

# **Update on Activities at the National Center for Health Statistics (NCHS), Centers for Disease Control and Prevention**

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## **Introduction**

The objectives of this year's NCHS update are to summarize health survey activities, and to describe NCHS's role in the National Nutrition Monitoring and Related Research Program (NNMRRP) and Year 2000 Health Objectives projects. Plans for disseminating and reporting data from the third National Health and Nutrition Examination Survey (NHANES III) are described. NCHS published several new reports during the past year which are included in a bibliography.

## **Background**

The National Center for Health Statistics (NCHS) is the Federal Government's principal vital and health statistics agency. NCHS data systems include data on vital events as well as information on health status, lifestyle, the onset and diagnosis of illness and disability, and health care utilization. NCHS works closely with other Federal agencies as well as researchers and academicians to meet priority needs for public health information.

NCHS is a part of the Centers for Disease Control and Prevention within the Public Health Service, U.S. Department of Health and Human Services. NCHS is located in Hyattsville, Maryland, with offices in Research Triangle Park, North Carolina and Atlanta, Georgia. Dr. Manning Feinleib left NCHS in January after serving as Center Director for more than twelve years. A search committee is presently recruiting for a new Center Director.

## **Major Data Collection Systems**

Some of the NCHS data systems and surveys are annual systems while others are conducted periodically. A comprehensive list of NCHS survey programs is included in the Databank Conference materials. The Center has two major types of data systems: systems based on populations, containing data collected through personal interviews or health examinations, and systems which are based on records, containing data collected from vital and medical records.

The population-based surveys include:

- National Health and Nutrition Examination Survey
- National Health Interview Survey
- National Survey of Family Growth
- NHANES I Epidemiologic Followup Study

## **1. The National Health and Nutrition Examination Survey (NHANES) Program**

Health and Nutrition Examination Surveys (HANES) are conducted to assess the health and nutritional status of the U.S. population. Data from these periodic surveys are obtained by means of interview and examination methods. Three national or "NHANES" were completed between 1971 and 1994: NHANES I (1971-75); NHANES II (1976-80); NHANES III (1988-94).

Hispanic HANES, a special survey of three Hispanic subgroups, was conducted from 1982-84 to provide comprehensive health and nutrition data on three major Hispanic subgroups--Mexican Americans, Cuban Americans, and Puerto Ricans. HANES findings are published in Series 11 of the *Vital and Health Statistics* series, *Advance Data from Vital and Health Statistics*, and in peer-reviewed journals.

NHANES data are used to estimate the prevalence of selected diseases and risk factors, to prepare reference data for a wide range of nutrition and health parameters, to examine secular trends in the prevalences of disease, nutritional status, and health risk factors, and to collect data which are needed to study the etiology of chronic diseases. The most recent survey, NHANES III, 1988-94 was conducted in two phases. Each three year phase constitutes a national sample, and data for the entire six year period may also be combined to form a larger national sample. The NHANES III sample design, interview and examination components and methods, and operational aspects of the study were described at the 1989-94 National Nutrient Databank Conferences. NCHS published a manual in 1994 entitled, *Plan and Operation of the Third National Health and Nutrition Examination Survey, 1988-94*. A brief description of the nutrition assessment component, and a list of published reports based on findings from NHANES III follows.

### **The NHANES III Nutritional Assessment Component**

NHANES III data are used to estimate the prevalences of nutrition-related risk factors such as overweight and poor diet, to provide data to examine the relationship between diet, nutritional status, and health, and to provide baseline data to relate long-term dietary practices to chronic diseases. The Survey's dietary assessment component included 24-hr dietary recall and food frequency interviews. The NHANES III food frequency instrument was targeted to collect information on dietary sources of calcium, caffeine, and vitamins A and C. Sample Persons 12 years of age and older were eligible for the food frequency interview. A separate infant food frequency questionnaire was administered to a proxy respondent during the household interview. Questionnaire data on the use of vitamin and mineral supplements, medications, alcohol, drinking water, and salt were collected. A standardized set of questions on food insufficiency was administered during the household and dietary interviews.

All NHANES III examinees were eligible for the 24-hr dietary recall interview. Dietary recalls were collected in mobile examination centers (MEC) by trained, bilingual dietary interviewers. Proxy respondents reported for infants and young children and respondents who are unable to report for themselves. A detailed description of the dietary interview protocol is provided in the NHANES III dietary interviewer's training manual.

