The 1985 Health Promotion and Disease Prevention Survey

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Synopsis

The National Center for Health Statistics, in collaboration with the Office of the Assistant Secretary for Health and other Federal Agencies, developed a questionnaire on health promotion and disease prevention for the 1985 National Health Interview Survey. The answers to the questionnaire, obtained from a probability sample of the civilian noninstitutionalized population of the United States, provide trend and baseline data to track progress toward the 1990 national health objectives. The questions concerned topics related to the objectives in the following areas: general health (including nutrition), injury control, high blood pressure, stress, exercise, smoking, alcohol use, oral health, occupational safety and health, and maternal health.

Data from that survey have been used by Public Health Service authors to prepare a series of 11 articles. Five are presented in this issue of Public Health Reports; *the remaining six will be published in the January-February 1987 issue of* Public Health Reports. *This paper, which introduces the series, provides a description of the objectives of the study, the survey methods employed, and the availability of public use data tapes.*

TO FIND OUT ABOUT THE HEALTH knowledge, behavior, and practices of the U.S. population, the National Center for Health Statistics added more than 100 questions to the 1985 National Health Interview Survey (NHIS). The answers to the questions on health promotion and disease prevention topics form the basis for 11 analyses of specific subjects. Five of these papers are presented in the following pages; six other papers will be published in the January-February 1987 issue of *Public Health Reports*. In this introductory paper we present background information on the NHIS, describe the methods, sources, and data limitations, and give details on the availability of public use data tapes.

Objectives of the Survey

The 1985 Health Promotion and Disease Prevention Survey was designed to monitor progress toward a major initiative of the Department of Health and Human Services. This initiative is described in the 1979 Surgeon General's Report on Health Promotion and Disease Prevention, "Healthy People" (*1*). In that report, broad goals were established for the improvement of the health of Americans. The 1980 Public Health Service report, "Promoting Health/Preventing Disease: Objectives for the Nation," (*2*) details specific objectives necessary for the attainment of those goals in each of 15 priority areas. The target date for achieving the objectives is 1990.

The 1985 Health Promotion and Disease Prevention Questionnaire will be used for data collection again in 1990 for the purpose of monitoring the progress achieved in the intervening 5 years. In addition, the National Center for Health Statistics (NCHS) has developed tentative plans for followup studies of persons in the 1985 sample "to assess the prognostic significance of risk factors and to document individual changes of lifestyle" (*3*). These efforts will produce national baseline data important in assessing existing prevention programs and in planning future ones.

Collaborative Efforts of Federal Agencies

The 1985 Health Promotion and Disease Prevention Survey was designed to collect trend and baseline data on the following topics: general

health (including nutrition), injury control, high blood pressure, stress, exercise, smoking, alcohol use, oral health, and occupational safety and health. In general, the items in the questionnaire address either individual health behaviors or knowledge of health practices.

The topics for the questionnaire were selected after consultation with the Office of Disease Prevention and Health Promotion (Assistant Secretary for Health) as well as with the agencies designated by the Assistant Secretary for Health as having the lead responsibility for implementing and monitoring progress toward achieving the 1990 objectives. Within each agency, subject matter experts also were consulted during the development of the questions.

The following Federal agencies made the survey possible through participation in the planning and development of the questionnaire or by providing financial support through the NCHS Reimbursable Work Program or by both kinds of contributions.

- Office of the Assistant Secretary for Health (Office of Disease Prevention and Health Promotion, Office on Smoking and Health)
- National Institutes of Health (National Heart, Lung, and Blood Institute; National Cancer Institute; National Institute of Dental Research; National Institute of Child Health and Human Development)
- Centers for Disease Control (Center for Prevention Services, Center for Health Promotion and Education, Center for Environmental Health, Center for Infectious Diseases, National Institute for Occupational Safety and Health)
- Alcohol, Drug Abuse, and Mental Health Administration (National Institute of Alcohol Abuse and Alcoholism, National Institute of Mental Health)
- Health Resources and Services Administration
- Food and Drug Administration (Bureau of Foods)
- Department of Transportation (Office of Driver and Pedestrian Research)
- President's Council on Physical Fitness and Sports

Survey Methods

The National Health Interview Survey is the principal source of information on the health of the civilian noninstitutionalized population of the United States. The National Health Survey Act of 1956 provided for a continuing survey and special studies to secure on a noncompulsory basis accurate and current statistical information on the amount, distribution, and effects of illness and disability in the United States and the services rendered for or because of such conditions. The survey referred to in the act, now called the National Health Interview Survey, was initiated in July 1957 and has been continuous ever since.

