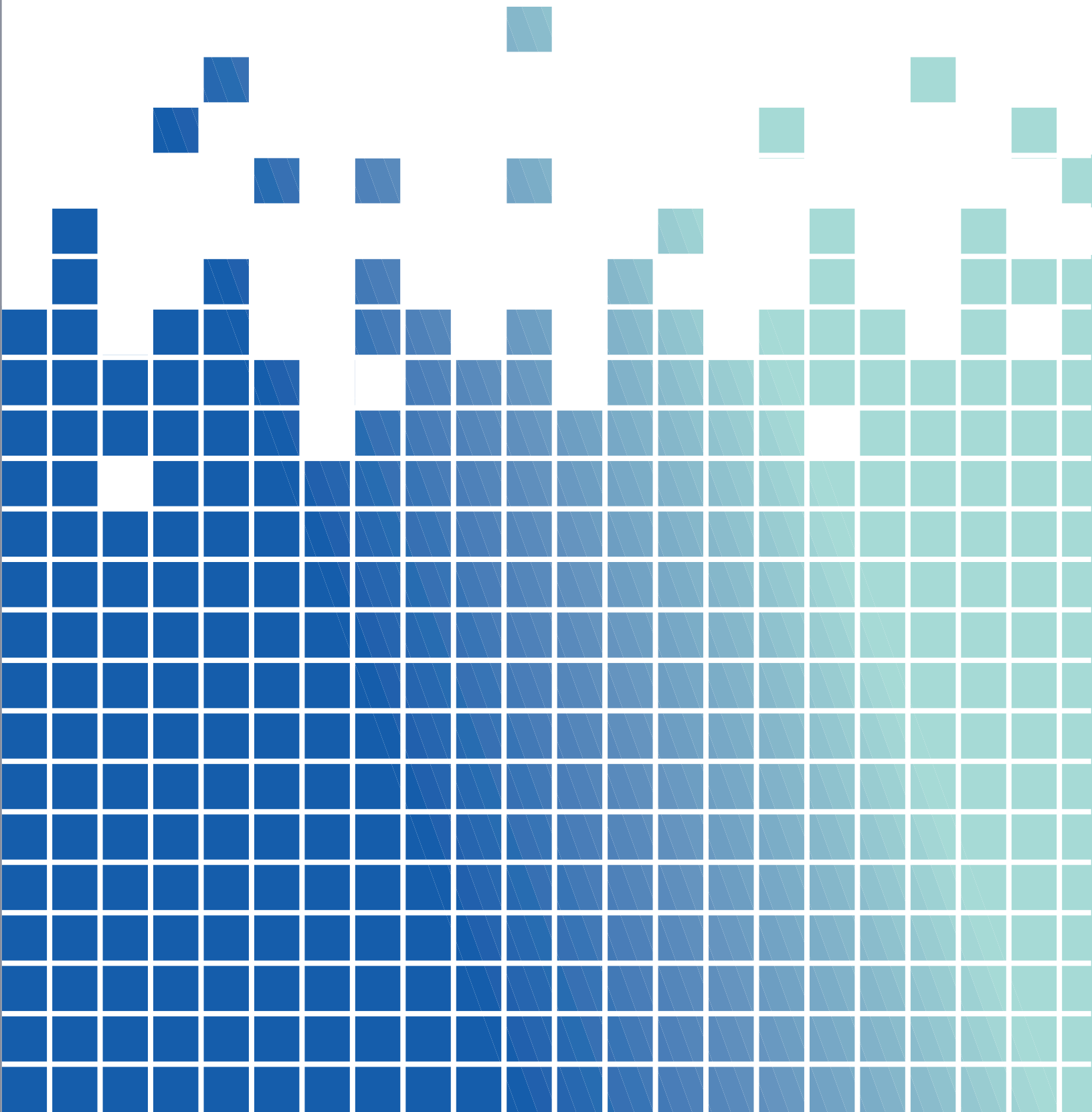
Nutrition Monitoring in the United States

The Directory of Federal and State Nutrition Monitoring and Related Research Activities

Interagency Board for Nutrition Monitoring and Related Research



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The Directory of Federal and State Nutrition Monitoring and Related Research Activities

Prepared by the Interagency Board for Nutrition Monitoring and Realated Research

U.S. DEPARTMENT OF HEALTH AND HUMAN SERVICES
Centers for Disease Control and Prevention
National Center for Health Statistics

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- Bureau of Labor Statistics

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INTRODUCTION

Nutrition monitoring in the United States is a complex system of coordinated activities that provides information about the dietary, nutritional, and related health status of Americans; the relationships between diet and health; and the factors affecting dietary and nutritional status. Nutrition monitoring and surveillance data are used for Federal policymaking including food safety, food fortification, food labeling, dietary guidance, tracking progress toward nutrition and health objectives, and setting nutrition research priorities (1). Surveys, surveillance systems, and other monitoring activities comprise the measurement component areas of the National Nutrition Monitoring and Related Research Program (NNMRRP), which was strengthened with the passage of the National Nutrition Monitoring and Related Research Act of 1990 (2). The Act required the development of a 10-Year Comprehensive Plan for Nutrition Monitoring and Related Research that has as its primary goal the establishment of a comprehensive national nutrition monitoring and related research program by:

- collecting quality data that are continuous, coordinated, timely, and reliable;
- using comparable methods for data collection and reporting of results;
- conducting relevant research; and
- efficiently and effectively disseminating and exchanging information with data users (3).

The Interagency Board for Nutrition Monitoring and Related Research (IBNMRR), co-chaired by the Assistant Secretary for Health, Department of Health and Human Services (HHS) and the Under Secretary for Research, Education, and Economics, Department of Agriculture (USDA), is responsible for overseeing implementation of the 10-Year Plan. The current chairs are Dr. David Satcher for HHS and Dr. Eileen Kennedy for USDA. A roster of the member agencies of the Board is included on page iii of this Directory. Written correspondence to the Board or its members can be directed to the Executive Secretary/Department Liaison for the appropriate Department.

The Directory of Federal and State Nutrition Monitoring Activities is part of an effort to improve dissemination of nutrition monitoring data (4). The first Directory was published in 1989 (5). The 1998 Directory represents an update and expansion of the second Directory, published in 1992 (6).

How is the Directory organized?

The Directory is a guide to Federal and State survey, surveillance, and research activities that are a part of the NNMRRP. It is organized into the five measurement component areas within the Program:

- nutrition and related health measurements;
- food and nutrient consumption;

- knowledge, attitudes, and behavior assessments,
- North Dakota's Food Security food composition and nutrient data bases; and
- food supply determinations.

The surveys and research activities are listed in alphabetical order and appear in boldface print at the top of each page. Descriptive information is provided for each activity in the following categories:

Sponsoring Agency(s): Agencies that developed or helped to develop the survey or were responsible for conducting the survey or research activity.

Purpose: Why the survey was conducted, aspects of nutrition or health assessed, and unique characteristics of the survey.

Conducted: Year or years the data were planned to be collected.

Target Population: Characteristics of the population surveyed.

Sample Size and Response Rate(s): Where applicable, size of the sample population and percentage that were respondents.

Design and Methods: Description of the survey or study design and how data are collected; methodologies used (especially for dietary data).

Descriptive Variables: Data that describe the population, such as demographics. Outcome variables of interest: Other data collected from respondents related to nutrition monitoring.

Contact Information: Office address, telephone and telefax numbers, and Internet and/or e-mail address where additional information on the survey may be requested.

Selected Key Publications: Publications considered important by the agency, including planning, operational, and training manuals, published data and analysis reports, and journal articles.

The Directory includes information on State level activities. Chapter VI contains information on States, territories, and American Indian tribes where nutrition-related surveillance activities are conducted. Local contact information is listed for each survey. Chapter VII includes a section devoted to nutrition monitoring research. In order to support the NNMRRP, research in the areas of survey design, questionnaire design, collection methods, laboratory methods, data processing, and data analysis is needed (3). The section includes activities underway in this area. Chapters VIII and IX are included to facilitate access to survey publications, data tapes, and CD-ROMs. "Searching AGRICOLA and MEDLINE" provides tips on how to search data bases for

publications about nutrition monitoring activities. Many of the surveys described in the Directory have data tapes and/or CD-ROMs available for public use. In addition, some data are also available via the Internet. The last chapter, "Data Set Availability," contains information on ways to obtain the various data sets described in this publication.

What is new in this edition?

- The Directory will be published electronically. This ensures broader dissemination at a fraction of the cost. A limited number of paper copies are available and single copies can be ordered through the National Center for Health Statistics (6525 Belcrest Road, Room 1000, Hyattsville MD, 20782-2003).
- For the first time, Internet addresses corresponding to the various surveys' home pages have been included. Some agencies requested listing a general agency Internet address for those surveys that do not have a home page. On rare occasion, agencies also asked us to list an e-mail address that could be used to obtain additional information directly from a person. Please click directly in the addresses to link to a site of interest.
- A chapter has been devoted to nutrition monitoring research, the foundation for nutrition monitoring activities.
- More frequent updates are possible. Because this is an electronic publication it is possible to update specific sections without rendering the entire publication obsolete and upload sections as they are completed.

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2. U.S. Congress. Pub. L. 101-445. National Nutrition Monitoring and Related Research Act of 1990. Washington: 101st Congress. October 22, 1990.

3. U.S. Department of Health and Human Services and U.S. Department of Agriculture. Ten-year Comprehensive Plan for the National Nutrition Monitoring and Related Research Program. Federal Register, 58:32752-32806. June 11, 1993.

4. Kuczmarski MF, Moshfegh AJ, Briefel RR. Update on nutrition monitoring activities in the United States. J Am Diet Assoc 94:753-60. 1994.

5. Interagency Committee on Nutrition Monitoring. Nutrition monitoring in the United States: The directory of Federal nutrition monitoring activities. Washington: Public Health Service. 1989.

6. Interagency Board for Nutrition Monitoring and Related Research. Wright J, ed. Nutrition monitoring in the United States: The directory of Federal and State nutrition monitoring activities. Hyattsville, Maryland: Public Health Service. 1992.

Key Nutrition Monitoring Program Publications

Life Sciences Research Office, Federation of American Societies for Experimental Biology. Third report on nutrition monitoring in the United States: Volumes 1 and 2. Prepared for the Interagency Board for Nutrition Monitoring and Related Research. Washington, DC: U.S. Government Printing Office, Washington, DC 1995.

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Life Sciences Research Office, Federation of American Societies for Experimental Biology: Nutrition monitoring in the United States--An update report on nutrition monitoring. Prepared for the U.S. Department of Agriculture and the U.S. Department of Health and Human Services. U.S. Government Printing Office, 1989.

U.S. Department of Health and Human Services and U.S. Department of Agriculture: Nutrition monitoring in the United States - A report from the Joint Nutrition Monitoring Evaluation Committee. DHHS Publication No. (PHS) 86-1255. Public Health Service. Washington: U.S. Government Printing Office. July 1986.

Acronyms and Abbreviations

The following list of acronyms and abbreviations is provided as a quick index of those mentioned in this Directory. Acronyms and abbreviations for surveys and activities are listed directly on the survey page, following the complete survey name. Parenthetical acronyms and abbreviations identify the parent department and agencies to which the listed agencies belong. Additionally, the abbreviation NA will be used in the text to identify information that is *not applicable* to a specific survey.

AGRICOLA	Agricultural on-line access
ARS	Agricultural Research Service (USDA)
BLS	Bureau of Labor Statistics (DOL)
BMI	Body Mass Index
CAB	Commonwealth Agriculture Bureau of Great Britain
CDC	Centers for Disease Control and Prevention (HHS)
CNPP	Center for Nutrition Policy and Promotion (USDA)
DASH	Division of Adolescent and School Health (HHS/CDC/NCCDPHP)
DOC	Department of Commerce
DOD	Department of Defense
DOL	Department of Labor
DRV	Daily Recommended Value
EFNEP	Expanded Food and Nutrition Education Program (USDA)
EI	Energy Intake
ENU	Equivalent Nutrition Units
ERS	Economic Research Service (USDA)
FDA	Food and Drug Administration (HHS)
FERRET	Federal Electronic Research and Review Extraction Tool
FNIC	Food and Nutrition Information Center (USDA/NAL)
FNS	Food and Nutrition Service (USDA)
FSP	Food Stamp Program
GPO	U.S. Government Printing Office

HCFA	Health Care Financing Administration
HHS	U.S. Department of Health and Human Services
IFPRI	International Food Policy Research Institute
IHS	Indian Health Service (HHS)
ISU	Iowa State University
LAN	Local Area Network
NAL	National Agricultural Library (USDA)
NAP	Nutrition Assistance Program
NCCDPHP	National Center for Chronic Disease Prevention and Health Promotion (HHS/CDC)
NCEH	National Center for Environmental Health (HHS/CDC)
NCHS	National Center for Health Statistics (HHS/CDC)
NCI	National Cancer Institute (HHS/NIH)
NDI	National Death Index Social Security Administration's (SSA)
NHLBI	National Heart, Lung, and Blood Institute (HHS/NIH)
NIA	National Institute on Aging (HHS/NIH)
NIH	National Institutes of Health (HHS)
NLM	National Library of Medicine (HHS/NIH)
NMFS	National Marine Fisheries Service (NOAA/DOC)
NOAA	National Oceanic and Atmospheric Administration (DOC)
NTIS	National Technical Information Service
ODPHP	Office of Disease Prevention and Health Promotion (HHS)
PC	Personal computer

PSU	Primary Sampling Unit
SSA	Social Security Administration
USAID	United States Agency for International Development
USARIEM	United States Army Research Institute of Environmental Medicine (DOD)
USDA	United States Department of Agriculture
WIC	The Special Supplemental Food Program for Women, Infants, and Children

NOTE: The Interagency Board for Nutrition Monitoring and Related Research wishes to acknowledge staff of the National Center for Health Statistics, Centers for Disease Control and Prevention for their work on the Directory. Special thanks are extended to Karil Bialostosky for her work as managing editor in coordinating the activities necessary to produce this document. The Board also wishes to acknowledge Demarius V. Miller, Patricia Vaughan, David Lehmann, and Julia Selby of the Publications Branch, Division of Data Services for editorial review and publication preparation for the NCHS Internet Web site.

I. NUTRITION AND RELATED HEALTH MEASUREMENTS

Demographic Health Survey (DHS-III)

Sponsoring Agency: U.S. Agency for International Development

Purpose: To improve information through appropriate data collection, analysis and evaluation; to strengthen the data collection/utilization of host-country institutions; and to improve data collection tools and methodologies to increase technical relevance and usefulness of data for monitoring and evaluating host-country population, health and nutrition programs; and to enable policy and programming decisions.

Conducted: 1992-1998

Target Population: Developing countries

Sample Size and Response Rate(s): variable

Design and Methods: The survey design is a stratified, multistage, probability cluster sample of the women age 15-49 having given birth in the last 3-5 years.

Descriptive Variables: Socio-demographic, reproductive and health variables including age, urban-rural residence, education, work status, birth history, marital status, source of drinking water, type of sanitation, antenatal and health care, etc.

Outcome Variables of Interest: Child nutritional status indicators including weight for age, height for age, weight for height, infant feeding practices including breastfeeding, and related morbidity; maternal nutrition indicators including BMI and height.

Contact Agency:

Macro International, Inc.
11785 Beltsville Drive Suite 300
Calverton, MD 20705-3119
Tel: 301 572-0200
Fax: 301 572-0999
http://www.macroint.com/dhs/
E-mail: Reports@macroint.com

Selected Key Publications:

Africa Nutrition Chartbook Series, 1993-1998. Country specific graphic publications with commentaries on nutrition of young children and their mothers in sub-Saharan countries, based on DHS surveys 1986-1997. Calverton, Maryland: Macro International.

Africa Nutrition Country Reports, 1993-1998. In-depth country analytical reports on nutrition status of young children and their mothers from selected African countries, based on DHS surveys 1992-1997. Calverton, Maryland: Macro International.

Loaiza, E. Maternal Nutritional Status. 1997. DHS comparative Studies No. 24. Calverton, Maryland: Macro International.

Haggerty, P and Stewart, MK 1996. The effects of measles vaccination and related factors on child nutritional status in Africa. Calverton, Maryland: Macro International.

Rutstein, S. 1996. Factors Influencing the Nutritional Status of Mothers and Children in Sub-Saharan Africa. Calverton, Maryland: Macro International.

Rustein, S and Nestel, P. 1996. Defining Nutritional Status of Mothers in Developing Countries. Calverton, Maryland: Macro International.

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First National Health and Nutrition Examination Survey (NHANES I)

Sponsoring Agency: National Center for Health Statistics

Purpose: The purpose of the NHANES program, including NHANES I, is the collection and dissemination of health and nutrition data, obtained best or only by direct physical examination, clinical and laboratory tests, and related measurement procedures. In NHANES I, prevalence data were collected for specifically defined diseases or conditions of ill health; and normative health-related measurement data were collected to describe the health characteristics within the total population. In addition, NHANES I was designed to permit analytic studies that take advantage of the large amount of health and nutrition information that was collected from each participant.

Conducted: NHANES I, 1971-74

NHANES I Augmentation Survey, 1974-75

Target Population: Civilian, noninstitutionalized persons ages 1-74 years residing in households in the conterminous United States.

Sample Size and Response Rate(s):

	Sample size	*Interviewed*	*Examined*
NHANES I (1971-74)	28,043	27,753 (99%)	20,749 (74%)
NHANES I Augmentation Sample (1974-75)	4,288	4,220 (98%)	3,059 (71%)

Design and Methods: The survey design was a stratified, multistage, probability cluster sample of the target population. The data were obtained by interview and examination and included a 24-hour dietary recall, a limited food frequency questionnaire, physical examinations, anthropometric measurements, and laboratory analyses of blood and urine specimens.

Descriptive Variables: Demographic and socioeconomic variables including age, gender, race, ethnicity, income, education, and marital status.

Outcome Variables of Interest: Numerous nutritional and health status indicators and conditions including height, weight, dietary intake, serum cholesterol, blood pressure, overweight, anemia, children's growth charts, and hypertension.

Contact Agency:

Division of Health Examination Statistics
National Center for Health Statistics

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Fax: (301) 436-5431
http://www.cdc.gov/nchswww/about/major/nhanes/nhanes.htm

Selected Key Publications:

Fulwood R, Havlik RJ, Briefel RR, Sempos CT. Trends in serum cholesterol levels among US adults aged 20 to 74 years. Data from the National Health and Nutrition Examination Surveys, 1960 to 1980. JAMA 257(7), 937-942. 1987.

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National Center for Health Statistics. Plan and operation of the Health and Nutrition Examination Survey, United States 1971-73. National Center for Health Statistics. Vital Health Stat 1(10a) 1973 and 1(10b) 1977.

Hamill PV, Drizd TA, Johnson CL, et al. NCHS growth curves for children, birthN18 years, United States. National Center for Health Statistics. Vital Health Stat 11(165). 1977.

Food Security and Nutrition Monitoring Project (IMPACT)

Sponsoring Agency: U.S. Agency for International Development.

Purpose: The project goal is to strengthen food security and nutrition monitoring systems in developing countries through technical assistance and training and through collaborative inquiries to improve the availability, relevance and quality of food, and nutrition information.

Conducted: 1990-98

Target Population: Policymakers and technical officers involved in the areas of food security, nutrition, agriculture, and other nutrition-related sectors in host country institutions as well as in USAID field missions.

Sample Size and Response Rate(s): NA

Design and Methods: Under the Food Security and Nutrition Monitoring Project, as part of the collaborative inquiries (operations research), field surveys are being carried out by the International Food Policy Research Institute (IFPRI) in the areas of alternative indicators of food and nutrition security and agriculture and nutrition linkages. Country sites include Kenya, Ghana, Guatemala, and India. Sample sizes, variables, and survey design vary by discrete activity.