### **NHANES III Dietary Activities**

NCHS published two *Advance Data from Vital and Health Statistics* reports in 1994 which provided U.S. population reference data on diet for NHANES III, 1988-91. Mean and median intakes of macronutrients, vitamins, minerals, and fiber were based on 1-day 24-h dietary recall data. Dietary recall and food frequency files for NHANES III, 1991-94 are in preparation as are the food files for both phases of the Survey.

Current dietary assessment research activities will identify dietary indicators using food frequency and 24-h recall data. In addition, intakes of foods which are rich in certain nutrients will be compared with selected health risk factors (e.g., intake of calcium-rich foods and hypertension). Reported frequencies of consumption (such as "never consumed" and "consumed daily") from food frequency interviews will be compared with 24-h recall data. Interagency activities co-sponsored by NCHS including the HHS-USDA Workshop "Dietary Survey Data Requirements of Federal Users" held in August, 1994 solicited ideas to plan future dietary survey data systems. More activities of this type anticipated.

### **NHANES III Data Release Activities**

The NCHS Division of Health Examination Statistics is responsible for data editing, documentation, and preparation of all NHANES III public release data files. NHANES III data editing and preparation has been the top priority project for all Division staff since the Survey ended in October, 1994. NCHS postponed plans to release an interim Phase 1 data file in 1994 due to staff and resource constraints. Division staff are currently working with contractors at Westat, Inc. to complete data editing and release for both phases of the Survey by the end of 1995.

### **Plans for Future NHANES**

NHANES 1997 was originally scheduled to begin in mid-1997. However, planning for the next NHANES was delayed for a year due to budget constraints. Additional funds have been earmarked for an NHANES-type study which would begin in 1998. Several proposals to define the scope of future NHANES are under review. Recent directives to reduce the size of the Federal Government and to consolidate programs have impacted on NCHS survey planning and data release efforts and program priorities.

## **2. The National Health Interview Survey (NHIS) Program**

The NHIS is an important source of information on the health of the civilian noninstitutionalized U.S. population. The survey has been conducted continuously since 1957. NHIS data are based on household interviews conducted annually in approximately 50,000 households. Each year, the NHIS includes a basic or "core" set of health, socioeconomic, and demographic questions. Additionally, one or more special questionnaires are administered to obtain more detailed information on current health issues.

NHIS findings are published in NCHS Vital and Health Statistics Series 10 reports as well as *Advance Data From Vital and Health Statistics*. The Survey provides data on the incidence of acute conditions, episodes of personal injury, prevalence of chronic conditions and impairments, persons limited in activity due to chronic conditions and impairments, restriction in activity due

to impairment or health problems, respondent-assessed health status, utilization of health care services involving physician care and short-stay hospitalization, and other special health topics. NHIS surveys examine the relationship between demographic, socioeconomic characteristics and health characteristics.

Questionnaires pertaining to special health topics are included each year. Questions on AIDS knowledge and attitudes have been included annually as a special health topic since 1987. The special topics studied in the 1992 NHIS also included immunization, family resources (including health insurance), cancer control and cancer epidemiology, and the Youth Risk Behavior Survey. The NHIS special health topic on disability began in 1994 and will continue through 1995.

### **Targeted Population Studies Which are Linked to the NHIS**

In 1984, NCHS initiated the development of Targeted Population Studies which are linked to the NHIS. Persons or families are selected from NHIS participants. Additional health-related information is obtained from recontacts or through linkage to other health records containing information about NHIS participants. This approach facilitates the collection of detailed information from the target population in a longitudinal framework and also may be used for studies which require more detailed information. Linkage to the NHIS minimizes sampling costs and maximizes the initial database available for research. The program is designed to be a collaborative effort between NCHS and organizations outside NCHS. The first targeted study is the Longitudinal Study of Aging which is based on the 1984 Supplement on Aging, a joint project with NCHS and the National Institute on Aging.