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Questionnaires. The objective of the NHIS is to address current health issues through the collection and analysis of data on the population of the United States. The NHIS questionnaire consists of two basic parts: (*a*) one or more sets of questions on health topics of current interest within the Public Health Service (the 1985 Health Promotion and Disease Prevention topics, for example) and (*b*) a basic set of health, socioeconomic, and demographic items. The current health topics questionnaire generally changes each year. This procedure facilitates timely response to the need for population-based data on current or emerging health issues. The basic health and demographic questionnaire generally remains unchanged from year to year, and therefore generates continuous national data on basic topics (including the incidence of acute illness and injuries, the prevalence of chronic conditions and impairments, the extent of disability, the use of health care services) and permits assessment of trends and changes in the health and health-related characteristics of the U.S. population.

Population coverage. The survey covers the civilian noninstitutionalized population of the United States living at the time of the interview. Because

Table 1. Estimates of the civilian noninstitutional population by selected demographic characteristics, based on the 1985 National Health Interview Survey Health Promotion Disease Prevention Study

Demographic characteristics	Numbers in thousands		
	Total	Males	Females
Total 18 years and older ..	170,972	80,779	90,192
Age			
18–29 years	48,325	23,569	24,756
30–44 years	51,092	24,891	26,201
45–64 years	44,512	21,215	23,297
65 years and older	27,043	11,105	15,939
45–54 years	22,380	10,830	11,550
55–64 years	22,133	10,385	11,748
65–74 years	16,691	7,311	9,381
75 years and older	10,352	3,794	6,558
Race			
White	148,239	70,582	77,657
Black	18,580	8,247	10,333
Other	4,153	1,950	2,202
Hispanic origin	10,085	4,695	5,390
Education			
Less than 9 years	18,805	9,013	9,792
9–11 years	22,625	10,173	12,453
12 years	66,476	28,736	37,740
More than 12 years	62,536	32,594	29,942
Income			
Less than $10,000	26,328	10,191	16,137
$10,000–$14,999	16,717	7,191	9,526
$15,000–$19,999	18,133	8,559	9,574
$20,000–$39,999	57,435	29,567	27,868
$40,000 or more	31,907	16,312	15,595
Less than $20,000[1]	68,301	28,801	39,500
$20,000 or more[1]	96,510	49,533	46,977

[1]Includes unknown detailed amount.

of technical and logistical problems, several segments of the population are not included in the sample or in the estimates from the survey. Excluded are patients in long-term care facilities, persons on active duty with the Armed Forces (although their dependents are included), U.S. nationals living in foreign countries, and persons who have died during the calendar year preceding the interview.

Data collection. The NHIS data are collected through personal household interviews. Each week a national probability sample of households is interviewed by personnel of the U.S. Bureau of the Census. Data collected over the period of a year form the basis for the development of annual estimates of the health characteristics of the population.

The basic health and demographic questionnaire is covered first in the interview. All members of the household 17 years of age and older who are at home at the time of the interview are invited to participate and respond for themselves. For children and for adults not at home during the interview, information is provided by a responsible adult family member (19 years of age or older residing in the household). Unrelated household members or unrelated families must be interviewed separately on a separate questionnaire.

Generally, a random subsample of adult household members is selected to respond to questions on current health topics. For the 1985 Health Promotion and Disease Prevention Questionnaire, a self-response was required. One person 18 years of age or older was randomly selected from within each family. Each unrelated adult in a household was also included in the sample.

Sample design. The sampling plan for the National Health Interview Survey follows a complex multistage area probability design. The first stage consists of a sample of about 200 primary sampling units (PSUs) drawn from approximately 1,900 geographically defined PSUs that cover the 50 States and the District of Columbia. A PSU consists of a county, a small group of contiguous counties, or a Metropolitan Statistical Area. Within PSUs, units called segments are defined in such a manner that each segment contains approximately 40 households. Within these segments, a systematic sample of eight households is selected for the sample.