Descriptive Variables: NA

Outcome Variables of Interest: NA

Contact Agency:

Office of Health and Nutrition
US Agency for International Development
Ronald Reagan Building
Washington, DC 20523-3700
Phone: (202) 884-8722
Fax: (202) 884-8977
Home page: None provided
E-mail: linkages@aed.org

Selected Key Publications:

Food Security Indicators and Framework for Use in the Monitoring and Evaluation of Food Aid Programs, 1997.

Choice of Indicators for Food Security and Nutrition Monitoring, Food Policy 3 329-343,

1994.

Series of African Nutrition Reports produced by the Demographic Health Surveys, IRD/MACRO International.

Hispanic Health and Nutrition Examination Survey (HHANES)

Sponsoring Agency: National Center for Health Statistics, Centers for Disease Control

Purpose: The purpose of HHANES was to obtain data on the health and nutritional status of the three largest Hispanic subgroups in the United States. It was conducted because the sample size for Hispanics was insufficient in the NHANES to adequately estimate the nutritional and health status of this important subpopulation. HHANES, like the NHANES, had goals that included: national population reference distributions, national prevalences of diseases and risk factors, and monitoring trends in nutritional and health status over time. The design for this survey also placed an emphasis on identifying unmet health care needs among Hispanics.

Conducted: 1982-84

Target Population: Civilian, noninstitutionalized, "eligible" Hispanics ages 6 months-74 years residing in households in three defined geographic areas of the United States: Mexican Americans residing in five Southwestern States (Arizona, California, Colorado, New Mexico, and Texas), Cubans residing in Dade County, Florida, and Puerto Ricans residing in the New York City area (parts of New York, New Jersey, and Connecticut).

Sample Size and Response Rate(s):

	Sample size	*Interviewed*	*Examined*
Mexican American	9,894	8,554 (87%)	7,462 (75%)
Cuban American	2,244	1,766 (79%)	1,357 (61%)
Puerto Rican	3,786	3,369 (89%)	2,834 (75%)

Design and Methods: The survey design was a stratified, multistage, probability cluster sample of the target populations. Although HHANES was not designed as a national Hispanic survey, and no national estimates for the Hispanic population can be made, it was the first health examination survey to cover the health and nutritional status of Hispanic subgroups. The three HHANES universes included approximately 76% of the 1980 Hispanic origin population in the United States. The data were obtained by interview and examination and included a 24-hour dietary recall, a food frequency questionnaire, physical examinations, anthropometric measurements, and laboratory analyses of blood and urine specimens.

Descriptive Variables: Demographic and socioeconomic variables including age, gender, ethnicity, income, education, and marital status.

Outcome Variables of Interest: Numerous nutritional and health status indicators and

conditions including height, weight, dietary intake, blood pressure, blood lead, glucose and cholesterol, overweight, anemia, hypertension, and diabetes.

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Longitudinal Followup to the National Maternal and Infant Health Survey

Sponsoring Agency: National Center for Health Statistics, Centers for Disease Control and Prevention

Purpose: This survey was a followup of 9,400 mothers from the 1988 live birth cohort at 3 years of age to examine child health status and development, health services utilization, child care and safety, utilization of Federal support programs, and maternal health behaviors. It was also a followup of 1,000 women who experienced infant deaths and 1,000 women who had stillbirths in 1988, to study plans for adoption and foster care and reproductive health.

Conducted: 1991-92

Target Population: Participants of the 1988 NMIHS

Sample Size and Response Rate(s):

	Sample size	*Response rate*
Mothers of 3-year olds	9,400	89%
Women who had infant deaths	1,000	82%
Women who had late fetal deaths in 1988	1,000	82%

Design and Methods: National probability sample of 9,400 children who were live-born and studied in the 1988 NMIHS. Data were collected by telephone and personal interviews from mothers. Additional data were collected from pediatricians and hospitals.

Descriptive Variables: Use of vitamin and mineral supplements, WIC participation, serial height and weight (from birth to 3 years at every pediatric visit), head circumference, hemoglobin, hematocrit, and maternal determinants of child variables.

Outcome Variables of Interest: Child development, morbidity, and development of low-birth weight infants.

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http://www.cdc.gov/nchswww/about/major/nvss/nvss.htm

Selected Key Publications:

Yu SM, Kogan MD, Gergen P. Vitamin and mineral use among preschool age children in US. Pediatrics 100(5): E4. 1997.

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National Ambulatory Medical Care Survey (NAMCS)

Sponsoring Agency: National Center for Health Statistics, Centers for Disease Control and Prevention

Purpose: The survey provides nationally representative data about ambulatory medical care provided by non-Federal, office-based physicians to the population of the United States.

Conducted: Annually from 1973-81, 1985, annually since 1989.

Target Population: Visits by ambulatory patients to non-Federal physicians in office-based practice.

Sample Size and Response Rate(s):

For the 1996 NAMCS:

	Sample size	*Response rate*
Physicians	3,173	70%*
Office visits	29,805	

* Percentage of eligible physicians participating

Design and Methods: The survey is based on a multistage, stratified, probability sample of physicians within a national sample of Primary Sampling Units (PSU's). Physicians record data on encounter forms for a sample of patient visits during a randomly assigned 1-week reporting period. Physicians are contacted by telephone, mail, and personal interview.

Descriptive Variables: Demographic characteristics of the patient, including age, sex, ethnicity, and race.

Outcome Variables of Interest: Reasons for visit, diagnoses, diagnostic services, counseling services, and medication therapy. Nutrition-related information also includes physician-reported hypertension and obesity, and counseling services for diet, exercise, weight reduction and cholesterol reduction.

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Selected Key Publications:

Schappert SM. Ambulatory Care Visits to Physician Offices, Hospital Outpatient Departments, and Emergency Departments: United States, 1996. National Center for Health Statistics. Vital Health Stat 13(134). 1998.

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Bryant E, Shimizu I. Sample design, sampling variance, and estimation procedures for the National Ambulatory Medical Care Survey. National Center for Health Statistics. Vital Health Stat 2(108). 1988.

Tenney JB, White KL, Williamson JW. National Ambulatory Medical Care Survey: Background and methodology. National Center for Health Statistics. Vital Health Stat 2(61). 1974.

National Health Interview Survey (NHIS)

Sponsoring Agency: National Center for Health Statistics, Centers for Disease Control and Prevention

Purpose: The purpose of this basic health and demographic survey is to address major current health issues through the collection and analysis of data on the civilian, noninstitutionalized population of the United States. National data on the incidence of acute conditions, episodes of persons injured, disability days, physician contacts, prevalence of chronic conditions, limitations of activity, hospitalizations, assessed health status, and other health-related topics are provided by the survey.

Conducted: Annually since 1957

Target Population: Civilian, noninstitutionalized population of the United States.

Sample Size and Response Rate(s):

For the 1995 survey:

Sample size	*Household Sample size*	*Response rate*
102,467	41,824	93.8%

Design and Methods: The NHIS is a continuing, nationwide, household interview survey. The sample design plan follows a multistage probability design that permits a continuous sampling of the civilian, noninstitutionalized population residing in the United States. Each week a probability sample is interviewed by personnel from the U.S. Bureau of the Census. 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 current sample design was first used in 1985 and it is anticipated that this design will be used until 1995.

Descriptive Variables: Demographic and socioeconomic variables including age, sex, race, Hispanic origin, ethnicity, education, marital status, living arrangement, veteran status, income, employment status, occupation and industry, geographic region, and place of residence.

Outcome Variables of Interest:

Nutrition monitoring--Self-reported height and weight for persons 18 years of age and over.

Basic health variables--Acute and chronic conditions, activity limitation, episodes of persons injured, restricted activity, self-assessed health, physician contacts, and hospitalization.

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Selected Key Publications:

Adams PF, Benson V. Current estimates from the National Health Interview Survey, 1990. National Center for Health Statistics. Vital Health Stat 10(181). 1991.

Schoenborn CA. Exposure to alcoholism in the family: United States, 1988. Advance data from vital and health statistics, no 205. Hyattsville, Maryland: National Center for Health Statistics. 1991.

Massey JT, Moore TF, Parsons VL, Tadros W. Design and estimation for the National Health Interview Survey, 1985-94. National Center for Health Statistics. Vital Health Stat 2(110). 1989.

Kovar MG, Poe GS. The National Health Interview Survey design, 1973-84, and procedures, 1975-83. National Center for Health Statistics. Vital Health Stat 1(18). 1985.

National Health Interview Survey on Aging

Sponsoring Agency: National Center for Health Statistics, Centers for Disease Control and Prevention

Purpose: This survey was designed to complement the 1985 National Nursing Home Survey; these two surveys describe the health status and health care of most of the elderly population in the United States.

Conducted: January-December 1984

Target Population: Civilian, noninstitutionalized population ages 55 years and over in the United States.

Sample Size and Response Rate(s):

Sample size	*Interviewed*	*Response rate*
16,697	16,148	97%

Design and Methods: Personal interview survey. Complex, multistage, stratified, and cluster sample, including all persons in the NHIS household who were 65 years of age or over, and a randomly selected sample of 50% of persons 55-64 years of age.

Descriptive Variables: Similar to NHIS. Self-reports on a set of basic health and demographic items.

Outcome Variables of Interest:
Topic areas--Family structure, community services, occupation, health conditions, instrumental activities of daily living, health opinions, living arrangements, social support, retirement, activities of daily living, home care, and hospice.

Nutrition-related items--Meal services, difficulty preparing meals, and difficulty eating.

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Selected Key Publications:

Fulton JP, Katz S, Jack SS, Hendershot GE. Physical functioning of the aged: United States, 1984. National Center for Health Statistics. Vital Health Stat 10(167). 1989.

Fitti JE, Kovar MG. The supplement on aging to the 1984 National Interview Survey. National Center for Health Statistics. Vital Health Stat 1(21). 1987.

Dawson D, Hendershot G, Fulton J. Aging in the eighties: Functional limitations of the individuals 65 years of age and over. Advance data from vital and health statistics; no 133. Hyattsville, Maryland: National Center for Health Statistics. 1987.

National Health Interview Survey on Cancer Epidemiology and Cancer Control

Sponsoring Agency: National Center for Health Statistics, Centers for Disease Control and Prevention; National Cancer Institute, National Institutes of Health.

Purpose: This survey gathered data on the prevalence of cancer, cancer survivorship, and associated risk factors, including Hispanic acculturation, food intake, vitamin and mineral intake, food knowledge, smoking habits, occupational exposure, family cancer history, reproduction and hormone use, access to medical care, cancer screening knowledge and practice, general knowledge and attitudes about cancer, and workplace tobacco policies and exposure. In addition, sections on childhood immunizations, AIDS knowledge and attitudes, and family resources are included.

Conducted: 1987 and 1992 (next one planned for the year 2000)

Target Population: Civilian, noninstitutionalized population ages 18 years and over in the United States.

Design and Methods: Complex, multistage, stratified, cluster sample, including one randomly selected person 18 years of age or over in each NHIS household. Hispanics were oversampled in the 1987 survey, and in the 1992 survey Hispanic persons and blacks were oversampled.

Sample Size and Response Rate(s):

	Sample size	*Interviewed*	*Response rate*
1987	50,000	45,000	90%
1992	49,401	12,000*	86%

* The cancer supplement took place in six months and used a split sample, resulting in a quarter sample for the nutrition questions in the epidemiology supplement. The response rate for the epidemiology supplement was calculated as follows: (Household 95.7%) x (Epidemiology 90.0%) = 86.1%.

Descriptive Variables: Self-report of the basic health and demographic variables in the National Health Interview Survey. Additional variables emphasize risk factors for cancer.

Outcome Variables of Interest: The nutrition variables included the frequency of eating over 68 selected food items, vitamin and mineral supplement intake, knowledge of a good diet, knowledge of the relationship between diet and cancer, changes in diet for health reasons, and self-reported height and weight.

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Selected Key Publications:

Harnack L, Block G, Subar AF, Lane S. Cancer prevention-related nutrition knowledge, beliefs, and attitudes of US adults: 1992 NHIS Cancer Epidemiology Supplement. JNE 30:131-138. 1998.

Norris J, Harnack L, Carmichael S, Pouane T, Wakimoto P, Block G. US Trends in nutrient intake: The 1987 and 1992 National Health Interview Surveys. Am J Public Health 87:740-746. 1997.

Breslow RA, Subar AF, Patterson BH, Block G. Trends in food intake: the 1987 and 1992 National Health Interview Surveys. Nutr Cancer 28:86-92. 1997.

Harnack L, Block G, Subar AF, Lane S, Brand R. Association of cancer prevention related nutrition knowledge, beliefs and attitudes to cancer prevention dietary behavior. J Am Dietet Assoc 97:957-965. 1997.

Slesinski MJ, Subar AF, Kahle L. Dietary intake of fat, fiber and other nutrients is related to use of vitamin and mineral supplements in the United States: The 1992 National Health Interview Survey. J Nutr 126:3001-3008. 1996.

Slesinski MJ, Subar AF, Kahle LL. Trends in vitamin and mineral supplement use in the US: the 1987 and 1992 National Health Interview Surveys. J Am Dietet Assoc 95:921-923. 1995.

Subar AF, Frey CM, Harlan LC, Kahle L. Differences in reported food frequency by season of questionnaire administration: The 1987 National Health Interview Survey. Epidemiology 5:226-233. 1994.

Subar AF, Ziegler G, Patterson BH, Ursin G, Graubard BI. US Dietary patterns associated with fat intake: The 1987 National Health Interview Survey. Am J Public Health 84:359-66. 1994.

Subar AF, Harlan LC. Nutrient and food group intake by tobacco use status: The 1987 National Health Interview Survey. In: Tobacco Smoking and Nutrition. Influence of Nutrition on Tobacco-Associated Health Risks, Diane JN and Pryor WA (eds), Annals of the New York Academy of Science, Volume 686, NY, NY, 1993.

Block G, Subar AF. Estimates of nutrient intake from a food frequency questionnaire: The 1987 National Health Interview Survey. J Am Dietet Assoc 92:969-77. 1992.

Cotugna N, Subar AF, Heimendinger J, Kahle L. Nutrition and cancer prevention knowledge, beliefs, attitudes and practices: the 1987 National Health Interview Survey. J Am Dietet Assoc 92:963-68. 1992.

Subar AF and Block G. Use of vitamin and mineral supplements: Demographics and amounts of nutrients consumed. The 1987 Health Interview Survey. Am J Epidemiol 132:1091-1101. 1990.

Dawson DA, Thompson GB. Breast cancer risk factors and screening: United States, 1987. National Center for Health Statistics. Vital Health Stat 10(172). 1989.

Schoenborn CA, Boyd G. Smoking and other tobacco use: United States, 1987. National Center for Health Statistics. Vital Health Stat 10(169). 1989.

National Health Interview Survey on Disability

Sponsoring Agencies: Office of the Assistant Secretary for Planning and Evaluation, Health and Human Services; Office of Supplemental Security Income, Social Security Administration; Office of Disability, Social Security Administration; Bureau of Maternal and Child Health, Health Resources and Services Administration; along with several other collaborating government agencies and the Robert Wood Johnson Foundation.

Purpose: Nationally-based data on the many aspects and impacts of disability did not exist prior to this survey. One important goal of the Survey was to develop a series of questionnaires that would provide a useful set of measures while maintaining a balance between the social, administrative, and medical considerations involved in disability measurement. The Survey was designed to collect data that can be used to understand disability, develop public health policy, produce simple prevalence estimates of selected health conditions, and provide descriptive baseline statistics on the effects of disabilities.

Conducted: 1994

Target Population: The Phase I Disability questionnaire was administered at the same time as the NHIS core, and collected information about all members of the NHIS households. The Phase I questionnaire collected basic data on disability and was used as a screening device to determine eligibility for the second phase of the survey.

Sample Size and Response Rate(s):

	NHIS sample size (response rate)	*household sample size (response rate)*	*Disability Final response rate*
1994	45,705 (94%)	107,469 (93%)	87%

Design and Methods: Complex, multistage, stratified, and clustered sample design. Data collection was by household interviews, conducted face-to-face. Persons with identified disabilities would be followed up in Phase II.

Descriptive Variables: Gender, age, race, Hispanic ethnicity, family income, educational attainment, living arrangements, marital status, veteran status, labor force status, occupation and industry, geographic region, and place of residence. Health status information collected on the basic health and demographic questionnaire are available for each sample person. Also available are data on health status, bed days and doctor visits in past 12 months, interval since last doctor visit, and event-based data (for example, chronic conditions and restricted activity days in past 2 weeks).

Outcome Variables of Interest: Nutrition-related— Disability section included questions on persons being able to prepare their own meals and level of difficulty in eating.

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Selected Key Publications: None provided.

National Health Interview Survey on Health Promotion and Disease Prevention (NHIS-HPDP)

Sponsoring Agency: National Center for Health Statistics, Centers for Disease Control and prevention. Collaboratively designed, sponsored, and analyzed by several Public Health Service agencies charged with the responsibility to monitor progress toward the *1990 Health Objectives for the Nation*.

Purpose: The 1985 NHIS-HPDP was designed to provide baseline data for many of the *1990 Health Promotion Objectives for the Nation*, including some of the nutrition-related objectives. The 1990 NHIS-HPDP was designed to provide end-point data in order to assess whether the 1990 Objectives were achieved.

Conducted: 1985 and 1990; being conducted in 1998

Target Population: Civilian, noninstitutionalized household population of the United States, ages 18 years and over.

Sample Size and Response Rate(s):

	NHIS household sample size (response rate)	*HPDP sample size (response rate)*	*Final response rate*
1985	36,300 (96%)	35,817 (94%)	90%
1990	46,476 (96%)	41,104 (84%)	83%

Design and Methods: Complex, multistage, stratified, and clustered sample design. Data collection was by household interviews, conducted face-to-face. Although proxy information may have been obtained for basic health data, all health promotion and disease prevention data were based on self-response.

Descriptive Variables: Gender, age, race, Hispanic ethnicity, family income, educational attainment, living arrangements, marital status, veteran status, labor force status, occupation and industry, geographic region, and place of residence. Health status information collected on the basic health and demographic questionnaire are available on the NHIS-HPDP tape and CD-ROM for each HPDP sample person. These include assessed health status, bed days and doctor visits in past 12 months, and interval since last doctor visit. Event-based data (for example, chronic conditions and restricted activity days in past 2 weeks) for HPDP sample persons are available on separate tapes but this information can be linked to the NHIS-HPDP.

Outcome Variables of Interest: Nutrition-related--1985 and 1990: data on knowledge, advice from doctors, and behaviors associated with proper eating habits, weight loss

techniques; sodium and high animal-fat diets; high blood cholesterol, overweight, hypertension, and heart disease; alcohol use (lifetime drinking status; quantity and frequency of alcohol consumption in past 2 weeks; knowledge of heavy alcohol consumption as a risk factor for selected chronic conditions); opinion of the relationship between fluoride use and avoiding between-meal sweets and dental health; and breast-feeding practices (for all children in the family under age 5).

1990 only: Knowledge of alcohol and cholesterol as risk factors for hypertension, received and/or followed professional advice to cut down on alcohol use due to hypertension; alcohol use (quantity and frequency) for most recent 2-week period in which alcohol was consumed in the past year (in 1985, data were obtained only for past 2 weeks).

General health promotion--1985 and 1990: Pregnancy and smoking, general health habits, injury control, child safety and health, high blood pressure, stress, exercise, smoking, alcohol use, dental care, occupational safety and health (1985 only), and preventive care.

1990 only: Mammography, radon.

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Selected Key Publications:

Schoenborn CA. Health promotion and disease prevention: United States, 1985. National Center for Health Statistics. Vital Health Stat 10(163). 1988.