### **3. National Survey of Family Growth**

Data obtained through household interviews with women of childbearing age are used to monitor reproductive health and nutritional practices such as breast-feeding as well as changes in childbearing practices. The first two cycles were each conducted on approximately 10,000 "ever married" women 15-44 years of age. All women of childbearing age regardless of marital status were represented in the samples for the 1982 and 1988 cycles--Cycles 3 and 4, respectively. The Cycle 4 respondents were reinterviewed by telephone in 1990. Survey findings are published in Series 23 of the *Vital and Health Statistics Series* as well as *Advance Data From Vital and Health Statistics*.

### **4. The NHANES I Epidemiologic Followup Study (NHEFS)**

The NHANES I Epidemiologic Followup Study (NHEFS) is a national longitudinal study designed to investigate the relationships between clinical, nutritional, and behavioral factors assessed at baseline during NHANES I, and subsequent morbidity, mortality, and institutionalization. The NHEFS population includes the 14,407 participants who were 25-74 years of age when first examined in NHANES I (1971-75). NHEFS is a collaborative project involving NCHS and other Centers at CDC, and agencies at the National Institutes of Health. NHEFS provides data on mortality, morbidity, and hospital utilization as well as changes in risk factors, functional limitation, and institutionalization between NHANES I and the followup recontacts.

The first wave of data collection was conducted in 1982-84 for all members of the NHEFS cohort. Continued followups of the NHEFS population were conducted in 1986, 1987, and 1992 using the same design and data collection procedures as those developed for the 1982-84 NHEFS, with the exception that a 30-minute computer-assisted telephone interview was administered rather than a personal interview, and no physical measurements were taken. NHEFS public-use data tapes and documentation are available from the National Technical Information Service. A set of four data tapes containing information on vital and tracing status, subject and proxy interviews, health care facility stays in hospitals and nursing homes, and mortality data from death certificates is available for each NHEFS followup wave. All NHEFS public-use data tapes can be linked to the NHANES I public-use data tapes. Descriptions of the NHEFS study methodologies and survey instruments are available in the NCHS Vital and Health Statistics Series 1. The statistical issues to consider when analyzing NHEFS data are addressed in Series 2 reports.

## **Special Activities Involving NCHS Staff**

### **1. National Nutrition Monitoring and Related Research Program Activities**

NCHS plays a major role in monitoring the nutritional and related health status of the U.S. population. NCHS Nutrition Monitoring (NM) staff provide the leadership role within the Department of Health and Human Services (HHS) for the preparation of the Third Report on Nutrition Monitoring (TRONM) under a contract with the Life Sciences Research Office. The TRONM will be available later this year. The NM staff represent NCHS on several interagency nutrition committees such as the Interagency Board for Nutrition Monitoring and Related Research (IBNMRR), and provide technical reviews and assistance on issues related to nutrition monitoring (e.g., Year 2000 Nutrition Objectives), nutrition policy (e.g., folate food fortification issues and use of HANES and NCHS nutrition-related data), and nutrition-related research. In 1994, interagency efforts to coordinate and implement high-priority activities in the Ten-Year Comprehensive Plan for the National Nutrition Monitoring and Related Research Program continued. These activities included co-chairing an interagency working group on food security and co-sponsoring a Food Security Workshop with the USDA Food and Consumer Service to develop a measurement tool to assess hunger in national surveys. In addition, there have been interagency collaborative efforts to improve survey comparability and interpretation of nutrition and health status assessments.

NCHS sponsored or co-sponsored several workshops during the past year including an NCHS Growth Chart workshop and analyses of topics of public health concern--overweight in adolescents and adults, dietary intake, folate status of women of child-bearing age, and progress in meeting Year 2000 nutrition and health objectives. A report entitled *Consensus Workshop on Dietary Assessment: Nutrition Monitoring and Tracking the Year 2000 Objectives* provides recommendations for improving the comparability of dietary data collected at the national and state/local levels for tracking Year 2000 progress and for future nutrition monitoring.

### **2. Healthy People 2000**

In September 1990, the Department of Health and Human Services released *Healthy People 2000: National Health Promotion and Disease Prevention Objectives* which defines specific

measurable objectives for improving the health of Americans by the end of this century. *Healthy People 2000* contains over 500 measurable objectives and subobjectives which are grouped into 22 priority areas. The first 21 areas pertain to health promotion, health protection, and preventive services. Area 22, dealing with surveillance and data systems, addresses the development of an infrastructure to track these objectives and to identify and evaluate emerging public health issues at the national, state, and local levels.

