate consumption determined from tax data, which indicated that the survey underestimated cigarette consumption by approximately 15 percent. Considering the different intent for which the questions on smoking were designed, the correspondence between the survey and tax estimate seems good.

Of the 49.6 million men and 55.1 million women 18 years of age and over in the civilian population outside institutions, 11 million men (23 percent) and 37 million women (67 percent) are reported to be nonsmokers, that is, they had never smoked tobacco occasionally or regularly in any form. Of the remaining 38



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The accompanying summary covers the principal findings presented in Public Health Monograph No. 45, published concurrently with this issue of Public Health Reports. Mr. Haenszel and Dr. Shimkin are with the National Cancer Institute, National Institutes of Health, Public Health Service, Bethesda, Md., and Mr. Miller is with the U. S. Bureau of the Census.

Readers wishing the data in full may purchase copies of the monograph from the Superintendent of Documents, Government Printing Office, Washington 25, D. C. A limited number of free copies are available to official agencies and others directly concerned on specific request to the Public Inquiries Branch of the Public Health Service. Copies will be found also in the libraries of professional schools and of the major universities and in selected public libraries.

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Haenszel, William, Shimkin, Michael B., and Miller, Herman P.: Tobacco smoking patterns in the United States. Public Health Monograph No. 45 (Public Health Service Publication No. 463). 111 pages. Illustrated. U. S. Government Printing Office, Washington, D. C., 1956.

million men with a history of tobacco use, 31 million had smoked cigarettes regularly at some time during their lives. The corresponding numbers of lifetime male cigar and pipe smokers were 4.8 and 7.9 million, respectively. The numbers of current regular male smokers were as follows: cigarettes, 26 million; cigars, 2.8 million; pipes, 3.9 million. Of the 18 million women who reported some use of tobacco, 15 million had at one time or another been regular cigarette smokers. Thirteen million were regular smokers at the time of the survey. All of these estimates have been adjusted to take account of persons in the sample for whom no smoking histories were obtained.

Cigarettes are the major form of tobacco used. Trade sources estimate the number of cigarette smokers at about 60 million, and this figure probably includes "discontinued" smokers. If one adjusts the survey results to include occasional smokers, persons in military service and in institutions, and smokers presently under 18 years of age, the maximum resulting estimate of cigarette users to be derived from the survey is about 55 million. Some of this discrepancy between the survey estimate and that of trade sources may be traced to different estimates of the proportion of women smokers.

The profiles of age and sex differentials in tobacco use resulting from comparisons based on current practices or lifetime history of use are very similar, particularly for cigarettes. The highest percentage of current regular cigarette smokers appears at 25–34 years of age among both males and females and tapers off in successively older groups. The sex differentials in the proportion of smokers (or nonsmokers) is greatest at ages over 65. Among men over 65 years of age, pipe smoking rivals cigarette smoking in popularity. The differential in favor of cigarettes widens at the younger ages. Moreover, in the younger cohorts there seems to be a shift to "pure" cigarette smoking, accompanied by a lessened tendency to take up cigars or pipe exclusively.

A shift to an earlier age for starting to smoke is observed for younger persons. This has accompanied the rising proportion of regular smokers in these younger age groups. The smoking habit characteristics of a cohort become evident by a rather early age, around age 18 to 20 for men and at a slightly older age for women. Much of the decline in the number of cigar and pipe smokers may be traced to a failure of these forms of smoking to attract converts at an early age among persons born since 1900.

Aside from differences associated with age and sex, urban-rural residence is the population characteristic which differentiates smoking habits most sharply. Rural nonfarm persons closely resemble urban dwellers in smoking habits, and the sharp demarcation appears between the rural nonfarm and rural farm populations. The farm and nonfarm populations acquire the smoking habit at virtually the same age as the urban population. Among men, the urban-rural differences are emphasized when comparison is restricted to cigarette smokers using more than one pack of cigarettes daily. Cigarette smoking has been increasingly accepted by urban women born after 1890. Sizable acceptance among farm women was delayed almost one generation, to women born after 1920.

Practically no differences in smoking patterns according to size of urban community were noted. This finding is at variance with earlier surveys and suggests that the events of the past 20 years have disposed of community size as an important determinant in shaping smoking habits.

For men, there is little variation in the distribution of smoking patterns in the four major regions of the country (Northeast, North Central, South, and West). The proportion of female nonsmokers is lower in the northeastern and western regions than elsewhere. A higher proportion of heavy cigarette smokers was noted among northeastern males and the excess cannot be accounted for solely by greater urbanization of that area.

The differences between whites and nonwhites with respect to the proportions of nonsmokers and of all regular cigarette smokers are trivial. However, the proportion of white male cigarette smokers who use more than one pack of cigarettes daily is almost double the proportion among the nonwhite males. A similar excess occurs among white females. Urban-rural gradients provide another distinction. Among white males, the rural nonfarm data on tobacco use resemble those for the urban population.

Among nonwhites, the reverse is true, the nonfarm data resembling those for the farm population.

Smoking is less prevalent among farmers than among other male occupational groups. Among nonfarm workers, professional and technical personnel had the highest proportion of nonsmokers. There is evidence of some ordering by social class, the white-collar groups having more nonsmokers than craftsmen or operatives. This ordering by social class, noticeable for nonsmokers and for all regular cigarette smokers, tends to disappear when comparison is limited to smoking more than one pack of cigarettes daily.

The survey data support the observation that military life encourages the adoption of the smoking habit. The greater use of tobacco among soldiers persists after they leave military service.

The results by marital status point to a small deficit of smokers among single persons of both sexes. The proportion of nonsmokers among divorced persons of each sex is lower than for the remainder of the population.

Proportionately more men than women were reported as discontinued smokers at the time of the survey. When sex differences in the number of smokers and length of exposure to the habit are taken into account, the difference between men and women with respect to discontinuance disappears. For cigarettes particularly, discontinuance rates fall into consistent age patterns and show some stability over a variety of population groups, although in examining the data by population subgroups, a rather general inverse relationship between the proportion of regular smokers and the discontinuance rate does appear. It does not appear necessary to qualify group comparisons, based either on maximum or current rate of smoking, by taking into account the effect of discontinuance on duration of exposure to the habit.

The major purpose in collecting smoking histories was to investigate the meaning of the reported associations between smoking and lung cancer and to check whether the distribution of lung cancer deaths is consistent with estimates of the excess risk among smokers and the distribution of smokers in the population. The application of the data to test proposed models for lung cancer etiology was reported in the *Journal of the National Cancer Institute*, June 1956. This report is devoted solely to presentation of the census findings, and it is hoped that these data may prove useful to persons interested in the social, economic, and marketing aspects of tobacco use, as well as to investigators interested in lung cancer.

Correction

In table 2, page 654, July 1956 (Effect of Fluoridated Public Water Supplies on Dental Caries Prevalence, by F. A. Arnold, H. T. Dean, P. Jay, and J. W. Knutson), the def rate for 7-year-olds in 1950 should read 4.72, and the def rate for 11-year-olds in 1953 should read 1.09, both in Grand Rapids, Mich.; in table 3, page 655, the DMF rate for 6-year-olds in Grand Rapids in 1953 should read 0.19.