Stephenson MG, Levy AS, Saas NL, McGarvey WE. 1985 NHIS findings: Nutrition knowledge and baseline data for weight-loss objectives. Public Health Rep 102(1):61-7. 1987.

Thornberry OT, Wilson RW, Golden PM. The 1985 Health Promotion and Disease Prevention Survey. Public Health Rep 101(1):566-70. 1986.

(The two issues of Public Health Reports cited above contain 10 other articles analyzing various topics in the 1985 NHIS on Health Promotion and Disease Prevention.)

1991 National Health Interview Survey on Health Promotion and Disease Prevention

Sponsoring Agency: National Center for Health Statistics, Centers for Disease Control and Prevention. Collaboratively designed, sponsored, and analyzed by several Public Health Service agencies charged with the responsibility to monitor progress toward the Year 2000 Health Objectives for the Nation.

Purpose: The 1991 NHIS-HPDP was designed to provide baseline data for many of the Healthy People 2000: Health Promotion and Disease Prevention Objectives, including some nutrition-related objectives.

Conducted: 1991

Target Population: Civilian, noninstitutionalized, household population of the United States, ages 18 years and over.

Sample Size and Response Rate(s):

	NHIS household sample size (response rate)	*HPDP sample size (response rate)*
1991	46,761 (96%)	43,732 (88%)

Design and Methods: Complex, multistage, stratified, and cluster sample design. Data collection was by household interviews, conducted face-to-face. Although proxy information may have been obtained for basic health data, all health promotion and disease prevention data were based on self-response.

Descriptive Variables: Gender, age, race, Hispanic ethnicity, family income, educational attainment, living arrangements, marital status, veteran status, labor force status, occupation and industry, geographic region, and place of residence. Health status information collected on the basic health and demographic questionnaire are available on the NHIS-HPDP tape and CD-ROM for each HPDP sample person. These include assessed health status, bed days and doctor visits in past 12 months, and interval since last doctor visit. Event-based data such as chronic condition, restricted activity days in past 2 weeks, etc., for HPDP sample persons are available on separate tapes but this information can be linked to the NHIS-HPDP.

Outcome Variables of Interest:

Nutrition-related--Breast-feeding and bottle-feeding (children under 5 years); perceived relative weight; weight control attempts and methods; self-reported height and weight;

purchase of low salt foods; adding salt to food; reading ingredient and/or nutrient lists on labels; receiving or need Meals on Wheels; received and/or followed dietary medical advice or medication prescription to lower cholesterol; diet and eating habits during most recent routine check-up; any alcohol use in past year and quantity and frequency in past 2 weeks.

General health promotion--Hearing; unintentional injuries; pregnancy and smoking; childhood immunizations; child health, environmental health, including passive smoke and radon; tobacco use, including cigarettes, pipes, cigars, snuff, and chewing tobacco; adult immunizations; occupational safety and health; diabetes-related conditions and treatments; vision-related conditions and treatments; limitations of activity due to chronic or disabling conditions; diabetes diagnosis and treatment; urinary incontinence; clinical and preventive services; physical activity and fitness; mental health; and oral health.

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Selected Key Publications: None provided.

National Health Interview Survey Year 2000 Objectives Supplement

Sponsoring Agency: National Center for Health Statistics, Centers for Disease Control and Prevention. Collaboratively designed, sponsored, and analyzed by several Public Health Service agencies.

Purpose: Monitoring progress toward the Year 2000 Health Objectives for the Nation. The 1993 National Health Interview Survey Year 2000 data file contains data items on nine selected topic areas which relate to the Department of Health and Human Services' Year 2000 health objectives. The 1995 survey included five topic areas.

Conducted: 1993 and 1995

Target Population: The 1993 Year 2000 topic areas were administered only the last half of 1993 (quarters three and four) to one adult sample person per family (civilian, noninstitutionalized household population of the United States, ages 18 years and over). The 1995 Year 2000 questionnaire was in the field the entire year but was administered to only half of the sample population.

Sample Size and Response Rate(s):

	NHIS household sample size (response rate)	*Yr 2000 sample size (response rate)*
1993	43,007 (95%)	21,028 (86%)
1995	41,824 (94%)	17,317 (81%)

Design and Methods: Complex, multistage, stratified, and clustered sample design. Data collection was by household interviews, conducted face-to-face. Although proxy information may have been obtained for basic health data, all *Healthy People 2000* objectives data were based on self-response.

Descriptive Variables: Gender, age, race, Hispanic ethnicity, family income, educational attainment, living arrangements, marital status, veteran status, labor force status, occupation and industry, geographic region, and place of residence. Health status information collected on the basic health and demographic questionnaire are available for each sample person. Also available is data on health status, bed days and doctor visits in past 12 months, interval since last doctor visit, and event-based data (for example, chronic conditions and restricted activity days in past 2 weeks).

Outcome Variables of Interest: Nutrition-related— Survey included questions on reading food labels when shopping, adding salt to food, and Meals on Wheels.

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Selected Key Publications: None provided.

National Health Interview Survey on Youth Behavior Supplement (NHIS-YBS)

Sponsoring Agency: National Center for Health Statistics, and National Center for Chronic Disease Prevention Health and Promotion, Centers for Disease Control and Prevention

Purpose: The Youth Behavior Supplement (YBS) is one of three components of the Youth Risk Behavior Surveillance System designed to monitor priority risk behaviors of American youth between the years 1990 and 2000. The Youth Risk Behavior Surveillance System was developed with three complementary data collection efforts in mind. In addition to the NHIS-YBS, the surveillance system includes periodic school-based surveys conducted by State and local departments of education and a periodic national school-based survey conducted by CDC's Division of Adolescent and School Health (DASH) (Youth Risk Behavior Survey--OMB No. 0920-0258). All three types of surveys use similar questions to measure the delineated set of high priority risk behaviors so that the data obtained from the three surveys are comparable.

Conducted: April 1992-March 1993

Target Population: Youth ages 12-21 years, including high school students, ages 14-17 years; pre-high school students, ages 12-13 years; out-of-school youth, ages 12-17 years; out-of-school youth with less than high school education, ages 18-21 years; out-of-school youth who completed high school but never entered college education, ages 18-21 years; out-of-school youth who have some college education but are not attending college at the time of the survey, ages 18-21 years; and college students ages 18-21 years.

Sample Size and Response Rate(s):

Sample size	*Response rate*
10,645*	77.2%

* Administered to one adolescent per household.

Design and Methods: In addition to the youth 14-17 years of age who attended high schools (n =4,218), the 1992 NHIS-YBS collected data on six additional sub-populations of youth not covered by the school-based surveys, and on which no alternate information on priority risk behaviors existed. Those included:

1. Pre-high school students, ages 12-13 years (N =2,089). The data on the younger ages are critical to assess the onset of many of the priority behaviors so that interventions can be targeted to the appropriate age group.
2. Out-of-school youth (OSY), ages 12-17 years (N =820, after over-sampling procedures).

3. Out-of-school youth, ages 18-21 years, with less than high school education (were OSY before graduation from high school) (N =894, after over-sampling procedures).
4. Out-of-school youth, ages 18-21 years, who completed high school diploma but never entered college (N =1,130).
5. Out-of-school youth, ages 18-21 years, who have some college education but were not attending college at the time of the survey (N =500).
6. College students, ages 18-21 years (N =1,100)

Descriptive Variables: Self-report of the basic health and demographic variables in the National Health Interview Survey.

Outcome Variables of Interest: Sexual behaviors that increase the risk of HIV infection, other sexually transmitted diseases and unintended pregnancies; behaviors that increase the risk of unintentional injuries; drug and alcohol use; tobacco use; dietary behaviors; and physical activity, immunization status, and family resources.

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Selected Key Publications: None provided.

National Health and Nutrition Examination Survey I Epidemiologic Follow-up Study (NHEFS)

Sponsoring Agency: National Center for Health Statistics and National Institute on Aging in collaboration with other National Institutes of Health and Public Health Service Agencies.

Purpose: The goal of NHEFS is to investigate the relationships between clinical, nutritional and behavioral factors assessed in the First National Health and Nutrition Examination Survey (NHANES I) and subsequent morbidity, mortality, and hospital utilization. In addition, changes in risk factors, functional limitation, and institutionalization were studied.

Conducted: 1982-84, 1986, 1987, and 1992

Target Population: The NHEFS cohort included all persons between 25 and 74 years of age who completed a medical examination during NHANES I in 1971-75 (n = 14,407). The NHEFS is comprised of a series of follow-up surveys, four of which have been conducted to date. The first wave of data collection was conducted for all members of the NHEFS cohort (n =14,407) from 1982-84. The second wave, the 1986 NHEFS, was conducted for members of the NHEFS cohort who were 55-74 years of age at their baseline examination and not known to be deceased during the 1982-84 NHEFS (n =3,980). The third wave, the 1987 NHEFS, was conducted for the entire nondeceased NHEFS cohort (n =11,750). The fourth wave of data collection, the 1992 NHEFS, included the entire nondeceased NHEFS cohort (n =11,195).

Sample Size and Response Rate(s):

1982-84 NHEFS cohort	14,407	
Traced	13,383	93% of 1982-84 cohort
Interviewed	12,220	91% of traced cohort
1986 NHEFS cohort	3,980	
Traced	3,767	95% of 1986 cohort
Interviewed	3,608	96% of traced cohort
1987 NHEFS cohort	11,750	
Traced	11,018	94% of 1987 cohort
Interviewed	9,998	91% of traced cohort
1992 NHEFS cohort	11,195	
Traced	10,079	90% of 1992 cohort
Interviewed	9,281	92% of traced cohort

Design and Methods: The first wave of data collection involved tracing the cohort; conducting personal interviews with subjects or their proxies; measuring pulse rate, weight, and blood pressure of surviving participants; collecting hospital and nursing home records of overnight stays; and collecting death certificates of decedents. The 1982-84 NHEFS interview included a detailed series of questions concerning food frequency intake and vitamin supplementation. Continued follow-ups of the NHEFS population were conducted in 1986, 1987, and 1992 using the same design and data collection procedures developed in the 1982-84 NHEFS, with the exception of a 30-minute computer-assisted telephone interview administered in place of a personal interview, and no physical measurements. The telephone interview did not include food frequency questions.

Descriptive Variables: Individual--Income, age, race, ethnicity, occupation, marital status, education, and current employment. Family/household--Household composition, education of head of household, and family income.

Outcome Variables of Interest: Self-reports of selected physician-diagnosed medical conditions, history of hospitalization and institutionalization, functional status, food frequency intake, vitamin supplementation, medication usage, vision and hearing problems, smoking and alcoholic beverage consumption and history, tooth loss, physical activity level, psychological status, physical measurements of pulse, blood pressure, and weight, and cause of death information for decedents.

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Selected Key Publications:

Cox CS, Mussolino ME, Rothwell ST, et al. Plan and operation of the NHANES I Epidemiologic Follow-up Study, 1992. National Center for Health Statistics. Vital Health Stat 1(35). 1997.

Cox CS, Rothwell ST, Madans JH, et al. Plan and operation of the NHANES I Epidemiologic Follow-up Study, 1987. National Center for Health Statistics. Vital Health Stat 1(27). 1992.

Looker A, Harris T, Madans J, Sempos C. Dietary calcium and hip fracture risk - the

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Finucane FF, Freid VM, Madans JH, et al. Plan and operation of the NHANES I Epidemiologic Follow-up Study, 1986. National Center for Health Statistics. Vital Health Stat 1(25). 1990.

Machlin SR, Kleinman JC and Madans JH. Validity of mortality analysis based on retrospective smoking information. Statistics in Medicine, 8:997-1009. 1989.

Cohen BB, Barbano HE, Cox CS, et al. Plan and operation of the NHANES I Epidemiologic Follow-up Study, 1982-84. National Center for Health Statistics. Vital Health Stat 1(22). 1987.

Schatzkin A, Jones DY, Hoover RN, et al. Alcohol consumption and breast cancer in the NHANES I Epidemiologic Follow-up Study. N Engl J Med 316(19):1169-73. 1987.

Schatzkin A, Taylor PR, Carter CL, et al. Serum cholesterol and cancer in the NHANES I Epidemiologic Follow-up Study. Lancet 2(8554):298-301. 1987.

Madans JH, Cox CS, Kleinman JC, et al. 10 years after NHANES I: Mortality experience at initial follow-up, 1982-84. Public Health Rep 101(5):474-81. 1986.

Madans JH, Kleinman JC, Cox CS, et al. 10 years after NHANES I: Report of initial follow-up, 1982-84. Public Health Rep 101(5):465-73. 1986.

National Health and Nutrition Examination Survey (NHANES) II Mortality Study

Sponsoring Agency: National Center for Health Statistics, Centers for Disease Control and Prevention and the Food and Drug Administration

Purpose: NHANES II was conducted during the years 1976-80. The purpose of the NHANES II Mortality Study is to establish the vital status of adults who were 30-75 years of age at the time of their baseline NHANES II examination. For those sample persons who are found to be deceased, the cause of death will be collected from death certificates. This information will form a nationally representative longitudinal study.

Conducted: Current follow-up is covering the vital status of the NHANES II cohort during 1976-92. Subsequent follow-ups will be conducted periodically.

Target Population: The cohort of the 9,252 adult sample persons who were 30-75 years of age at the time of their baseline examination as part of the NHANES II.

Sample Size and Response Rate(s): Sample size was 9,252.

Design and Methods: The NHANES II Mortality Study is a passive follow-up study with no direct contact with members of the cohort. Vital status will be assessed entirely by matching information about sample persons with national data bases. Vital status was assessed by searching the National Death Index (NDI) for the years 1979-1992 and the Social Security Administration's (SSA) Master Data File for the years 1976-1988. Cause of death was obtained by matching to the NCHS Multiple Cause of Death file and from death certificates for a small number of deaths identified through SSA. Subsequent follow-ups will match to the NDI.

Descriptive Variables: A wide range of demographic information and examination results are available by matching the baseline data tapes from the cross-sectional portion of the respective surveys on which these follow-up studies are based. Demographic information includes age, sex, race, national origin, education, income, and marital status. Examination data includes a 24-hour dietary recall, body measurements, hematological tests, biochemical analyses of whole blood and serum, blood pressure, and electrocardiogram.

Outcome Variables of Interest: Total and cause-specific mortality.

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Selected Key Publications: None to date.

National Health and Nutrition Examination Survey (NHANES) III Follow-up Study

Sponsoring Agency: National Center for Health Statistics, Centers for Disease Control and Prevention, and the National Institute on Aging/NIH and others yet to be determined.

Purpose: NHANES III was conducted during the years 1988-94. The purpose of the NHANES III Follow-up Study is to track changes in the health and vital status of the entire NHANES III cohort of sample persons who were interviewed or examined at baseline as part of the cross-sectional portion of the survey. This information will then be used to form a nationally representative longitudinal study.

Conducted: Began in 1988

Target Population: All sample persons who were 2 months of age and over and interviewed in NHANES III.

Sample Size and Response Rate(s): In NHANES III, 39,695 persons were selected to participate; of those, 33,994 (86%) were interviewed in their homes. Seventy-eight percent (30,818) of the selected persons were examined in the MEC, and an additional 493 persons were given a special, limited examination in their homes.

Design and Methods: Initially, vital status will be assessed by matching information about the sample persons with the National Death Index (NDI) and the Health Care Financing Administration (HCFA) Medicare files to obtain mortality and morbidity data. Cause of death will be obtained from death certificates or the NCHS Multiple Cause of Death file. Plans for recontacting some portion of the sample are also being considered.

Descriptive Variables: A wide range of demographic information and examination results are available by matching with the baseline data tapes from the cross-sectional portion of the respective surveys on which these follow-up studies are based. Demographic information includes age, sex, race, national origin, education, income, and marital status. Examination data includes a 24-hour dietary recall, body measurements, hematological tests, biochemical analyses of whole blood and serum, blood pressure and electrocardiogram measurements.

Outcome Variables of Interest: Total mortality, cause-specific mortality, and morbidity data from Medicare. Information on changes in health status and selected risk factors may also be collected.

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Selected Key Publications: None to date.

National Health and Nutrition Examination (NHANES) III Supplemental Nutrition Survey of Older Americans (SNS)

Sponsoring Agency: Funded through an interagency agreement between the National Center for Health Statistics, Centers for Disease Control and Prevention and the National Institute on Aging, National Institutes of Health.

Purpose: To collect replicate 24-hour dietary recall data to estimate usual dietary intakes of older persons and to explore dietary survey methodology issues.

Conducted: December 1989 - March 1993

Target Population: NHANES III, Phase I (1988-91) examinees 50 years of age and older who completed an in-person 24-hr recall interview in the Mobile Examination Center (MEC). SNS participants were asked to complete two 24-hr dietary recalls by telephone.

Sample Size and Response Rate(s): A total of 3,667 persons 50 years of age and older were examined during NHANES III, Phase 1; of those, 3,489 (95%) completed a baseline 24-hour dietary recall interview in the MEC. A total of 2,602 Phase 1 examinees (75% of MEC baseline sample) completed the first SNS interview satisfactorily; 2,519 MEC examinees (72% MEC baseline sample) completed the second SNS recall satisfactorily. Of the 3,489 MEC examinees with a baseline recall, 2,261 (65%) completed two SNS interviews.

Design and Methods: A supplement to the *NHANES III Dietary Interviewer's Training Manual* was prepared by Westat, Inc. for the SNS (1). Trained dietary interviewers contacted the SNS participants by telephone approximately eight and sixteen months after their baseline NHANES III dietary interview. Telephone interviews were conducted during daytime and evening hours, including weekends. Approximately mid-way through the study, a toll-free "800" number was set up so that persons who resided in nontelephone households could participate in the study more easily. SNS interviews were unscheduled whenever possible and SNS subjects were not compensated for their participation. A food model booklet was mailed to participants prior to each SNS interview. The booklet contained two-dimensional drawings of the food models, charts, and measurement aids which the Sample Person (SP) that were used during the baseline MEC interview. The dietary interviewers used the NHANES III Dietary Data Collection (DDC) System to record all dietary intake information. Subjects who refused the first SNS interview were not contacted for the second SNS interview. A few SNS subjects were not available when the first telephone interview contacts were completed, but did agree to be interviewed when the second telephone interviews were conducted.

Descriptive Variables: Descriptive information on all NHANES III participants is included in the main NHANES III public data release files (2). These files included

variables such as gender, age, race, ethnicity, occupation, education, income, program participation, and program participation.

Dietary intake information for the SNS will be available in late 1998; the file will include total nutrient intakes and foods data for the baseline and SNS interviews. The NHANES III Examination, Laboratory, and Adult and Youth Household Interview data release files provide additional information on the health and nutrition status of the SNS participants and non-participants (2). This information includes medical history, reproductive health, body measurement data, nutritional biochemistry and hematology data, findings from the physician's examination component, special tests including gallbladder ultrasound and bone densitometry, and dental examination findings. The Household Interview data files have extensive information about social support, program participation, vitamin and mineral supplement use, food frequency information, health history, and medication usage information.

Outcome Variables of Interest: Nutritional and health indicators including total food energy and nutrient intakes and detailed information about the foods and beverages that were consumed at baseline and during the SNS are included in the SNS data files. The dietary findings report dietary intakes that were based on the U.S. Department of Agriculture Survey Nutrient Database System nutrient composition database and the University of Minnesota Nutrition Coordinating Center food composition database. Detailed documentation is included for all of the NHANES III data release files.

References:

1. National Center for Health Statistics. Third National Health and Nutrition Examination Survey, 1988-94, Reference manuals and reports (CD-ROM). Hyattsville, MD: Centers for Disease Control and Prevention, 1996. Available from the National Technical Information Service (NTIS), Springfield, VA. Acrobat.PDF format; includes access software: Adobe Systems Inc. Acrobat Reader 2.1.