NCHS is responsible for monitoring the Nation's progress toward achieving the objectives, using NCHS and other data sources. Progress reports are published annually in the *Healthy People 2000 Review* series. Although the objectives are national in scope, their achievement will be accomplished primarily through state and local efforts. NCHS provides training, technical assistance, software products, and some funding to support state and local health agencies.

### **How to obtain NCHS publications**

1. Catalogs and listings of NCHS publications and periodicals such as the Monthly Vital Statistics Report and Advance Data Reports are free of charge. Requests for National Center for Health Statistics (NCHS) information and/or products should be referred to:

Data Dissemination Branch  
National Center for Health Statistics  
Centers for Disease Control and Prevention  
6525 Belcrest Road, Room 1064  
Hyattsville, Maryland 20782  
Telephone (301) 436-8500  
E-mail: [nchsquery@nch10a.em.cdc.gov](mailto:nchsquery@nch10a.em.cdc.gov)

Printed copies of other publications, including *Vital Statistics of the United States*, *Vital and Health Statistics Series Reports*, and most miscellaneous reports, are free to libraries and selected institutions. Others may purchase these reports from the U.S. Government Printing Office (GPO) or the National Technical Information Service (NTIS). To order reports write, call or fax to the following addresses:

Superintendent of Documents  
U.S. Government Printing Office  
Washington, DC 20402-9325  
Telephone (202) 783-3238

To order reports from the NTIS contact:

NTIS  
5285 Port Royal Road  
Springfield, VA 22161  
(703) 487-4650  
Rush service: 1-800-553-NTIS  
(703) 321-8547 (fax)

2.Descriptive survey information, recent reports, and a list of publications are available on the Internet through the Centers for Disease Control and Prevention Home Page:  
<http://www.cdc.gov/nchswww/nchshome.htm>

3.Information about NCHS' role in nutrition monitoring can be obtained by written request to:

Nutrition Monitoring Office  
Division of Health Examination Statistics  
National Center for Health Statistics  
Centers for Disease Control and Prevention  
6525 Belcrest Road, Room 1000  
Hyattsville, Maryland 20782

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### **Healthy People 2000 Publications**

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Health, United States, 1993. 301 pp. (PHS) 94-1232. GPO stock number 017-022-01252-9. price \$19.00

Health, United States, 1993, Chartbook. 92 pp. (PHS) 94-1232-1.

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### **Selected NCHS Reports Published During 1994**

#### **Series 2 Publications: Data Evaluation and Methods Research**

No. 119 Investigation of Nonresponse Bias: Hispanic Health and Nutrition Examination Survey. 75 pp. (PHS) 94-1393. G.P.O. stock number 017-022-01243-0 price \$5.50. NTIS order number PB94-134996 price code PC A04 MF A01

No. 120 Evaluation of National Health Interview Survey Diagnostic Reporting. 116 pp. (PHS) 94-1394. GPO stock number 017-022-01244-8 price \$7.50. NTIS order number PB94-151214 price code PC A06 MF A02

No. 121 Statistical Issues in Analyzing the NHANES I Epidemiologic Followup Study. 30 pp. (PHS) 94-1395 GPO stock number 017-022-01258-8 price \$2.75

#### **Series 6 Publications: Cognition and Survey Measurement**

No. 7 Cognitive Aspects of Reporting Cancer Prevention Examinations and Tests. 161 pp. (PHS) 94-1082 GPO stock number 017-022-01275-8. price \$12.00

**NHEFS Publications**

Statistical Issues in Analyzing the NHANES I Epidemiologic Followup Study. 30 pp. (PHS) 94-1395. GPO stock number 017-022-01258-8 price \$2.75

**NHIS Publications**

No. 188 Prevalence and Characteristics of Persons With Hearing Trouble: United States, 1990-91. 75 pp. (PHS) 94-1516. GPO stock number 017-022-01251-1. price \$5.50. NTIS order number PB94-156601. price code PC A05 MF A01

No. 189 Current Estimates from the National Health Interview Survey, 1992. 269 pp. (PHS) 94-1517. GPO stock number 017-022-01242-1. price \$17.00. NTIS order number PB94 135811. price code PC A13 MF A03

No. 191 Health of our nation's children. 61pp. (PHS) 95-1519. GPO stock number 017-022-01277-4. price \$4.75.