The NHIS sampling plan for the 1985 data collection year was a complete redesign from previous years. One feature added for the 1985 design was the formation of four independent panels of PSUs such that each panel is a representative sample of the U.S. population. This design feature has a number of advantages, including flexibility about the total sample size. For example, because of a shortage of resources the 1985 sample was derived from three rather than four sample panels.

Another design feature implemented in 1985 is the oversampling of blacks to improve the precision of estimates for that population. The oversampling resulted in an increase in the number of blacks in the NHIS sample by approximately 75 percent and an increase in the precision of most related statistics by more than 20 percent. The new design also facilitates targeted followup studies such as the proposed followup of the 1985 respondents to the Health Promotion and Disease Prevention Questionnaire to document individual changes of lifestyle.

Table 2. Standard errors, expressed in percentage points, of estimated percents for selected populations from the 1985 National Health Interview Survey Questionnaire on Health Promotion and Disease Prevention, United States, 1985

Population in thousands	Standard error in percentage points									
	5 or 95	10 or 90	15 or 85	20 or 80	25 or 75	30 or 70	35 or 65	40 or 60	45 or 55	50 or 50
100	5.38	7.41	8.82	9.88	10.70	11.32	11.78	12.10	12.29	12.35
200	3.81	5.24	6.24	6.99	7.56	8.00	8.33	8.56	8.69	8.73
300	3.11	4.28	5.09	5.70	6.17	6.53	6.80	6.99	7.09	7.13
500	2.41	3.31	3.94	4.42	4.78	5.06	5.27	5.41	5.50	5.52
700	2.03	2.80	3.33	3.73	4.04	4.28	4.45	4.57	4.64	4.67
1,000	1.70	2.34	2.79	3.12	3.38	3.58	3.73	3.83	3.89	3.91
3,000	0.98	1.35	1.61	1.80	1.95	2.07	2.15	2.21	2.24	2.25
5,000	0.76	1.05	1.25	1.40	1.51	1.60	1.67	1.71	1.74	1.75
7,000	0.64	0.89	1.05	1.18	1.28	1.35	1.41	1.45	1.47	1.48
10,000	0.54	0.74	0.88	0.99	1.07	1.13	1.18	1.21	1.23	1.23
30,000	0.31	0.43	0.51	0.57	0.62	0.65	0.68	0.70	0.71	0.71
50,000	0.24	0.33	0.39	0.44	0.48	0.51	0.53	0.54	0.55	0.55
70,000	0.20	0.28	0.33	0.37	0.40	0.43	0.45	0.46	0.46	0.47
100,000	0.17	0.23	0.28	0.31	0.34	0.36	0.37	0.38	0.39	0.39

Response rates. The 1985 NHIS sample consisted of 36,399 eligible households. The total noninterview rate for the basic health and demographic household questionnaire was around 4 percent; about 2 to 3 percent was due to respondent refusal and the remainder was primarily due to an inability to locate eligible respondents at home after repeated calls. There was an additional nonresponse of about 7 percent for the Health Promotion and Disease Prevention Questionnaire for which one adult per family was randomly selected as the respondent and self-response was required. A total of 33,630 Health Promotion and Disease Prevention Questionnaires were completed, representing an estimated 90 percent of eligible respondents.

Survey Estimates

The papers that follow use population estimates based on the health promotion and disease prevention data. Since the estimates are based on a sample of the population rather than on the entire population, they are subject to sampling error. Some of the tables presented in those papers contain cells in which an estimate is relatively small for a given characteristic. When an estimate or the numerator or denominator of a rate is small, the sampling error may be relatively high. Population estimates for selected sociodemographic subgroups are given in table 1. Approximate standard errors for percentages based on selected population sizes are shown in table 2. In addition, estimates in this series of 11 articles may differ slightly from those published previously or in later publications. Minor differences in the estimates for similar variables can result from differences in the conceptualization of variables that are based on a combination of several questions or from differences in computation and rounding techniques.