2. U.S. Department of Health and Human Services (DHHS). National Center for Health Statistics. Third National Health and Nutrition Examination Survey, 1988-94, Series 11 Number 1A. ASCII Version. Hyattsville, MD: Centers for Disease Control and Prevention, July 1996. Available from the National Technical Information Service (NTIS), Springfield, VA. U.S. Department of Health and Human Services (DHHS).

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Selected Key Publications:

McDowell MA: The NHANES III Supplemental Nutrition Survey of Older Americans. Am J Clin Nutr 59(1 Suppl, Jan), 224S-226S. 1994.

McDowell M, Harris T, Briefel R. Dietary surveys of older persons. Clin Appl Nutr 1(4): 51-60. 1991.

National Home and Hospice Care Survey (NHHCS)

Sponsoring Agency: National Center for Health Statistics, Centers for Disease Control and Prevention

Purpose: The survey provided nationally representative data on the characteristics of the hospices and home health agencies, the patient population they serve, the staff they employ, and the utilization of their services.

Conducted: 1992-94, 1996

Target Population: Current and discharged patients of hospices and home health agencies in the United States.

Sample Size and Response Rate(s):

For the 1996 NHHCS:

	Sample size	*Response rate*
Facilities	1,200	96%*
Current patients	5,438	85%*
Discharged patients	4,758	82%*

* Percentage of in-scope sample participating

Design and Methods: The survey was based on a stratified two-stage probability design with a first-stage stratified sample of agencies and second-stage sample of current patients and discharges from the sample agencies. Current resident and discharge data were collected by reviewing medical records and questioning the staff member most familiar with the care provided to the patient. No patients were interviewed directly.

Descriptive Variables: Agency-level characteristics of the hospices and home health agencies, including ownership, Medicare certification, and types of employees. Demographic characteristics of the current and discharged patients, including age, race, sex, ethnicity, marital status, and living arrangement.

Outcome Variables of Interest: Diagnoses, functional status, source of payment, and discharged status. The NHHCS contributed to nutrition monitoring by providing information on the availability and utilization of dietary and nutritional services in these types of agencies. The agency information included whether dietary/nutritional services, and in some years dental services, were available from the agency, and the

patient data indicate whether dietary/nutritional services or aid in eating were provided to the patient.

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Selected Key Publications:

Haupt BJ. An Overview of Home Health and Hospice Care Patients: 1996 National Home and Hospice Care Survey. Advance Data from Vital Health Stat No. 297. 1998.

Jones A, Strahan G. The National Home and Hospice Care Survey: 1994 Summary. National Center for Health Statistics. Vital Health Stat 13(126). 1997.

Haupt, BJ. Development of the National Home and Hospice Care Survey. National Center for Health Statistics. Vital Health Stat 1(33). 1994.

National Hospital Ambulatory Medical Care Survey (NHAMCS)

Sponsoring Agency: National Center for Health Statistics, Centers for Disease Control and Prevention

Purpose: The survey provides nationally representative data describing the utilization of hospital emergency and outpatient departments in the United States.

Conducted: Annually since 1992

Target Population: Visits to emergency and outpatient departments of non-Federal, short-stay general and specialty hospitals.

Sample Size and Response Rate(s):

For the 1996 NHAMCS:

	Sample size	*Response rate*
Hospitals	486	95%*
Emergency department visits	21,902	
Outpatient department visits	29,806	

* Percent of eligible hospitals participating

Design and Methods: The survey is based on a multistage, stratified, probability sample of non-Federal, general and short-stay specialty hospitals selected within a national sample of Primary Sampling Units. A probability sample of clinics and emergency departments is selected within hospitals, and a probability sample of patient visits is selected within the sample clinics and emergency departments. Data collection are continuous throughout the year with each hospital randomly assigned to a 4-week data reporting period.

Descriptive Variables: Demographic characteristics of the patient, including age, sex, ethnicity, and race.

Outcome Variables of Interest: Patient's reasons for visit, diagnoses, diagnostic services, and medication therapy. For hospital outpatient department visits, nutrition-related information also includes physician-reported hypertension and obesity, and counseling services for diet, weight reduction, and cholesterol reduction.

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Selected Key Publications:

Schappert SM. Ambulatory Care Visits to Physician Offices, Hospital Outpatient Departments, and Emergency Departments: United States, 1996. National Center for Health Statistics. Vital Health Stat 13(134). 1998.

Schappert SM. National Hospital Ambulatory Medical Care Survey: 1992 Emergency Department Summary. National Center for Health Statistics. Vital Health Stat 13(125). 1997.

McCaig LF, McLemore T. Plan and Operation of the National Hospital Ambulatory Medical Care Survey. National Center for Health Statistics. Vital Health Stat 1(34). 1994.

National Hospital Discharge Survey (NHDS)

Sponsoring Agency: National Center for Health Statistics, Centers for Disease Control and Prevention

Purpose: The survey provides nationally representative data on patients discharged from non-Federal, general and short-stay specialty hospitals in the United States and on the nature and treatment of illnesses among the hospital population.

Conducted: Annually since 1965

Target Population: Discharges from non-Federal, general and short-stay specialty hospitals.

Sample Size and Response Rate(s):

For 1995 NHDS:

	Sample size	*Response rate*
Hospitals	525	95%*
Discharges	282,000 (approximate)	

*Percent of eligible hospitals participating

Design and Methods: The original sample of hospitals was selected in 1964 from a frame of non-Federal, short-stay hospitals listed in the National Master Facility Inventory. Hospitals that opened later were added from lists provided by the American Hospital Association.

The survey was redesigned in 1988 based on a three-stage, probability sample of non-Federal, general and short-stay hospitals within a national sample of Primary Sampling Units (PSU's). Data are either abstracted directly from the face sheets of sampled hospitals' medical records or obtained from existing data bases.

Descriptive Variables: Patient variables include age, sex, race, ethnicity, marital status, expected source of payment, length of stay, discharge status, diagnoses, and procedures received while in the hospital.

Outcome Variables of Interest: The NHDS contributes to nutrition monitoring by providing information on hospitalizations resulting from nutrition-related diseases. Information on diagnoses, procedures, length of stay, and discharge status can be used to examine the care of patients with relevant conditions.

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Selected Key Publications:

Gillum BS, Graves EJ, Wood E. National Hospital Discharge Survey: Annual summary, 1995. National Center for Health Statistics. Vital Health Stat 13(133). 1998.

Kozak LJ, Owings MF. Ambulatory and Inpatient Procedures in the United States, 1995. National Center for Health Statistics. Vital Health Stat 13(135). 1998.

Graves EJ, Gillum BS. Detailed diagnoses and procedures, National Hospital Discharge Survey, 1995. National Center for Health Statistics. Vital Health Stat 13(130). 1997.

National Maternal and Infant Health Survey (NMIHS)

Sponsoring Agency: National Center for Health Statistics, Centers for Disease Control and Prevention

Purpose: The NMIHS collected nationally representative data on natality, fetal, and infant mortality vital events. The major areas of investigation were causes of low-birth weight infants and infant deaths, barriers to prenatal care, the effects of maternal smoking, alcohol and drug use, and the use of public programs by mothers and infants.

Conducted: Data collected 1988-90 based on 1988 vital events

Target Population: Study of women, hospitals, and prenatal care providers associated with live births, still births, and infant deaths 1988.

Sample Size and Response Rate(s):

	Sample size	*Response rate**
Live births	9,953	74%
Fetal deaths (of 28 weeks or more gestation)	3,309	69%
Infant deaths	5,332	65%

* Response rates are for mothers based on type of pregnancy outcome. Hospital response rates were approximately 80 percent; prenatal care provider response rates were approximately 70 percent.

Design and Methods: National probability sample of registered births and fetal and infant deaths. Data were collected by a combination of mail, telephone, and personal interviews. Data were linked with the sampled vital records and weighted based on national estimates.

Descriptive Variables: Height, weight, maternal weight gain, hematocrit, hemoglobin, blood pressure, vitamin and mineral supplement use by mothers and infants, breast-feeding practices, maternal alcohol consumption and smoking, and nutrition-related health problems (nausea, diarrhea, and constipation).

Outcome Variables of Interest: Low birthweight and infant and fetal mortality.

Contact Agency:

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Selected Key Publications:

Kogan MD, Alexander GR, Kotelchuck M, Nagey DA. Relation of the content of prenatal care to the risk of low birth weight: Maternal reports of health behavior advice and initial prenatal procedures. JAMA 271:1340-1345. 1994.

Mustin HD, Holt VL, Connell FA. Adequacy of well-child care and immunizations in US infants born in 1988. JAMA 272:1111-1115. 1994.

Sanderson M, Placek P, Keppel K. The 1988 National Maternal and Infant Health Survey: Design, content, and data availability. Birth 18(1):26-32. 1991.

National Mortality Followback Survey (NMFS)

Sponsoring Agency: National Center for Health Statistics, Centers for Disease Control and Prevention

Purpose: This survey is intended to augment the information on characteristics of decedents by inquiring more fully into various aspects of concern to policymakers, health care providers and administrators, epidemiologists, biomedical researchers, demographers, and the general public.

Conducted: Data collected 1986-88 based on 1986 deaths

Target Population: Random sample of adults ages 25 years or over; oversample of persons dying of heart disease, rare cancers, Native Americans, blacks, and women in reproductive years.

Sample Size and Response Rate(s):

For 1986 deaths--

	Sample size	*Response rate*
Informants	18,733	89%
Hospitals	16,430	80%

Design and Methods: Probability sample of all death certificates. Mail and telephone survey of informants named on death certificates, survivors and next of kin, and hospital discharge summaries.

Descriptive Variables: Cause of death, height, weight, medical history, medical care in last year of life, dietary patterns, lifestyle behaviors, and social and demographic characteristics.

Outcome Variables of Interest: Cause of death, health care utilization, other conditions, and functional limitations.

Contact Agency:

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Selected Key Publications:

Poe SG, Powell-Griner E, McLaughlin JK, Placek PJ, Thompson GB, Robinson K. Comparability of the death certificate and the 1986 National Mortality Followback Survey. National Center for Health Statistics. Vital Heath Stat 2(118). 1993.

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Kemper P, Murtaugh CM. Lifetime use of nursing home care. N Engl J Med 324:595-600. 1991.

Kapantais G, Powell-Griner E. Characteristics of persons dying from diseases of heart: Preliminary data for the 1986 NMFS. National Center for Health Statistics. Advance data from Vital Health Stat 172. 1989.

Kapantais G, Powell-Griner E. Characteristics of persons dying from AIDS: Preliminary data from the 1986 NMFS. National Center for Health Statistics. Advance data from Vital Health Stat 173. 1989.

Seeman I, Poe G, McLaughlin J. Design of the 1986 NMFS: Considerations of collecting data on decedents. Public Health Rep 104(2):183-88. 1989.

National Nursing Home Survey (NNHS)

Sponsoring Agency: National Center for Health Statistics, Centers for Disease Control and Prevention

Purpose: The survey provided nationally representative data on the characteristics of the nursing homes, its services, residents, and staff for nursing homes in the United States.

Conducted: 1973-74, 1977, 1985, 1995, and 1997

Target Population: Nursing and related-care homes with three or more beds, set up and staffed for use by residents and routinely providing nursing and personal care services. Also included individuals residing in nursing homes currently or during the last year.

Sample Size and Response Rate(s):

For the 1995 survey:

	Sample size	*Response rate*
Nursing homes	1,500	97%*
Current residents	8,056	93%

* Percent of in-scope sample participating

Design and Methods: The survey was based on a stratified, two-stage probability design with a first-stage selection of facilities and a second-stage sample of residents from the sample facilities. Resident data were collected by reviewing medical records and questioning the nurse who usually provided care for the resident. Residents were not interviewed directly.

Descriptive Variables: Facility-level characteristics of the nursing home and demographic characteristics of the residents.

Outcome Variables of Interest: Diagnoses, functional status, and charges for care.

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Selected Key Publications:

Strahan G. An Overview of Nursing Homes and their Current Patients: Data from the 1995 National Nursing Home Survey. Advance Data from Vital Health Stat No. 280. 1997.

Dey AN. Characteristics of Elderly Nursing Home Residents: Data from the 1995 National Nursing Home Survey. Advance Data from Vital Health Stat No. 289. 1997.

Hing E, Sekscenski E, Strahan G. The National Nursing Home Survey, 1985 summary for the United States. National Center for Health Statistics. Vital Health Stat 13(97). 1989.

Van Nostrand JF, Zappolo A, Hing E, et al. The National Nursing Home Survey, 1977 summary for the United States. National Center for Health Statistics. Vital Health Stat 13(43). 1979.

Meiners MR. Selected operating and financial characteristics of nursing homes, United States, 1973-74 National Nursing Home Survey. National Center for Health Statistics. Vital Health Stat 13(22). 1976.

National Survey of Ambulatory Surgery (NSAS)

Sponsoring Agency: National Center for Health Statistics, Centers for Disease Control and Prevention

Purpose: The survey provides nationally representative data on ambulatory surgery performed in hospital-based and freestanding ambulatory surgery centers in the United States.

Conducted: 1994-96

Target Population: Ambulatory surgery visits in non-Federal, general and short-stay specialty hospitals and freestanding ambulatory surgery centers.

Sample Size and Response Rate(s):

For 1996 NSAS:

	Sample size	*Response rate*
Hospitals	418	91%*
Freestanding Ambulatory Surgery Centers	333	70%*
Surgical visits	125,000 (approximate)	

*Percent of eligible facilities participating

Design and Methods: The NSAS was based on a multi-stage probability design with samples of facilities selected at the first or second stage and surgical visits selected at the final stage. The survey included independent samples of non-Federal, general and short-stay specialty hospitals and freestanding ambulatory surgery centers that were regulated by states or were certified for Medicare. Data were abstracted from medical records.

Descriptive Variables: Patient variables include age, sex, race, expected source of payment, anesthesia, disposition status, diagnoses, and procedures.

Outcome Variables of Interest: The NSAS contributes to nutrition monitoring by providing information on ambulatory surgery visits that can be used to examine the care of patients with relevant conditions and procedures.

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Selected Key Publications:

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National Survey of Family Growth (NSFG)

Sponsoring Agency: National Center for Health Statistics, Centers for Disease Control and Prevention

Purpose: The survey provides a wide range of information on fertility, family planning, and aspects of maternal and child health, such as birth weight, breast-feeding, and prenatal care.

Conducted: 1973, 1976, 1982, 1988; 1990 (telephone reinterview); 1995; year 2000 survey will include males as part of the sample

Target Population: Women of reproductive age (15-44 years)

Sample Size and Response Rate(s):

Year	*Completed interviews*	*Response Rate**
1973	9,797	81.0%
1976	8,611	82.7%
1982	7,969	79.4%
1988	8,450	79.2%
1990 (reinterview)[1]	5,686	67.5%
1995	10,847	78.6%

* Number of completed interviews divided by number of women eligible for interview.
[1] 1990 Reinterview included 5,359 women who were previously interviewed in 1988, plus 327 first-time respondents who had become 15-17 years of age in the 2 years since the main study. The lower overall response rate in 1990 reflects the 79.2 percent response rate in the 1988 baseline survey.

Design and Methods: Multistage probability sample of civilian, noninstitutionalized women 15-44 years of age in the United States. In 1973 and 1976, never-married women without children were excluded. Data were based on personal interviews lasting about 1 hour; no food intake data were collected. Data on birth weight, breast-feeding, and prenatal care were based on recall by the mother.

Descriptive Variables: Age of mother at time of birth, race, Hispanic origin, education of mother, ratio of family income to poverty level, birth order, mother's marital status at time of birth, mother's occupation, and region of residence.

Outcome Variables of Interest: Breast-feeding, birth weight, source and timing of prenatal care. Focus of the survey was on variables affecting births, including age at first intercourse, contraceptive use and effectiveness, infertility, sterilization, use of

family planning and infertility services, and marriage and cohabitation.

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Selected Key Publications:

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Second National Health and Nutrition Examination Survey (NHANES II)

Sponsoring Agency: National Center for Health Statistics, Centers for Disease Control

Purpose: The purpose of the NHANES program, including NHANES II, is the collection and dissemination of health and nutrition data, obtained best or only by direct physical examination, clinical and laboratory tests, and related measurement procedures. In NHANES II, prevalence data were collected for specifically defined diseases or conditions of ill health and compromised nutritional status; and normative health-related measurement data were collected to describe the health characteristics within the total population. In addition, NHANES II was designed to permit analytic studies that take advantage of the large amount of health and nutrition information that was collected from each participant.

Conducted: 1976-80

Target Population: Civilian, noninstitutionalized persons ages 6 months-74 years residing in households in the United States.

Sample Size and Response Rate(s):

Sample size	*Interviewed*	*Examined*
27,801	25,286 (91%)	20,322 (73%)

Design and Methods: The survey design was a stratified, multistage, probability cluster sample of the target population. The data were obtained by interview and examination and included a 24-hour dietary recall, a limited food frequency questionnaire, physical examinations, anthropometric measurements, and laboratory analyses of blood and urine specimens.

Descriptive Variables: Demographic and socioeconomic variables including age, gender, race, ethnicity, income, education, and marital status.

Outcome Variables of Interest: Numerous nutritional and health status indicators and conditions including height, weight, dietary intake, blood pressure, blood lead, oral glucose tolerance tests, overweight, anemia, hypertension, and diabetes.

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Selected Key Publications:

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Third National Health and Nutrition Examination Survey (NHANES III)

Sponsoring Agency: National Center for Health Statistics, Centers for Disease Control and Prevention

Purpose: NHANES III is designed to assess the health and nutritional status of the population and to monitor changes over time. A major aim of the nutrition component is to provide data for nutrition monitoring purposes, including tracking nutrition and food security-related risk factors and estimating the prevalence of compromised nutritional status. A second major aim of the NHANES III nutrition component is to provide information for studying the relationship between diet, nutritional status, and health. Normative health-related measurement data are collected to describe the health characteristics for the total population.

Conducted: 1988-94

Target Population: Civilian, noninstitutionalized population ages 2 months and older.

Sample Size and Response Rate(s):

Sample size	*Interviewed*	*Examined**
39,695	33,994 (86%)	31,311 (79%)

* Includes sample persons examined in examination centers and in the home.

Design and Methods: The survey design is a complex, multistage, stratified, probability cluster sample of households throughout the conterminous United States. Several groups were oversampled: children ages 2 months to 5 years, older Americans ages 60 years and older, Non-Hispanic blacks, and Mexican Americans. Data were obtained by interviews and examinations. For those too frail or unable to attend the full examination, in-house examinations were conducted. A dietary 24-hour recall and 1-month food frequency were used to obtain dietary data. A special dietary study, the Supplemental Nutrition Survey of Older Americans (SNS) supported by the National Institute on Aging/NIH, was conducted with examinees, ages 50 years and over, to obtain two independent replicate 24-hour recalls by telephone from 1988-91 (See SNS entry on page 46).

Descriptive Variables: Gender, age, race, ethnicity, income, education, employment, health insurance coverage, and marital status.

Outcome Variables of Interest: Numerous nutritional and health indicators including food and nutrient intake, dietary practices, body measurements, hematological tests including iron status, biochemical analyses of whole blood and serum (including lipid, lipoproteins, lead, and glucose tolerance), blood pressures, electrocardiograms, urine

tests, bone densitometry, dental examinations, gallbladder ultrasonography, and cognitive and physical functioning.

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Selected Key Publications:

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Vital Statistics Program

Sponsoring Agency: National Center for Health Statistics, Centers for Disease Control and Prevention

Purpose: The purpose of the basic vital statistics program is to formulate and maintain a cooperative and coordinated vital records and vital statistics system with State-operated registration systems to produce national, State, and local data on births and deaths (including infant and fetal deaths).

Conducted: Initiated in 1915 (Data are collected continuously but published annually.)

Target Population: Total U.S. population.

Sample Size and Response Rate(s):

Births--

Year	*Coverage*
Before 1951, 1955, and 1985-present.	Complete coverage
1951-54, 1956-66, and 1968-71.	Statistics based on 50 samples.
1967	Coverage ranged from 20-50 of births
1972-84	Statistics based on all records filed in States submitting computer tapes and 50 sample of records in all other States.

Deaths--Complete coverage except for 1972, when coverage was 50 percent.

Design and Methods: The vital registration system was proposed in 1850 and established in 1915. The original registration area consisted of 10 States and the District of Columbia. By 1933, all 48 States and the District of Columbia were participating in the registration system. Vital statistics of the United States are collected and published through a decentralized, cooperative system. Responsibility for the registration of births, deaths, and fetal deaths is vested in the individual States and certain independent registration areas. The degree of uniformity necessary for national statistics has been achieved by periodic issuance of recommended standards from the responsible national agency and the cooperative adoption of these standards by the individual registration areas. The standard certificates have been the principal means for achieving uniformity in information.

Descriptive Variables:

For births--age, education, race, and Hispanic origin of mother and father; marital status and nativity of mother; and sex, birth order, and plurality of infant (singleton, twin, triplet, etc.).

For deaths--sex, age, education, marital status, race and Hispanic origin of decedent, type and place of death, geographic place of death, occupation and industry of decedent (selected States), and residence.

For fetal deaths--age, education, race and Hispanic origin of mother and father; marital status of mother; sex of fetus, plurality, live and total birth order, place and date of delivery; and geographical location.

Outcome Variables of Interest:

Births--before 1989: infant's birth weight, gestational age, and Apgar score. Added in 1989: mother's weight gain during pregnancy, alcohol and tobacco use, and certain medical risk factors of pregnancy, such as anemia, diabetes, and hypertension; for the infant, the presence of fetal alcohol syndrome, hyaline membrane disease, congenital anomalies, and anemia.

Deaths--underlying and multiple causes of death.

Fetal deaths--period of gestation, weight of fetus, month of pregnancy prenatal care began, and number of prenatal visits. Added in 1989, medical risk factors for this pregnancy; complications of labor and delivery; obstetrical procedures; method of delivery; congenital anomalies of fetus; smoking, alcohol use, and weight gain during pregnancy; and attendant at delivery.

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Selected Key Publications:

Births:

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II. FOOD AND NUTRIENT CONSUMPTION

Adult Day Care Program Study

Sponsoring Agency: Food and Nutrition Service, U.S. Department of Agriculture

Purpose: The purpose of this survey was to determine the characteristics of adults and adult day care centers participating and not participating in the adult day care component of the Child and Adult Care Food Program (CACFP), the dietary intakes of clients attending centers participating in the CACFP, and State agency regulations and procedures concerning center participation in the CACFP.

Conducted: February, 1992

Target Population: Adult day care centers and adults participating and not participating in the CACFP.

Sample Size and Response Rate(s):

	Completed Interviews	*Response Rates*
Adult Day Care Centers		
CACFP Centers	282	78%
Non-CACFP Centers	282	83%
Participating adults	942	68%

Design and Methods: The sample of adults was selected using a 3-stage sampling strategy involving PSUs, adult day care centers, and CACFP adults. Client characteristics and dietary intake data were obtained for a sample of 942 clients attending 85 different CACFP centers using in-person observation, interviewing and record abstraction. Adults were sampled to describe the dietary intake of CACFP participants in terms of their nutrient intake from specific CACFP reimbursable meals consumed, all CACFP meals consumed during the day, and all meals consumed. Descriptive data on adult day care centers was collected by a mail survey.

Descriptive Variables: Wide range of demographic information and meal consumption patterns of adults participating in CACFP; descriptive information on participating and nonparticipating adult day care centers (for example, size, population served, and structure).

Outcome Variables of Interest: Organizational and operating characteristics of adult day care centers participating and not participating in the CACFP. Nutrient intake of CACFP participants and the contribution of the CACFP to their total daily nutrient intake. Potential future growth of the adult portion of CACFP.

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Selected Key Publications:

Ponza, Michael, John Burghardt, Rhoda Cohen, James C. Ohls, Valarie Piper, Barbara M. Posner, and Linda Rosenberg. National Study of the Adult Component of the Child and Adult Care Food Program (CACFP)—Final Report: Volume I: Results. Alexandria, VA: U.S. Department of Agriculture, Food and Nutrition Service, Office of Analysis and Evaluation. October 1993.

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Consumer Expenditure Survey

Sponsoring Agency: U.S. Bureau of Labor Statistics

Purpose: (1) To provide information on consumer expenditures to support the Consumer Price Index revisions of the market basket; (2) to provide a flexible set of data serving a wide variety of social and economic analyses; and (3) to provide a continuous body of detailed expenditure and income data for research purposes.

Conducted: Continuously since 1980

Target Population: Civilian, noninstitutionalized population and a portion of the institutionalized population in the United States.

Design and Methods: Two-part ongoing household survey, each with a different data collection technique and sample. In the Interview Survey, each consumer unit in the sample is interviewed every 3 months over 5 calendar quarters. The Diary Survey is completed at home by the respondent family for two consecutive 1-week periods.

Descriptive Variables: Published demographic variables include quintiles of income before taxes, income before taxes, age, size of consumer unit, region, composition of consumer unit, number of earners in consumer unit, housing tenure, and race. Other demographic variables are collected.

Outcome Variables of Interest: No direct nutrition-related indicators are collected. Average annual food expenditures are collected at a detailed item level in the Diary Survey. Food stamp participation is collected in the Interview Survey.

Contact Agency:

Division of Consumer Expenditures Surveys
U.S. Bureau of Labor Statistics
2 Massachusetts Avenue, NE
Postal Square Building, Room 3985
Washington, DC 20212
Phone: (202) 606-6872, ext. 225
Fax: None provided
http://stats.bls.gov/csxhome.htm

Selected Key Publications:

Consumer Expenditure Survey Bulletins include published integrated tables and several brief descriptive articles:

U.S. Bureau of Labor Statistics. Consumer Expenditure Survey, 1994-95. BLS Bulletin

2492. 1997.

U.S. Bureau of Labor Statistics. Consumer Expenditure Survey, 1992-93. BLS Bulletin 2462. 1995.

U.S. Bureau of Labor Statistics. Consumer Expenditure Survey, 1990-91. Bulletin 2425. 1993.

U.S. Bureau of Labor Statistics. Consumer Expenditure Survey, 1988-89. Bulletin 2383, 1991.

U.S. Bureau of Labor Statistics. Consumer Expenditure Survey, 1987. Bulletin 2354, 1990.

U.S. Bureau of Labor Statistics. Consumer Expenditure Survey, 1984-86. Bulletin 2333, 1989.

Annual Reports include highlights of spending changes from previous year and a selection of tabular data.

U.S. Bureau of Labor Statistics, Consumer Expenditures in 1995, Report 911. 1997.

U.S. Bureau of Labor Statistics, Consumer Expenditures in 1994, Report 902. 1996.

U.S. Bureau of Labor Statistics, Consumer Expenditures in 1993, Report 885. 1994.

U.S. Bureau of Labor Statistics, Consumer Expenditures in 1992, Report 861. 1993.

U.S. Bureau of Labor Statistics. Consumer Expenditure Survey, 1990. News Release USDL 91-607. 1991.

Quarterly Reports include brief narratives and selected quarterly expenditure data from the Expenditure Survey.

Continuing Survey of Food Intakes by Individuals (CSFII), 1985-86

Sponsoring Agency: Human Nutrition Information Service[1], U.S. Department of Agriculture

Purpose: The 1985-86 Continuing Survey of Food Intakes by Individuals provided timely information on diets of the U.S. population and population groups of concern and indicated changes in diets from previous surveys. In addition, it described food consumption behavior and assessed the nutritional content of diets to determine their implications for policies relating to food production and marketing, food safety, food assistance, and nutrition education.

Conducted: 1985 and 1986 (data collection for each year began in April and continued through March of the following year).

Target Population: Persons of selected sex and age residing in the 48 conterminous States in households with incomes at any level (basic survey) and with incomes at or below 130 percent of the poverty thresholds (low-income survey); in 1985, women 19 to 50 years and their children ages 1 to 5 years, and men 19 to 50 years; and in 1986, women 19 to 50 years and their children ages 1 to 5 years.

Sample Sizes and Response Rates:

	Household		*Women and Children (1-day)*	
Year	*Number*	*Response Rate*	*Number*	*Response Rate*
1985--				
Basic sample	1,341	59%	1,948	57%
Low-income sample	1,916	68%	3,251	64%
Men's sample*	631	62%	658	58%
1986--				
Basic sample	1,352	69%	1,960	65%
Low-income sample	1,223	79%	2,082	75%

* Combines both basic and low-income sample

Design and Methods: The CSFII was a multistage, stratified area probability sample. The survey included the collection of six 1-day recalls at about 2-month intervals during a 1-year period. The first 1-day recall was collected with an in-person interview;

[1] On February 20, 1994, legislation passed by Congress moved the functions of Human Nutrition Information Service to the Agricultural Research Service, USDA.

subsequent interviews were done by telephone when possible. Each respondent was asked to recall the kinds and amounts of foods eaten at home and away during the previous day. Nutrient intakes were derived using food composition data from the USDA National Nutrient Data Bank (see page 152).

Descriptive Variables:

Household--Income, size, education and employment of the male head, cash assets, region, urbanization, tenancy, and participation in Food Stamp and WIC programs.

Individual--Sex, age, race, education and employment of women ages 19 to 50 years, pregnancy/lactation/nursing status, height, weight, and ethnicity (Hispanic or non-Hispanic).

Outcome Variables of Interest: Food intakes in grams from 60 food groups and subgroups; intakes of 28 nutrients and food components; names and times of eating occasions, nutrient content of each food eaten, and sources of food obtained and eaten away from home.

Contact Agency:

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Agricultural Research Service
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http://www.barc.usda.gov/bhnrc/foodsurvey/Csfii85.html
E-mail: fsrg@rbhnrc.usda.gov

Selected Key Publications:

Haines PS, Guilkey DK, and Popkin BM. Modeling food consumption decision as a two-step process. Am J Agri Econ 7(3):543:522. 1988.

U.S. Department of Agriculture. Nationwide Food Consumption Survey, Continuing Survey of Food Intakes by Individuals, Women 19-50 Years and Their Children 1-5 Years, 4 Days, 1986. NFCS, CSFII rep no 86-3. NTIS Accession No. PB89-151708. 1988.

U.S. Department of Agriculture. Nationwide Food Consumption Survey, Continuing Survey of Food Intakes by Individuals, Low-Income Women 19-50 Years and Their Children 1-5 Years, 4 Days, 1985. NFCS, CSFII rep no 85-5. NTIS Accession No.

PB88-246202. 1988.

Peterkin BB. Eating patterns--What's to be done about them. In: Food and Nutrition Board, National Academy of Sciences, ed. What is America Eating? Washington, D.C.: National Academy Press: 158-61. 1986.

Rizek RL. First result from USDA's Continuing Survey of Food Intakes by Individuals. J Am Diet Assoc 86(6):788. 1986.

U.S. Department of Agriculture. Nationwide Food Consumption Survey, Continuing Survey of Food Intakes by Individuals, Women 19-50 Years and Their Children 1-5 Years, 1 Day, 1985. NFCS, CSFII rep no 85-1. NTIS Accession No. PB88-247051. 1985.

U.S. Department of Agriculture. Nationwide Food Consumption Survey, Continuing Survey of Food Intakes by Individuals, Men 19-50 Years 1 Day, 1985. NFCS, CSFII rep no 85-3. NTIS Accession No. PB87-184008. 1985.

U.S. Department of Agriculture. Nationwide Food Consumption Survey, Continuing Survey of Food Intakes by Individuals, Women 19-50 Years and Their Children 1-5 Years, 1 Day, 1986. NFCS, CSFII rep no 86-1. NTIS Accession No. PB87-184016. 1985.

Continuing Survey of Food Intakes by Individuals (CSFII)1989-91

Sponsoring Agency: Human Nutrition Information Service[1], U.S. Department of Agriculture

Purpose: The 1989-91 CSFII provided continuing information on diets of the U.S. population and population groups of concern and indicated changes in diets from previous surveys. In addition, it described food consumption behavior and assessed the nutritional content of diets to determine their implications for policies relating to food production and marketing, food safety, food assistance, and nutrition education.

Conducted: 1989, 1990, and 1991 (data collection for each year began in April and continued through March of the following year).

Target Population: Individuals of all ages in households in the 48 conterminous States. The survey included two separate samples: households with incomes at any level (basic sample) and households with incomes at or below 130 percent of the poverty thresholds (low-income sample).

Sample Sizes and Response Rates:

	Household		*Individual (1-day)*	
Year	*Number*	*Response Rate*	*Number*	*Response Rate*
1989:				
Basic sample	1,489	63%	3,495	56%
Low-income sample	725	73%	1,645	65%
1990:				
Basic sample	1,458	62%	3,196	53%
Low-income sample	734	69%	1,693	57%
1991:				
Basic sample	1,533	64%	3,397	54%
Low-income sample	779	74%	1,766	60%

Design and Methods: The CSFII was a multistage, stratified area probability sample. The survey included the collection of 3 consecutive days of dietary intake data. Each

[1] On February 20, 1994, legislation passed by Congress moved the functions of Human Nutrition Information Service to the Agricultural Research Service, USDA.

respondent was asked to recall the kinds and amounts of foods eaten at home and away from home during the previous day. Respondents were also asked to keep a record of foods eaten on the day of the interview and on the following day (1-day recall and 2-day record). Nutrients ingested by individuals were derived using food composition data from the USDA National Nutrient Data Bank (see page 152).

Descriptive Variables:

Household--Income, size, cash assets, region, urbanization, tenancy, and participation in Food Stamp and WIC programs.

Individual--Sex, age, race, ethnicity (Hispanic or non-Hispanic), education, and employment of persons 15 years of age and over, pregnancy/lactation/nursing status, height, and weight.

Outcome Variables of Interest: Food intakes in grams from 71 food groups and subgroups; intakes of 28 nutrients and food components; names and times of eating occasions, nutrient content of each food eaten, and sources of food obtained and eaten away from home.

Contact Agency:

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E-mail: fsrg@rbhnrc.usda.gov

Selected Key Publications:

Krebs-Smith SM, Guenther PM, Cook A et al. Foods Commonly Eaten in the United States: Quantities Consumed per Eating Occasion and in a Day, 1989-91. U. S. Department of Agriculture, Agricultural Research Service, NFS Rep. No. 91-3. 1997.

Guenther PM, Kott PS, and Carriquiry AL. Development of an approach for estimating usual nutrient intake distributions at the population level. J Nutr 127 (June):1106-1112. 1997.

Cypel YS, Tamaki JA, Enns CW et al. Nutrition Attitudes and Dietary Status of Main Meal Planners/Preparers, 1989-91: Results from the Diet and Health Knowledge

Survey and Continuing Survey of Food Intakes by Individuals, 1989-91. NFS Rep. No. 91-1. NTIS Accession Number: PB96-144472. 1996.

Tippett KS, Mickle SM, Goldman JD et al. Food and Nutrient Intakes by Individuals in the United States, 1 Day, 1989-91. NFS Rep. No 91-2. NTIS Accession Number : PB95-272746. 1995.

Tippett KS and Goldman JD. Diets more healthful, but still fall short of dietary guidelines. Food Review 17 (1): 8-14. 1994.

Continuing Survey of Food Intakes by Individuals (CSFII), 1994-96

Sponsoring Agency: Agricultural Research Service[1], U.S. Department of Agriculture

Purpose: The CSFII 1994-96 provided continuing information on the diets of the U.S. population and population groups of concern, and indicated changes in diets from previous surveys. In addition, it described food consumption behavior and assessed the nutritional content of diets to determine their implications for policies related to food production and marketing, food safety, food assistance, and nutrition education.

Conducted: 1994, 1995, and 1996 (data collection for each year began in January and continued through January of the following year); planned for 1999-2002

Target Population: Noninstitutionalized individuals in the 50 States; subsampling of individuals in households. Oversampling of low-income households with incomes at or below 130 percent of the poverty thresholds. Compared with the CSFII 1989-91, the CSFII 1994-96 included a larger sample of young children and the elderly.

Sample Sizes and Response Rates:

	Day 1		*2 days*	
Year	*Number*	*Response Rate*	*Number*	*Response Rate*
1994:	5,589	81%	5,311	76%
1995:	5,326	81%	5,072	76%
1996:	5,188	81%	5,920	76%
1994-96:	16,103	81%	15,303	76%

Design and Methods: The CSFII was a multistage, stratified area probability sample. The survey included the collection of 2 nonconsecutive days of dietary data through in-person 24-hour recalls. Each respondent was asked to recall the kinds and amounts of foods eaten at home and away from home during the previous day. Nutrient intakes by individuals were derived using food composition data from the USDA National Nutrient Data Bank (see page 152).

Descriptive Variables:
Household--Income in dollars and as a percent of poverty, size, region, urbanization,

[1] The CSFII 1994-96 was planned by the Human Nutrition Information Service (HNIS), USDA. On February 20, 1994, legislation passed by Congress moved the functions of Human Nutrition Information Service to the Agricultural Research Service, USDA.

tenancy, and participation in Food Stamp and WIC programs, food expenditures, and shopping practices.

Individual--Sex, age, race, ethnicity (Hispanic or non-Hispanic), education, employment status of persons 15 years of age and over, pregnancy/lactation/nursing status, height, and weight.

Outcome Variables of Interest: Kinds and amounts of foods consumed on each of 2 nonconsecutive days, sources of foods, time and name of each eating occasion, food intakes in grams of 71 USDA-defined food groups and subgroups for each of 2 days of intake and 2-day averages, nutrient intakes of 28 nutrients and food components for each of 2 days and 2-day averages, nutrient intakes expressed as percentages of the 1989 Recommended Dietary Allowances for each of 2 days and 2-day averages.

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E-mail: fsrg@rbhnrc.usda.gov

Selected Key Publications:

U.S. Department of Agriculture, Agricultural Research Service. Food and Nutrient Intakes by Individuals in the United States, by Sex and Age. Nationwide Food Surveys Report Number 96-2 (In press).

Data Tables: Results from USDA's 1996 Continuing Survey of Food Intakes by Individuals and 1996 Diet and Health Knowledge Survey. NTIS Accession No. PB-98-125248. 1998.

U.S. Department of Agriculture, Agricultural Research Service. 1994-96 Continuing Survey of Food Intakes by Individuals and 1994-96 Diet and Health Knowledge Survey and the Technical Support Databases. CD-ROM, NTIS Accession Number PB98-500457. 1998.

Tippett, KS and Cypel, YS (eds.) Design and Operation: The Continuing Survey of Food Intakes by Individuals and Diet and Health Knowledge Survey, 1994-96. U.S. Department of Agriculture, Agricultural Research Service. Nationwide Food Surveys

Report No. 96-1. NTIS Accession No. PB98-137268. 1998.

Enns CW, Goldman JD, and Cook A. Trends in Food and Nutrient Intakes by Adults: NFCS 1977-78, CSFII 1989-91, and CSFII 1994-96. Family Economics and Nutrition Review 10: 2-15. 1997.

Wilson, JW, Enns, CW, Goldman, J D et al. Data Tables: Combined results from USDA's 1994 and 1995 Continuing Survey of Food Intakes by Individuals and 1994 and 1995 Diet and Health Knowledge Survey. NTIS Accession No. PB97-167035. 1997.