Availability of Reports, Public Use Tapes

The papers in the November–December 1986 and January–February 1987 issues of *Public Health Reports* represent the first published research stemming from the 1985 Health Promotion and Disease Prevention (HPDP) Survey. To expedite the early release of data, the HPDP questionnaires were processed independently and before the final processing of the basic NHIS questionnaire. Two NCHS Advance Data reports (*4,5*) presented provisional estimates based on data collected from January to March and January to June. An Advance Data report containing the final estimates for the full year was recently released (*6*). Each of those reports provides estimated percents or percent distributions for most items on the HPDP questionnaire by four age groups and by gender.

In addition, to facilitate further the timely release of data, the participating agencies received a preliminary tape of HPDP data that was not linked with the full NHIS basic health and demographic questionnaire. Therefore, the articles in this series do not address the relationship between the health behaviors and knowledge items and the many health-related variables that are collected from the NHIS household questionnaire. The one

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exception is the paper on occupational health and safety risks, which contains data on the occupation and industry of respondents. These basic data were deemed essential for the analysis of responses to this portion of the questionnaire. (The paper will be published in the January-February 1987 issue of *Public Health Reports.*)

A number of additional NCHS publications are in preparation. A Vital and Health Statistics Series 10 report (data from the National Health Interview Survey), similar in format to the published Advance Data reports, will have details by age, sex, and race as well as the complete questionnaire and a description of the survey methods. Another Series 10 publication will be an analysis of selected health behavior and knowledge variables by detailed socioeconomic characteristics. A Vital and Health Statistics Series 5 publication (data from international studies) will compare data from this survey with data from the 1985 Canada Health Survey. Further, a number of research reports are being prepared by staff of agencies designated as having lead responsibility for particular 1990 objectives.

In addition, public use data files based on the HPDP questionnaire are available. The data files permit much more detailed analyses of the interrelationships between the health behaviors and health knowledge than are presented in this series of papers. Most of these articles are restricted to single topics, rather than issues that relate to behaviors and knowledge across the full range of topics covered by the HPDP questionnaire and the general health data obtained from the basic NHIS questionnaire. The basic questions yield such information as short- or long-term disability (for example, days lost from work or days in bed), use of health services (for example, frequency of doctor visits), prevalence of selected conditions (for example, risk factor knowledge levels among persons with and without certain conditions), and self-perceived health status. The NHIS basic health and demographic questionnaire has been published (*7*).

In addition, some of the topics (for example, cigarette smoking, hypertension, and alcohol consumption) covered by the 1985 questionnaire were included in earlier years of the NHIS (although in less detail). Thus, analyses of changes over time in some health behaviors are possible. Researchers are encouraged to discuss with NCHS staff the potential use of the 1985 data to address important issues related to health promotion.

Information regarding the purchase of the public use data tapes and the availability of published and unpublished data can be obtained by writing to the senior author.

References

1. Office of the Assistant Secretary for Health and Surgeon General: Healthy people the Surgeon General's report on health promotion and disease prevention—background papers, 1979. DHEW Publication No. (PHS) 79-55071A, Washington, DC, 1979.
2. U.S. Department of Health and Human Services, Public Health Service: Promoting health/preventing disease. Objectives for the nation. U.S. Government Printing Office, Washington, DC, fall 1980.
3. Feinleib, M.: National Center for Health Statistics: 25 years of service. [Editorial] Public Health Rep 100: 353-354, July-August 1985.
4. National Center for Health Statistics: Provisional data from the health promotion and disease prevention supplement to the National Health Interview Survey: United States, January-March 1985. Advance Data No. 113, DHHS Publication No. (PHS) 86-1250. Hyattsville, MD, Nov. 15, 1985.
5. Thornberry, O. T., Wilson, R. W., and Golden, P.: Health promotion and disease prevention provisional data from the National Health Interview Survey, United States, January-June 1985. Advance Data No. 119, DHHS Publication No. (PHS) 86-1250. Hyattsville, MD, May 14, 1986.
6. Thornberry, O. T., Wilson, R. W., and Golden, P.: Health promotion data for the 1990 objectives: estimates from the 1985 National Health Interview Survey health promotion and disease prevention study. Advance Data No. 126, DHHS Publication No. (PHS) 86-1250. Hyattsville, MD, Sept. 19, 1986.
7. National Center for Health Statistics: Current estimates from the National Health Interview Survey, United States, 1985. Vital Health Stat [10], No. 160, DHHS Publication No. (PHS) 86-1588, U.S. Government Printing Office, Washington, DC, September 1986.