Data Tables: Results from USDA's 1995 Continuing Survey of Food Intakes by Individuals and 1995 Diet and Health Knowledge Survey. NTIS Accession No. PB97-135172. 1996.

Borrud, L., Enns, C, and Mickle, S. What we eat in America: USDA surveys food consumption changes. Food Review, 19(3):14-19. 1996.

Borrud, L, Mickle. S, Sebastian, R, and Berlin, M. Continuing Survey of Food Intakes by Individuals and Diet and Health Knowledge Survey 1994-96. The Survey Statistician, 34:5-7. 1996.

Guenther, PM and Kott, PS. Within-and between person components of variance for nutrient intakes in the United States, 1994. RD Research Rep. No RD-96-01, National Agricultural Statistics Serv., USDA, 11 pp. 1996.

Perloff, B, Anand, J, Ingwersen, L, and LaComb, R. USDA's experience with computer-assisted food coding in its 1994 nationwide food survey. Proceedings of the 1996 Annual Bureau of the Census Research Conference and Technology Interchange; 1127-1132. NTIS Accession No. PB98-137268. 1996.

Data Tables: Results from USDA's 1994 Continuing Survey of Food Intakes by Individuals and 1994 Diet and Health Knowledge Survey. NTIS Accession No. PB96-181268. 1996.

Current Population Survey (CPS)

Sponsoring agency: The CPS is jointly sponsored by the Bureau of Labor Statistics (BLS) and the Bureau of the Census.

Purpose: To provide estimates of employment, unemployment, and other characteristics of the general labor force, of the population as a whole, and of various subgroups of the population. Monthly labor force data for the Nation are used by the BLS to determine the distribution of funds under the Job Training Partnership Act. These data are collected through combined personal visit and telephone/Computer-Assisted Telephone Interviewing (CATI) modes. In addition to the labor force data, the CPS basic funding provides annual data on work experience, income, and migration from the March Annual Demographic Supplement, and on school enrollment of the population from the October Supplement. Other supplements, some of which are sponsored by other agencies, are conducted biennially or intermittently. The CPS supplements can be found on the Census Web site www.bls.census.gov/cps/suppmain.html

Conducted: The Bureau of the Census has conducted this survey monthly since 1942. The CPS went through a major redesign in January 1994, resulting in a fully automated data collection methodology, a new labor force questionnaire, and a completely revamped processing system.

Target Population: Civilian, noninstitutionalized population of the United States.

Sample Size and Response Rate(s): The total sample size is approximately 59,500 assigned households per month located in 754 PSUs. The average CPS response rate for 1996 was 93.4%. The supplement response rates for 1996 ranged between 85.8 and 96.4%.

Design and Methods: Monthly household survey. Multistage, probability sample based on a stratified sampling scheme. Data from the 1990 decennial census and the new construction universe are used to select independent samples for the 50 states and the District of Columbia. Phase-in of the 1990-based samples was completed in July 1995. The combined samples allow the CPS to produce reliable monthly estimates for the Nation as well as reliable estimates for all states and selected metropolitan areas on an annual average basis.

Each month's sample is composed of eight panels that rotate on a schedule of 4 months in, 8 months out, 4 months in, so that only 25 percent of the households differ between consecutive months. The March CPS sample is supplemented with households containing persons of Hispanic origin from the prior November panel. This is done to provide more reliable data for this subgroup in the March Annual Demographic Supplement.

Descriptive Variables: Age, sex, race, origin, marital status, education, veteran status, country of birth, housing tenure status, labor force status, and earnings.

Outcome Variables of Interest: Government agencies other than (and including) the BLS and the Census Bureau sponsor supplements to the CPS in 6 to 8 months of the year. These supplements collect data on a variety of topics, including: Income, Child Support and Alimony, School Enrollment, Voting, Contingent Workers, Displaced Workers, and Food Security, etc.

The Food Security Supplement has been conducted yearly as of 1995 and is sponsored by the Food and Nutrition Service of the U.S. Department of Agriculture.

Specifically, the Food Security Supplement collects information about:

- household food expenditures
- program participation
- food sufficiency
- ways for coping with food insufficiency
- concerns about food sufficiency
- concerns about food safety

The supplement data are used to produce measures of food insecurity and hunger at varying levels of severity, namely:

- food insecurity marked by specific behaviors, conditions, and perceptions within the household,
- Food insecurity but short of hunger
- Food insecurity with moderate hunger within the household, or
- Food insecurity with severe hunger (marked by children's hunger and/or multiple hunger indicators or extended periods of hunger for adults)

Contact Agency:

Bureau of Census
CPS Branch, Demographic Surveys Division
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Phone: (301) 457-3806
Fax: None provided
http://www.bls.census.gov/cps/

USDA/Food and Nutrition Service
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Phone: (703) 305-2129
Fax: None provided

http://www.usda.gov/fcs/measure.htm (Food Security Supplement)

Selected Key Publications:

CPS Technical Paper 63: Design and Methodology (Draft). Washington, DC: U.S. Bureau of the Census. 1997.

Household Food Security in the United States in 1995. Washington, DC: Office of Analysis and Evaluation, Food and Consumer Service, U.S. Department of Agriculture. September 1997.

U.S. Department of Agriculture, Food and Consumer Service, U.S. Department of Health and Human Services, National Center for Health Statistics. Conference on Food Security Measurement and Research: Papers and Proceedings, January 1994. Alexandria, VA: U.S. Department of Agriculture, Food and Consumer Service. 1995.

Revisions in the Current Population Survey Effective January 1994. Employment and Earnings 41(2). Washington, DC: U.S. Bureau of Labor Statistics. February 1994.

Early Childhood and Child Care Study

Sponsoring Agency: Food and Consumer Service[1], U.S. Department of Agriculture

Purpose: The purpose of this survey was to provide a comprehensive description of sponsoring agencies, providers and children that participate in the child care component of the Child and Adult Care Food Program (CACFP). This study also provided an in-depth assessment of the nutrient content of CACFP meals and snacks offered and consumed by children while in child care.

Conducted: January - June 1995

Target Population: Child care sponsors, providers (family day care homes, Head Start Centers, and child care centers), and children participating in the CACFP.

Sample Size and Response Rate(s):

	Completed Interviews	*Response Rates*
Sponsors	566	74%
Providers	1,962	87%
Family Day Care Homes	501	82%
Head Start Centers	891	92%
Child Care Centers	570	84%
Households	1,951	82%
Child-day observations	2,174	59%

Design and Methods: The survey design used a multistage, probability cluster sample involving States, sponsors, child care providers, children and families. Separate national estimates were provided for Family Day Care Home Providers, Head Start Centers, and child care centers. Data for sponsors and providers were collected by mail surveys, telephone interviews, and in-person interviews. Information on meals and snacks offered and consumed was collected.

Descriptive Variables: Wide range of organizational and operating characteristics of CACFP sponsors and providers (program size, hours of operation, meals provided), demographic information for children and families (age, racial/ethnic composition, household income, participation in other Federal assistance programs).

Outcome Variables of Interest: Nutrient content of meals and snacks offered in CACFP sites; nutrient intake of CACFP participants while in child care.

[1] Now called the Food and Nutrition Service

Contact Information:

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http://www.usda.gov/fcs/oae/research.htm

Selected Key Publications:

Glantz, Frederic B., David T. Rodda, Mary Jo Cutler, William Rhodes, and Marian Wrobel. Early Childhood and Child Care Study: Profile of Participants in the CACFP –Volume I Final Report. Alexandria, VA: U.S. Department of Agriculture, Food and Consumer Service, Office of Analysis and Evaluation. July 1997.

Fox, Mary Kay, Frederic B. Glantz, Lynn Geitz, and Nancy Burstein. Early Childhood and Child Care Study: Nutritional Assessment of the CACFP -- Volume II Final Report. Alexandria, VA: U.S. Department of Agriculture, Food and Consumer Service, Office of Analysis and Evaluation. July 1997

Fox, Mary Kay, Frederic B. Glantz, John Endahl, and Jeffery Wilde. Early Childhood and Child Care Study: Summary of Findings. Alexandria, VA: U.S. Department of Agriculture, Food and Consumer Service, Office of Analysis and Evaluation. July 1997.

An Evaluation of the Special Supplemental Food Program for Women, Infants, and Children (An Evaluation of WIC)

Sponsoring Agency: Food and Nutrition Service, U.S. Department of Agriculture

Purpose: This study was designed to evaluate the effects of participation in the WIC program on nutrition and health, during pregnancy and early childhood.

Conducted: 1983

Target Population: Pregnant women in the first two trimesters of pregnancy and their children who were participating in WIC; WIC-eligible but nonparticipating women from the same geographical areas.

Sample Size and Response Rate(s): Initial and follow-up 24-hour dietary recalls were collected from 3,473 women and one 24-hour dietary recall for 2,370 of their children.

Design and Methods: A three-stage probability sample (PSU's, WIC clinics, and pregnant women within the selected clinics who met study criteria) yielded a nationally representative sample of pregnant women who were participating in WIC. A control sample of women of comparable economic status were recruited from the same areas. One child was randomly selected from all participating women's children younger than 5 years for a separate child study. (A retrospective study used extant data to relate perinatal outcome and quality of prenatal care to WIC benefits.)

An in-person initial questionnaire and examination were administered to those women who met the criteria for study eligibility and who gave informed written consent. An initial 24-hour dietary recall and one follow-up recall were administered to a 75% random subsample of those women and their randomly selected child. A stratified random sample (control women were oversampled) was selected to complete a 1-week food expenditures diary of all food costs.

Descriptive Variables: Age, sex, ethnicity, marital status, education, occupational status and current employment status of parents, family income, height, weight, arm circumference, triceps and subscapular skinfold of the women, height and weight of children, cigarette use, program participation, and breast-feeding behavior.

Outcome Variables of Interest: Total nutrient intake and intake from WIC foods, mean nutrient intake as percentage of the RDA, pregnancy outcome, and effect of WIC on family food expenditures.

Contact Agency:

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3101 Park Center Drive
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http://www.usda.gov/fcs/fcs.htm

Selected Key Publications:

The National WIC Evaluation: Evaluation of the Special Supplemental Food Program for Women, Infants and Children, Am J Clin Nutr 48(suppl):389-512. 1988.

The National WIC Evaluation, vols I-V. Contract No 53-3198-9-87. North Carolina: Research Triangle Institute and New York: New York State Research Foundation. 1986.

Intake of Pyramid Servings and Servings Database, 1994-96

Sponsoring Agency: Agricultural Research Service, U.S. Department of Agriculture

Purpose: The Pyramid Servings Data Set 1994-96 contains data files that make it possible for the first time to compare food intake from USDA's 1994-96 Continuing Survey of Food Intakes by Individuals (CSFII) to recommendations in the Food Guide Pyramid. The Pyramid provides an outline of what to eat each day for a healthful diet.

Available: For the years 1994-1996

Target Population: Dataset includes individuals 2 years and over.

Sample Sizes:

	Day 1	*2-days*
Year	Number	Number
1994:	5,218	4,953
1995:	4,940	4,701
1996:	4,855	4,608

Response rates: See entry for CSFII 1994-96

Design and Methods: See CSFII 1994-96 for data collection method. The Pyramid servings files were developed using a new method that adheres to Pyramid principles, uses the servings sizes specified by the Pyramid, and strictly categorizes foods according to Pyramid criteria. Since many foods people eat — foods like pizza, soups, and pies — count toward more than one food group, the method separates foods into their ingredients before servings are counted.

Descriptive Variables:

Household--Income in dollars and as a percent of poverty, size, region, urbanization, tenancy, and participation in Food Stamp and WIC programs, food expenditures, and shopping practices.

Individual--Sex, age, race, ethnicity (Hispanic or non-Hispanic), education, employment status of persons 15 years of age and over, pregnancy/lactation/nursing status, height, and weight.

Outcome Variables of Interest:

- Pyramid Intake Data File--Aggregates of daily food intake expressed as servings

from the major Food Guide Pyramid food groups and subgroups (30 food groups), with one record for each day for each sample person and a record containing daily averages for each person if 2 days of intakes were reported.

- Servings Database--Number of servings from 30 food groups/ per 100 grams for each of the approximately 6,000 food codes reported in the CSFII. Food group definitions were derived from the Food Guide Pyramid. Data for the grain, vegetable, fruit, and dairy food groups are in servings. Data for the meat and meat alternate food groups are in ounces of cooked lean meat equivalents. Fat from the Pyramid tip is in grams, added sugars are in teaspoons, and alcohol is in number of drinks.

Contact Agency:

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Selected Key Publications:

U.S. Department of Agriculture, Agricultural Research Service. 1994-96 Continuing Survey of Food Intakes by Individuals and 1994-96 Diet and Health Knowledge Survey and the Technical Support Databases. CD-ROM, NTIS Accession Number PB98-500457. 1998.

Munoz, KA, SM Krebs-Smith, R Ballard-Barbash, and LE Cleveland. Food Intakes of US Children and Adolescents Compared With Recommendations. Pediatrics 100:323-329. 1997. Errata: Pediatrics 101;952-953. 1998.

Cleveland, LE, Cook, AJ, Wilson, JW et al. Pyramid Servings Data: Results from USDA's 1994 Continuing Survey of Food Intakes by Individuals. U. S. Department of Agriculture, Agricultural Research Service. NTIS Accession No. PB97-148480. 1997.

Cleveland, LE, Cook, DA, Krebs-Smith, SM et al. Method for assessing Food Intakes in Terms of Servings Based on Food Guidance. Am J Clin Nutr 65 (supp): 1254S-1263S. 1997.

Krebs-Smith, SM, Cleveland, LE, Ballard-Barbash, R et al. Characterizing food intake

patterns of American adults. Am J Clin Nutr 65(supp.): 1264S-1268S. 1997.

National Seafood Consumption Survey

Sponsoring Agency: National Marine Fisheries Service, National Oceanic and Atmospheric Administration, Department of Commerce

Purpose: This survey provided national data on seafood purchases, consumption of fish and shellfish in the United States and consumer attitudes. In addition, the 1973-74 survey provided data on the seafood consumption patterns among young children and pregnant women.

Conducted: 1973-74 and 1980-81 (1-year)

Target Population: The 1973-74 panel was selected to be representative of families, young children, and pregnant women in the United States. The 1980-81 panel was selected to be representative of households and individuals in the United States.

Sample Size and Response Rates:

	Households	*Individuals*	*Response Rate*
1973-74	7,000	24,652	NA
1980-81	7,500	12,000	NA

Design and Methods:

1973-74--The panel of 7,000 households was balanced nationally with regard to major demographic characteristics. Panelists recorded their seafood consumption for each family member in a diary for a 1-month period. One-twelfth of the panelists recorded each month for 1 year.

1980-81--The survey used a nationwide panel of 7,500 households that completed diaries on the amount of seafood purchased for home use, and the amount consumed at home and away from home. The panel also provided consumer attitudinal data. The same households reported the full 12-month period. Purchase data were collected on a continuing basis during the year. Household consumption data were collected 1 month per quarter. The attitudinal part of the survey was conducted at the end of the survey period.

Descriptive Variables:

1973-74--Age, sex, race, ethnicity, education, income, household size, occupation, religion, pregnancy status, and dietary status.

1980-81--Age, sex, race, education, income, family size, occupation, geographic

location, pregnancy status, and dietary status.

Outcome Variables of Interest:

1973-74--Information was provided on species eaten, total amount available at the meal, identity of family members eating seafood, and the number of servings consumed by each family member. It also provided rankings of seafood species by percent of households and by use by individuals. The number of women reporting to be pregnant was judged to be too small for any type of analysis.

1980-81--The purchase data were presented according to type of seafood product (fresh, frozen, fillets, canned, etc.) by species, region, and a variety of demographic variables. The attitudinal information was presented by type of seafood product, region, and demographic variable. The survey included about 32 major seafood product categories and 500 detailed seafood items, as well as information on the purchase date and type of cooking utensils. Although the consumption data differed widely from other available data, the relative ranking of seafood products and the distribution patterns of each seafood product were similar to other studies. The collection of intake data for households and individuals were incomplete.

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Selected Key Publications: None to date.

Nationwide Food Consumption Survey (NFCS), 1977-78 and 1987-88

(The NFCS household food use component has been discontinued, the NFCS individual intake component has been replaced by the Continuing Survey of Food Intakes by Individuals, see pages 82-90.)

Sponsoring Agency: Agricultural Research Service (1977-78) and Human Nutrition Information Service (1987-88)[1], U.S. Department of Agriculture

Purpose: The NFCS described food consumption behavior and assessed the nutritional content of diets to determine their implications for policies relating to food production and marketing, food safety, food assistance, and nutrition education.

Conducted: Approximately every 10 years between 1936 and 1987-88. Data for the 1977-78 basic survey were collected from 4/77-3/78. The 1977-78 survey included six supplemental surveys: low-income I (11/77-3/78), low-income II (11/79-3/80), elderly (4/77-3/78), Puerto Rico (7/77-12/77), Alaska (1/78-3/78), Hawaii (1/78-3/78)--see chapter VI for more information on the State surveys. In 1987-88, data for the basic survey and for the low-income survey were collected from 4/87 through 8/88.

Target Population: Households in the 48 conterminous States and individuals residing in those households. The low-income samples in both 1977-78 and 1987-88 included households with incomes at a level consistent with eligibility for the Food Stamp Program (at or below 130 percent of the poverty thresholds).

Sample Sizes and Response Rates:

	Household		*Individual (1 day)*	
	Number	*Response rate*	*Number*	*Response rate*
1977-78:				
Basic sample....	14,930	61%	30,467	57%
Low-income I	4,623	53%	12,650	42%
Low-income II ...	3,002	*	8,492	*
1987-88:				
Basic sample	4,589	38%	10,172	31%
Low-income sample	2,584	42%	*	*

* Not available

[1] On February 20, 1994, legislation passed by Congress moved the functions of the Human Nutrition Information Service to the Agricultural Research Service, USDA.

Design and Methods: The NFCS was a multistage, stratified area probability sample. In the household component, the household food manager was asked to recall with the aid of a food list, the kinds and amounts of food that disappeared from home food supplies during the previous 7 days. Such food included food that was prepared and eaten and food that was discarded, as well as leftovers fed to pets. The food manager was also asked to report the price of each purchased food. In the individual component, each household member was asked to recall the kinds and amounts of foods eaten at home and away during the previous day and to keep a record of the foods eaten on the day of the interview and the following day (1-day recall/2-day record). Only 1 day of dietary intake was collected in the low-income II study in 1977-78.

Nutrients available from food used by the households and nutrients ingested by individual household members were derived using food composition data from the USDA National Nutrient Data Bank (see page 152).

Descriptive Variables:

Household--Income, size, cash assets, region, urbanization, tenancy, and participation in the Food Stamp, WIC, and school lunch/breakfast programs.

Individuals--Sex, age, race, employment, education of male and female heads, ethnicity (Hispanic or not), height, weight, and pregnancy/lactation/nursing status.

Outcome Variables of Interest:

Household--Quantity (pounds), monetary value (dollars), and nutritive value of food used from the household food supply.

Individual--Intakes (grams) of food eaten at home and away from home; intakes of 28 nutrients and food components in 1987-88 (15 nutrients in 1977-78) .

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http://www.barc.usda.gov/bhnrc/foodsurvey/77nfcs.html
http://www.barc.usda.gov/bhnrc/foodsurvey/87nfcs.html
E-mail: fsrg@rbhnrc.usda.gov

Selected Key Publications:

1977-78

U. S. Department of Agriculture. Dietary Levels: Households in the United States, Spring 1977, Rep. No. H-11, 188pp. NTIS Accession No. PB91-103515. 1985.

U. S. Department of Agriculture. Food and Nutrient Intakes: Individuals in 48 States, Year 1977-78, Rep. No. I-3, 533 pp. NTIS Accession No. PB91-105858. 1985.

U. S. Department of Agriculture. Food Consumption: Households in the United States, Spring 1977, Rep. No. H-1, 296 pp. NTIS Accession No. PB91-104174. 1984.

U. S. Department of Agriculture. Food Intakes: Individuals in 48 States, Year 1977-78, Rep. No. I-1, 617 pp. NTIS Accession No. PB91-103523. 1984.

U. S. Department of Agriculture. Nutrient Intakes: Individuals in 48 States, Year 1977-78, Rep. No. I-2, 439 pp. NTIS Accession No. PB91-105866. 1984.

Pao, EM., Fleming, K H., Guenther, PM., and Mickle, SM. Foods Commonly Eaten by Individuals: Amount Per Day and Per Eating Occasion. U. S. Department of Agriculture, Home Economics Research Report No. 44. NTIS Accession No. PB97-165542. 1982.

1987-88

U.S. Department of Agriculture, Human Nutrition Information Service. Food consumption and dietary levels of households in the United States, 1987-88. NFCS rep no 87-H-1. NTIS Accession Number PB95-208732. 1994.

Guenther, PM and Tippett, KS (eds). Evaluation of non-response in the Nationwide Food Consumption Survey 1987-88. NFCS rep no 87-M-2. U.S. Department of Agriculture, Human Nutrition Information Service. NTIS Accession No. PB94-169687. 1993.

U.S. Department of Agriculture, Human Nutrition Information Service. Food and nutrient intakes by individuals in the United States, 1 day, 1987-88. NFCS rep no 87-I-1. NTIS Accession No. PB94-168325. 1993.

Popkin BM, Haines PS, Patterson RE. Dietary changes in older Americans, 1977-87. Am J Clin Nutr 55(4):823-30. 1992.

Guenther PM and Perloff BP. Effects of procedural differences between 1977 and 1987 in the Nationwide Food Consumption Survey on estimates of food and nutrient

intakes: Results of the USDA Bridging Study. U.S. Department of Agriculture, NFCS Rep. No. 87-M-1. 1990. NTIS Accession No. PB92-178193. 1990.

Peterkin BB, Rizek RL, Tippett KS. Nationwide Food Consumption Survey, 1987. Nutr Today 23(1):18-24. Jan-Feb 1988.

Nutritional Evaluation of Military Feeding Systems and Military Populations

Sponsoring Agency: U.S. Army Research Institute of Environmental Medicine, Department of Defense.

Purpose: The results of these studies are used to determine the nutritional adequacy of the diet consumed by male and female military personnel in a peacetime garrison situation and during sustained physically demanding military training exercises at all climatic extremes. Based upon the results, standardized recipes and menus, the cook's training program, and specifications for food items and combat rations purchased by the DOD are modified to improve nutritional health and maintain optimal physical and mental performance of military personnel.

Conducted: Continuously since 1917

Target Population: Primarily male and female enlisted personnel of the Army, Navy, Marine Corps, and Air Force assigned to military installations in the continental United States, Alaska, Hawaii, and overseas. Populations studied to date have included Army basic trainees at Fort Jackson, South Carolina; Noncommissioned Officer Academy trainees at Fort Riley, Kansas; enlisted personnel assigned to Fort Lewis, Washington, and Fort Devens, Massachusetts; Army units training at Pohakuloa Training Area, Hawaii; Fort Wainwright and Fort Greely, Alaska; Fort Chaffee, Arkansas; Special Forces units training in the White Mountains of Vermont; Marine units training at the Mountain Warfare Training Area, Pickle Meadows, California; cadets at the U.S. Army Military Academy, West Point, New York; Ranger trainees at Fort Benning, Georgia; and a cohort of military families (military personnel, their spouses and children) at Fort Polk, Louisiana. Future studies planned include nutritional assessment of women and ethnic minority groups within military populations.

Sample Size and Response Rate(s): The sample size has varied between 20 and 240 personnel depending on objectives of each specific study. Usually 90-99 percent of all subjects who voluntarily participate complete all aspects of data collection. The response rate is defined as the total number of potential test subjects who volunteered, divided by the number of test subjects who complete all aspects of data collection.

Design and Methods: The experimental design varies with the specific objectives of each study and with the location and activity of the military unit being studied. Total daily food and fluid intake are usually measured for 7-14 days (sometimes 4-6 weeks) using a combination of visual estimation and dietary record interview techniques. Nutrient intakes are derived from all sources of food consumed, using a specially designed data base that includes military and civilian food items. Nutrient intakes are derived using food intake and from chemical analyses of food items and rations, monitoring recipes as prepared by cooks in dining facilities, and USDA-derived foods composition data files. Military Recommended Dietary Allowances (based upon RDA's)

are used as reference to assess nutritional adequacy of diets consumed. Other measures usually included are body weight and body composition changes, hydration status, blood lipid profile, and food acceptability (hedonic rating) data. Frequently, muscle strength and aerobic endurance, cognitive function, energy expenditure (doubly labeled water method), physical activity patterns (wrist accelerometer), biochemical assessment of vitamin status, and nutritional knowledge and attitude data are also measured.

Descriptive Variables:

Feeding system--Garrison dining facility, field feeding system, and type of combat ration or supplement.

Training environment--Hot-dry, hot-humid, cold and temperate climates, and mountain terrain.

Population descriptions--Gender, race, physical activity level, age; active, reserve, trainee, and special operations personnel. Outcome Variables of Interest: Nutrient intakes, biochemical assessment of nutritional status, anthropometry, energy expenditure, metabolic balances, hedonic rating of food items, human factor measurements, and physical and mental performance.

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http://www.acda.gov/factshee/defense.htm

Selected Key Publications:

Edwards JSA, Askew EW, King N, et al. An assessment of the nutritional intake and energy expenditure of unacclimatized U.S. Army soldiers living and working at high altitude. USARIEM Technical rep no T/10-91. 1991.

Rose MS, Radovsky C, Benson M, et al. Computerized analysis of nutrients (CAN) system. USARIEM Technical rep no T/2-90. 1990.

Edwards JSA, Roberts DE, Edinberg J, Jones TE. The meal, ready-to-eat consumed in a cold environment. USARIEM Technical rep no T/9-90. 1990.

Jones TE, Hoyt RW, Baker CJ, et al. Voluntary consumption of a liquid carbohydrate supplement by special operations forces during a high altitude cold weather field

training exercise. USARIEM Technical rep no T/20-90. 1990.

Rose RW, Baker CJ, Wisnaskas W, et al. Dietary assessment of U.S. Army basic trainees at Fort Jackson, SC. USARIEM Technical rep no T/6-89. 1989.

Askew EW, Munro I, Sharp MA, et al. Nutritional status and physical and mental performance of special operations soldiers consuming the ration, lightweight or the meal, ready-to-eat military field ration during a 30-day field training exercise. USARIEM Technical rep no T/7-87. 1987.

Rose MS, Buchbinder JC, Dugan TB, et al. Determination of nutritional intakes by a modified visual estimation method and computerized nutritional analysis for dietary assessments. USARIEM Technical rep no T/6-88. 1987.

Schnakenberg DD, Carlson DE, Sawyers M, et al. Nutritional evaluation of a new combat field feeding system for the Army. In: Army Science Conference Proceedings 4:69-80. 1986.

School Nutrition Dietary Assessment Study (SNDA)

Sponsoring Agency: Food and Consumer Service[1], U.S. Department of Agriculture

Purpose: The purpose of the study was to provide information on the nutrient content of USDA and non-USDA meals offered in U.S. schools, on the foods selected by students, and on the dietary intakes of students; and to assess the contribution of the School Nutrition Programs to students' dietary intakes.

Conducted: January-May 1992

Target Population: Schools in the 48 conterminous States and the District of Columbia and all students in grades 1 through 12 who were attending school on a typical school day in the winter and spring of 1992.

Sample Size and Response Rate(s):

	Sample Size	*Response Rate*
School Districts	380	89.5%
Schools	607	87.6%
Students	4,489	74.6%

Design and Methods: A three-stage sample design was used, involving the stratified random selection of districts, schools within the selected districts, and students within the selected schools, to produce a nationally representative sample of schools and students. The dietary methodology used was an in-person, 24-hour dietary recall for students in grades 3-12 and a parent and/or child recall for students in first and second grades.

Descriptive Variables: Age, sex, grade, ethnicity, family size, whether mother works outside of home, family income, and program participation.

Outcome Variables of Interest: Nutrients by food groups, meals, relative to the RDAs, and the *Dietary Guidelines;* source of meals; nutrient content of USDA meals as offered and as served; and plate waste.

Contact Agency:

Office of Analysis and Evaluation
Food and Nutrition Service
U.S. Department of Agriculture

[1] Now called the Food and Nutrition Service

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Selected Key Publications:

Burghardt J and Devaney B. The School Nutrition Dietary Assessment Study: Summary of Findings. Alexandria, VA: U.S. Department of Agriculture, Food and Nutrition Service, Office of Analysis and Evaluation. October 1993.

Burghardt J, Ensor T, Hutchinson G, Weiss C, Spenser B. The School Nutrition Dietary Assessment Study: Data Collection and Sampling. Alexandria, VA: U.S. Department of Agriculture, Food and Nutrition Service, Office of Analysis and Evaluation. October 1993.

Burghardt J, Gordon A, Chapman N, Gleason N, Fraker T. The School Nutrition Dietary Assessment Study: School Food Service, Meals Offered, and Dietary Intakes. Alexandria, VA: U.S. Department of Agriculture, Food and Nutrition Service, Office of Analysis and Evaluation. October 1993.

Devaney B, Gordon A, Burghardt J. The School Nutrition Dietary Assessment Study: Dietary Intakes of Program Participants and Nonparticipants. Alexandria, VA: U.S. Department of Agriculture, Food and Nutrition Service, Office of Analysis and Evaluation. October 1993.

School Nutrition Dietary Assessment II (SNDA II)

Sponsoring Agency: Food and Nutrition Service, U.S. Department of Agriculture

Purpose: The purpose of the study is to provide information on the nutrient content of USDA meals offered in U.S. schools, and the types of foods offered to students during a typical week. These results will be compared to estimates obtained from data collected as part of the original School Nutrition Dietary Assessment Study.

Conducted: Fall 1998

Target Population: Public schools participating in the National School Lunch and School Breakfast Programs in the contiguous 48 States and the District of Columbia.

Sample Size and Response Rate(s): A nationally representative sample of approximately 1,152 public schools (384 elementary, 384 middle, and 384 high schools).

Design and Methods: Multistage, stratified probability sample capable of producing national estimates for elementary schools, middle schools, and high schools. A self-administered survey will be used to collect information on foods and portion sizes offered in USDA breakfasts and lunches during a target week. Limited basic descriptive information about the schools and meal service characteristics will be collected through telephone interviews and mail surveys.

Descriptive Variables: School characteristics and food service operation information.

Outcome Variables of Interest: Nutrients by food groups, relative to the RDAs and the *Dietary Guidelines*, by meals, source of meals, and nutrient content of USDA meals as offered.

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Selected Key Publications: None to date.

Study of WIC Participants and Program Characteristics

Sponsoring Agency: Food and Consumer Service[1], U.S. Department of Agriculture

Purpose: Provided current participant and program characteristics of the WIC program.

Conducted: 1984, 1988, 1990, 1994, 1996. There are plans to conduct the study in 1998 and 2000.

Target Population: Participants of the Special Supplemental Nutrition Program for Women, Infants, and Children (WIC)

Sample Size and Response Rate(s): Near Census of WIC participants (over seven million records in 1996).

Design and Methods: In 1984, 1988, and 1990 data were collected from nationally representative samples of WIC participants using mail surveys of State and local WIC agencies, record abstractions at local WIC service sites, and in 1988, interviews with participants. Beginning in 1994, each State WIC agency submitted a minimum data set of 18 elements for a census of its WIC participants for the reference month of April.

Descriptive Variables: Age, race/ethnicity, sex of children, household size, household income, migrant status, participation in Federal assistance programs

Outcome Variables of Interest: Height, weight, hemoglobin, hematocrit or erythrocyte protoporphyrin value, WIC certification category (pregnant woman, breastfeeding woman, postpartum woman not breastfeeding, infant under 12 months, or child 12-59 months), nutritional risks present at certification.

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Selected Key Publications:

[1] Now called the Food and Nutrition Service

Abt Associates, Inc. and the U.S. Department of Agriculture, Food and Nutrition Service, Office of Analysis and Evaluation. Study of WIC Participant and Program Characteristics 1994, Final Report. December 1995.

Abt Associates, Inc., and the U.S. Department of Agriculture, Food and Nutrition Service, Office of Analysis and Evaluation and the Supplemental Food Programs Division. Study of WIC Participant and Program Characteristics, 1990. February 1992.

Research Triangle Institute and the U.S. Department of Agriculture, Food and Nutrition Service, Office of Analysis and Evaluation. Study of WIC Participant and Program Characteristics, 1988. April 1990.

Supplemental Children's Survey

Sponsoring Agency: Agricultural Research Service, U.S. Department of Agriculture

Purpose: The Children's Survey is a supplement to the 1994-96 Continuing Survey of Food Intakes by Individuals. It is being conducted in response to the Food Quality Protection Act of 1996 (P.L. 104-170) which requires the Secretary of Agriculture in collaboration with HHS and EPA to provide adequate data to assess pesticide exposures in the diets of infants and young children. Data will be used by USDA, the Environmental Protection Agency, and other Federal agencies, industry, research institutions, and private organizations in analyses supporting policy formation, regulation, program planning and evaluation, and education and research.

Conducted: December 1997 through November 1998.

Target Population: Noninstitutionalized children 0 through 9 years in households in the United States. Oversampling of low-income households with incomes at or below 130 percent of the poverty thresholds.

Sample Size and Response Rate(s): The Supplemental Children's Survey will provide dietary intakes for approximately 5,000 children 0 through 9 years. The sample has been drawn based on the same criteria as that used for the CSFII 1994-96 so that the data from the two surveys can be merged; the CSFII 1994-96 included dietary intakes from approximately 4,250 children 0 through 9 years. Response rates cannot be determined at this time.

Design and Methods: A multistage, stratified area probability sample. The survey includes the collection of 2 nonconsecutive days of dietary data through in-person 24-hour recalls. Information on the kinds and amounts of foods eaten at home and away from home during the previous day is being collected for each child through the assistance of an adult.

Descriptive Variables:

Household--Income in dollars and as a percent of poverty, size, region, urbanization, tenancy, and participation in Food Stamp and WIC programs, food expenditures, and shopping practices.

Individual--Sex, age, race, height, weight, and ethnicity (Hispanic or non-Hispanic).

Outcome Variables of Interest: Kinds and amounts of foods consumed on each of 2 nonconsecutive days, sources of foods, time and name of each eating occasion, food intakes in grams of 71 USDA-defined food groups and subgroups for each of 2 days of intake and 2-day averages, nutrient intakes of 28 nutrients and food components for

each of 2 days and 2-day averages, nutrient intakes expressed as percentages of the 1989 Recommended Dietary Allowances for each of 2 days and 2-day averages.

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Selected Key Publications: Survey still in field at publication date.

Survey of Fish Purchases by Socio-economic Characteristics

Sponsoring Agency: National Marine Fisheries Service, National Oceanic and Atmospheric Administration, Department of Commerce

Purpose: A 1-year panel survey was conducted to obtain the patterns of fish product purchases according to socio-economic characteristics of households. The survey was needed to determine how the various characteristics of the population cause shifts in demand and improve predictive capabilities.

Conducted: 1969-70

Target Population: The participants represented the U.S. population by geographic region and varied by income, family size, occupation, age, race, and religion.

Sample Size and Response Rates:

	Households	*Individuals*	*Response Rate*
1969-70	1586	4864	NA

Design and Methods: A panel of households were surveyed by completing a diary of fish purchases.

Descriptive Variables: Geographic region, income, family size, occupation, race, and religion.

Outcome Variables of Interest: Purchases were classified by month and quarter; number of meals eaten away from home for each household class; summaries by fish products, measurement of consumption, and socio-economic characteristics.

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Selected Key Publications:

Nash DA. A survey of fish purchases by socio-economic characteristics. Data Report 62. United States Department of Commerce. 1971.

Miller MM, Nash DA. Regional and other related aspects of shellfish consumption--Some preliminary findings from the 1969 Consumer Panel Survey. Circular 361. United States Department of Commerce. 1971.

Survey of Income and Program Participation (SIPP)

Sponsoring Agency: U.S. Bureau of the Census

Purpose: The U.S. Bureau of the Census collects source and amount of income, labor force information, program participation and eligibility data, and general demographic characteristics to measure the effectiveness of existing Federal, State, and local programs. Data are used to estimate future costs and coverage for government programs such as Food Stamps and to provide improved statistics on the distribution of income in the Nation.

Conducted: Continuously since 1983.

Target Population: Civilian, noninstitutionalized population of the United States.

Sample Size and Response Rate(s): A continuous series of panels with sample sizes ranging from 11,600 to 36,800 interviewed households. Panel duration is 2 ½ to 4 years. Sample loss is approximately 8% at the first interview and increases to about 26-33% by the last interview depending on the length of the panel.

Design and Methods: Longitudinal household survey. Multistage, stratified, and probability clustered sample of households throughout the United States.

Descriptive Variables: Age, race, sex, marital status, education, veteran status, ethnic origin, and housing tenure status.

Outcome Variables of Interest: The content of the SIPP is developed around a "core" of labor force, program participation, and income questions designed to measure the economic situation of people in the United States. These core questions are repeated every 4 months. The survey also has "topical modules" containing questions on a variety of topics not covered in the core section. Previous modules have included health status and utilization of health care services, food adequacy, long-term care, and disability status of children. Variables of interest from the topical modules include estimates of: poverty; program eligibility; health insurance coverage; the proportion of children with physical, mental, or emotional disabilities; and the number of persons who need personal assistance to perform the activities of daily living. Topical modules are not repeated at every interview.

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http://www.census.gov/hhes/www/sippdesc.html

Selected Key Publications:

Survey of Income and Program Participation User's Guide. Washington: U.S. Bureau of the Census. 1991.

King K, Petroni R, Singh R. Quality Profile for the Survey of Income and Program Participation. SIPP Working Paper Series No. 8708. Washington: U.S. Bureau of the Census. 1990.

Kasprzyk D. The Survey of Income and Program Participation: An overview and discussion of research issues. SIPP Working Paper Series No. 8830. Washington: U.S. Bureau of the Census. 1988.

Herriot RA, Kasprzyk D, eds. Some aspects of SIPP. SIPP Working Paper Series No. 8601. Washington: U.S. Bureau of the Census. 1986.

Frankel DT. Summary of the content of the 1984 Panel of the Survey of Income and Program Participation. SIPP Working Paper Series No. 8504. Washington: U.S. Bureau of the Census. 1985.

Short KS. The Survey of Income and Program Participation: Uses and Applications. SIPP Working Paper Series No. 8501. Washington: U.S. Bureau of the Census. 1985.

Short KS, Shea M. Beyond Poverty, Extended Measures of Well-Being: 1992. P70-50RV. November 1985.

Nelson D, McMillen DB, Kasprzyk D. An Overview of the Survey of Income and Program Participation, Update 2. SIPP Working Paper Series No. 8401. Washington: U.S. Bureau of the Census. 1984.

Total Diet Study (TDS)

Sponsoring Agency: Center for Food Safety and Applied Nutrition, Food and Drug Administration

Purpose: The Total Diet Study assesses the levels of nutritional elements, elemental contaminants, industrial chemicals, pesticide residues, and radionuclides in the U.S. food supply and in the representative diets of specific age-sex groups. The Total Diet Study also monitors trends in the levels and consumption of these substances over time. The study is important for continuous monitoring of the nutritional quality and safety of the U.S. food supply and representative U.S. diets.

Conducted: Annually since 1961

Target Population: Eight age-sex groups were included in the Total Diet Studies from 1982 to 1991. The 1991 revision of the Total Diet Study included 14 age-sex groups (6-11 month old infants; 2, 6, and 10 year old children; 14-16 year old females and males; 25-30 year old females and males; 40-45 year old females and males; 60-65 year old females and males; and females and males 70 years of age and over).

Sample Size and Response Rate(s): NA (No individuals are surveyed; no survey instruments are used.)

Design and Methods: Core foods of the U.S. food supply are purchased from retail markets and restaurants, prepared for consumption, and analyzed for nutrients and contaminants four times each year. The sample used between 1982-1991 included 234 foods; the 1991 revision included 265 foods. Representative diets of the selected age-sex groups are developed based on national food consumption data. The food composition data are merged with the food consumption data to estimate daily intake of the nutrients and contaminants. The results from the four collections each year are averaged. The yearly results are compared with previous data to determine trends over time.

Descriptive Variables: Population descriptors include age and gender as indicated under "Target Population."

Outcome Variables of Interest: No data for outcome variables are collected. Individual foods are analyzed for nutrients and contaminants.

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http://vm.cfsan.fda.gov/list.html

Selected Key Publications:

Pennington JAT, Capar SC, Parfitt CH, Edwards CW. History of the Total Diet Study (Part II). J AOAC Intl 79:163-70. 1996.

Pennington JAT. Intakes of minerals from diets and foods - Is there a need for concern? Proceedings of Symposium on New Approaches, Endpoints, and Paradigms for RDAs of Mineral Elements. J Nutr 126 (9S):2304S-8S. 1996.

Pennington JAT, Schoen SA. Total Diet Study: Dietary intakes of nutritional elements, 1982-1991. Intl J Vit Nutr Res 66:350-62. 1996.

Pennington JAT, Schoen SA. Contribution of food groups to element intakes: Results from the FDA Total Diet Studies, 1982-91. Intl J Vit Nutr Res 66:342-50. 1996.

Pennington JAT, Schoen SA, Salmon GD, Young B, Johnson RD, Marts RW. Mineral composition of core foods of the U.S. food supply, 1982-91. I. Na, P, and K. J Food Comp Anal 8:91-128. 1995.

Pennington JAT, Schoen SA, Salmon GD, Young B, Johnson RD, Marts RW. Mineral composition of core foods of the U.S. food supply, 1982-91. II. Ca, Mg, Fe, and Zn. J Food Comp Anal 8:129-70. 1995.

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WIC Infant Feeding Practices Study

Sponsoring Agency: Food and Nutrition Service, U.S. Department of Agriculture

Purpose: This survey described the infant feeding practices of WIC participants including breastfeeding initiation and duration, formula feeding, and the introduction of supplementary foods; it also explored the factors that shaped these infant feeding decisions.

Conducted: August 1994 through December 1995

Target Population: Prenatal and postnatal women and their infants participating in the WIC Program.

Sample Size and Response Rate(s):

	Completed one postnatal interview	*Response Rate*
Total	971	89%

Design and Methods: The study was a one-year longitudinal survey of a nationally representative sample of 900 WIC mothers living in the 48 contiguous States, the District of Columbia and the 33 WIC agencies on Indian reservations. Computer-assisted telephone interviews were the main mode of data collection. These were supplemented by computer-assisted in-person interviews. Respondents were interviewed 10 times during the study.

Descriptive Variables: Socio-demographic characteristics included maternal age, race and ethnicity, immigrant status, household size, father's presence in the household, poverty level, receipt of public assistance, education, employment status. Health-related characteristics included birthweight of infant, health problems, breastfeeding problems. Additional variables included reported hospital experiences, source of nutrition advice, and attitudes and beliefs about infant feeding.

Outcome Variables of Interest: Rates of breastfeeding and formula feeding, duration of breastfeeding, factors associated with breastfeeding initiation and duration, formula feeding and the introduction of supplementary foods.

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http://www.usda.gov/fcs/oae/research.htm [Summary of Findings and Final Report]

Selected Key Publications:

Baydar N, McCann, Williams, R, Vesper. WIC Infant Feeding Practices Summary of Findings. Office of Analysis and Evaluation, Food and Nutrition Service, USDA. November 1997.

Baydar N, McCann M, Williams R and Vesper E, Battelle. Final Report: WIC Infant Feeding Practices Study. Centers for Public Health Research and Evaluation, Seattle, WA. November 1997.

III. KNOWLEDGE, ATTITUDES, AND BEHAVIOR ASSESSMENTS

Cancer Prevention Awareness Survey

Sponsoring Agency: National Cancer Institute, National Institutes of Health

Purpose: This survey was designed to measure progress on knowledge, attitudes, and behaviors regarding lifestyle and cancer prevention and compare the results to baseline data collected in Wave 1 (1983).

Conducted: 1983 and 1985

Target Population: Civilian, noninstitutionalized population ages 18 years and over in the United States. In 1985, the survey oversampled 263 black Americans.

Design and Methods: National probability sample selected by random-digit dialing technique. Self-reports on a set of basic knowledge, attitudes and behavior items related to health, cancer, and cancer risk.

Descriptive Variables: Age, gender, race, education, and geographic region.

Outcome Variables of Interest:

Nutrition-related variables--attitudes and behavior regarding eating red meat, fruits and vegetables, whole grains, sugar, salt, and preservatives.

Other health-related variables--self-perceptions of health, awareness of health risks, actions taken to maintain and improve health, or decrease cancer risk.

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http://www.nci.nih.gov/

Selected Key Publications:

National Cancer Institute. Management Summary: Cancer Prevention Awareness Survey, Wave II, 1986. Bethesda, Maryland: Public Health Service. 1986.

National Cancer Institute. Technical Report: Cancer Prevention Awareness Survey, 1986. Bethesda, Maryland: Public Health Service. 1986.

National Cancer Institute. Management Summary: Cancer Prevention Awareness Survey, Wave I, 1984. Bethesda, Maryland: Public Health Service. 1984.

National Cancer Institute. Technical Report: Cancer Prevention Awareness Survey, 1984. Bethesda, Maryland: Public Health Service. 1984.

Consumer Food Handling Practices and Awareness of Microbiological Hazards

Sponsoring Agency: Food and Drug Administration

Purpose: The purpose of this survey was to collect data about consumers' practices regarding food handling, food storage, and food shopping; knowledge of food safety principles and of microbiological hazards in foods; perceived sources of food contamination from chemicals and pesticides; sources of information about food handling principles; and foodborne illness experience.

Conducted: 1992-93; February-April 1998.

Target Population: Civilian, noninstitutionalized individuals 18 years of age or over in households with telephones.

Sample Size and Response Rate(s):

	Sample Size	*Response Rate*
Total	1620 adults	65%

Design and Methods: The questionnaire was administered by telephone. A national probability sample was selected using a modified Waksberg random digit dialing procedure.

Descriptive Variables: Demographic characteristics.

Outcome Variables of Interest: Prevalence of unsafe food handling practices, extent of knowledge of food safety principles and of microbiological hazards in foods, concerns about food contamination from chemicals and pesticides, use of various sources for information about food safety, and incidence of self-reported foodborne illness.

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Selected Key Publications:

Altekruse SF, Street DA, Fein SB, Levy AS. Consumer knowledge of foodborne microbial hazards and food-handling practices. J Food Protection 59(3):287-294. 1996.

Klontz K, Timbo B, Fein SB, Levy AS. Prevalence of selected food consumption and preparation behaviors associated with increased risks of food-borne disease. J Food Protection 58(8):927-930. 1995.

Fein SB, Lin C-TJ, Levy AS. Food-borne illness perceptions, experience, and preventive behaviors. J Food Protection 58(12):1405-1411. 1995.

Diet and Health Knowledge Survey (DHKS), 1989-91

Sponsoring Agency: Human Nutrition Information Service[1], U.S. Department of Agriculture

Purpose: The survey provided continuing information with which to assess relationships between individuals' knowledge and attitudes about dietary guidance and food safety, their food-choice decisions, and their nutrient intakes. This survey was a "follow-up" survey to the 1989-91 Continuing Survey of Food Intakes by Individuals (page 85).

Conducted: 1989, 1990, and 1991 (data collection for each year began in May and continued through April of the following year).

Target Population: Main-meal planner/preparer in households in the 48 conterminous States who participated in the CSFII. The survey included two separate samples: households with incomes at any level (basic sample) and households with incomes at or below 130 percent of the poverty thresholds (low-income sample).

Sample Sizes and Response Rates:

Year	*Sample size*	*Response rate*
1989:		
Basic sample	1,280	54%
Low-income sample	626	63%
1990:		
Basic sample	1,280	55%
Low-income sample	619	58%
1991:		
Basic sample	1,280	53%
Low-income sample	645	62%

Design and Methods: The 1989-91 DHKS was a telephone follow-up to the 1989-91 CSFII. Data were collected by computer-assisted telephone interviews. In-person interviews were conducted with targeted respondents who did not have telephones. For details regarding the sampling scheme and food intake methodology, see CSFII

[1] On February 20, 1994, legislation passed by Congress moved the functions of Human Nutrition Information Service to the Agricultural Research Service, USDA.

1989-91 (pg 89).

Descriptive Variables:

Individual--Sex, age, race, ethnicity (Hispanic or non-Hispanic), education and employment status of persons 15 years of age and over, pregnancy/lactation/nursing status, height, and weight.

Household--Income, size, cash assets, region, urbanization, tenancy, participation in Food Stamp and WIC programs.

Outcome Variables of Interest: Self-perceptions of relative intake levels, awareness of diet health relationships, use of food labels, perceived importance of following dietary guidance for specific nutrients and food components, beliefs about food safety, and knowledge about food sources of nutrients. These variables can be linked to data on individuals' food and nutrient intakes from the CSFII. See CSFII 1989-91 for additional information (page 85).

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E-mail: fsrg@rbhnrc.usda.gov

Selected Key Publications:

Sapp SG and Jensen HH. Reliability and validity of nutrition knowledge and diet-health awareness tests developed from the 1989-91 Diet and Health Knowledge Surveys. J Nutr Ed 29:63-72. 1997.

Cypel YS, Tamaki JA, Enns CW et al. Nutrition attitudes and dietary status of main meal planners/preparers, 1989-91: Results from the Diet and Health Knowledge Survey and Continuing Survey of Food Intakes by Individuals, 1989-91. NFS Rep. No. 91-1. NTIS Accession No. PB96-144472. 1996.

Colavito E and Guthrie JF. USDA's new Diet and Health Knowledge Survey: How can it be used for theory based research? J Associ for the Study of Food and Society 1(1):13-22. 1996.

Diet and Health Knowledge Survey (DHKS), 1994-96

Sponsoring Agency: Agricultural Research Service[1], U.S. Department of Agriculture

Purpose: The survey provided continuing information with which to assess relationships between individuals' knowledge and attitudes about dietary guidance and food safety, their food-choice decisions, and their nutrient intakes. This survey was a follow-up survey to the 1994-96 Continuing Survey of Food Intakes by Individuals (CSFII 1994-96, page 88).

Conducted: 1994, 1995, and 1996 (data collection for each year began in February and continued through February of the following year); planned for 1999-2002

Target Population: Adults 20 years and over who completed the day 1 interview in the CSFII 1994-96; respondents selected by randomized procedure so that there was no more than one DHKS respondent per household.

Sample Sizes and Response Rates:

Year	*Sample size*	*Response rate*
1994:	1,879	74.1%
1995:	1,966	72.7%
1996:	1,920	73.8%
1994-96:	5,765	73.5%

Design and Methods: The 1994-96 DHKS was a telephone follow-up designed to be conducted 2-3 weeks after the CSFII 1994-96. In-person interviews were conducted with targeted respondents who did not have telephones. For details regarding the sampling scheme and food intake methodology, see CSFII 1994-96. The 1999-2001 DHKS is currently in the planning stage, but will be similar to the 1994-96 DHKS.

Descriptive Variables:

Individual--Sex, age, race, ethnicity (Hispanic or non-Hispanic), education and employment status of persons 15 years of age and over, pregnancy/lactation/nursing status, height, and weight.

Household--Income, size, cash assets, region, urbanization, tenancy, participation in Food Stamp and WIC programs.

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[1]The DHKS 1994-96 was planned by the Human Nutrition Information Service (HNIS), USDA. On February 20, 1994, legislation passed by Congress moved the functions of HNIS to the Agricultural Research Service, USDA.

Outcome Variables of Interest: Self-perceptions of relative intake levels, awareness of diet health relationships, use of food labels, perceived importance of following dietary guidance for specific nutrients and food components, beliefs about food safety, and knowledge about food sources of nutrients. These variables can be linked to data on individuals' food and nutrient intakes from the CSFII. See CSFII 1994-96 for additional information (page 88).

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Selected Key Publications:

Data Tables: Combined results from USDA's 1994 and 1995 Continuing Survey of Food Intakes by Individuals and 1994 and 1995 Diet and Health Knowledge Survey. NTIS Accession No. PB97-167035. 1997.

Data Tables: Results from USDA's 1995 Continuing Survey of Food Intakes by Individuals and 1995 Diet and Health Knowledge Survey. NTIS Accession No. PB97-135172. 1996.

Data Tables: Results from USDA's 1994 Continuing Survey of Food Intakes by Individuals and 1994 Diet and Health Knowledge Survey. NTIS Accession No. PB96-181268. 1996.

Health and Diet Survey

Sponsoring Agency: Food and Drug Administration; periodically cosponsored by the National Heart, Lung, and Blood Institute (NHLBI), National Institutes of Health; the Food Safety and Inspection Service (FSIS), U.S. Department of Agriculture; and Office of Disease Prevention and Health Promotion (ODPHP), the Office of Public Health and Science

Purpose: The survey is conducted to assess public knowledge, attitudes, and practices about food and nutrition, particularly as they relate to health problems such as hypertension, hypercholesterolemia, coronary heart disease, and cancer. The survey also assesses consumer use of food labels, including the ingredient list and nutrition label. The NHLBI co-sponsored four of the surveys to evaluate the effectiveness of the National Cholesterol Education Program and to compare consumer awareness and practices related to cholesterol to concurrent physician surveys. FSIS and ODPHP joined FDA in sponsoring the 1994 survey which was designed to provide baseline data on food label use prior to implementation of new labeling regulations under the 1990 Nutrition Labeling and Education Act.

Conducted: 1982, 1983-84, 1986, 1988, 1990, 1994 (as the Food Label Use and Nutrition Education Survey), and 1995. The 1983-84, 1986, 1990 and 1995 surveys were co-sponsored by NHLBI and included the Cholesterol Awareness Survey-Public Survey. The 1994 FLUNES was cosponsored by FSIS and ODPHP. A replicate of the FLUNES was administered to one-fifth of the 1995 Health and Diet Study sample.

Target Population: Civilian, noninstitutionalized adults ages 18 years and over, in the conterminous United States.

Sample Size and Response Rate(s):

	Sample size	*Response rate*
1982	4,000	65%
1984	4,000	56%
1986	4,000	67%
1988	3,200	65%
1990	3,700	67%
1994	1,945	56%
1995	5,005	57%

Design and Methods: Telephone interviews were conducted with a national probability sample selected by Waksberg's random digit-dialing method. One adult from each contacted household was randomly selected to participate in the survey.

Descriptive Variables:

Individual descriptors--age, race, sex, ethnicity, and education.

Household descriptors--household income, number of adults in household, and Census region.

Outcome Variables of Interest: Awareness, beliefs, attitudes, knowledge, and reported behaviors regarding food, nutrition, and health; self-reported height and weight, health history, and status.

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Selected Key Publications:

Derby BM, Fein SB. Meeting the NLEA education challenge: A consumer research perspective. Shapiro R, ed. Nutrition Labeling Handbook. New York: Marcel Dekker. 315-352. 1995.

Levy AS, Stephenson M. Nutrition knowledge levels about dietary fats and cholesterol: 1983-88. J Nutr Educ 25:60-6. 1993.

Bender M, Derby BM. Prevalence of reading nutrition and ingredient information on food labels among adult Americans: 1982-88. J Nutr Educ 24:292-7. 1992.

Schucker B, Wittes JT, Santanello NC, et al. Change in cholesterol awareness and action: Results from national physician and public surveys. Arch Intern Med 151:666-73. 1991.

Heimbach JT. Risk avoidance in consumer approaches to diet and health. Clin Nutr 6:159-62. 1987.

Schucker BH, Bailey K, Heimbach JT, et al. Change in public perspective on cholesterol and heart disease: Results from two national surveys. JAMA 258:3527-31. 1987.

Haines JT, Gordon DJ, Cutler JA, et al. Change in public perspective on cholesterol and heart disease: Results from two national surveys. JAMA 258(240):3527-31. 1987.

Heimbach JT. The growing impact of sodium labeling of foods. Food Technol 40(2):102-4, 107. 1986.

Heimbach JT. Cardiovascular disease and diet: The public view. Public Health Report 100:5-12. 1985.

Heimbach JT, Orwin RG. Public perceptions of sodium labeling. J Am Diet Assoc 84:1217-19. 1984.

Infant Feeding Practices Survey

Sponsoring Agency: Food and Drug Administration

Purpose: The survey is designed to obtain detailed information about infant feeding practices during the first 12 months of life. Data were obtained on the initiation, extent, and duration of breast-feeding; initiation of formula-feeding; selection of formula brand; type and timing of introduction of solid foods; use of commercial baby foods; food safety practices for infant formula, baby foods, and expressed milk, infant health measures; health promotion practices; and sources of information about infant feeding.

Conducted: 1993-94

Target Population: New mothers and healthy, full term infants from birth to 1 year.

Sample Size and Response Rate(s): 1,200 mothers and infants, response rate not applicable.

Design and Methods: Eligible pregnant women were identified from a large commercial mail panel (200,000 households). Data collection was longitudinal by mail questionnaires sent prenatally and at baby's age 1-7, 9, and 12 months.

Descriptive Variables: Demographic characteristics; parity; prior infant feeding experiences; feeding expectations; baby's social situation, including age at which the mother begins working; day care situation; and number of people in the household.

Outcome Variables of Interest: Characteristics associated with duration of breast-feeding and with food intolerance and allergy development. The longitudinal design will enable analysts to examine the effect of prior feeding patterns on subsequent patterns and on food intolerance, allergy development, and infant health.

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Selected Key Publications:

Scariati PD, Grummer-Strawn LM, Fein SB, Yip R. Risk of diarrhea related to iron

content of infant formula: Lack of evidence to support the use of low-iron formula as a supplement for breastfed infants. Pediatrics 99(3):E2 (electronic pages). 1997.

Scariati PD, Grummer-Strawn LM, Fein SB. A longitudinal analysis of infant morbidity and the extent of breastfeeding in the United States. Pediatrics 99(6):E5 (electronic pages). 1997.

Scariati PD, Grummer-Strawn LM, Fein SB. Water supplementation of infants in the first month of life. Arch Pediatric Adolescent Med 151 (August):830-2. 1997.

National Knowledge, Attitudes, and Behavior Survey

Sponsoring Agency: National Cancer Institute, National Institutes of Health

Purpose: This survey was designed to measure current changing trends regarding cancer knowledge, attitudes, and behaviors. Respondents' knowledge and perception of cancer risk factors (for example, obesity and improper diet) were addressed as well as actions that can be taken to reduce risk (for example, lowering fat intake).

Conducted: April 1989-February 1990

Target Population: General civilian, noninstitutionalized population ages 18 years and over in the conterminous United States with a supplement for blacks and Hispanics to permit generalization to these populations.

Sample Size and Response Rate(s): From April 1989-February 1990, a total of 4,023 eligible individuals were contacted. This resulted in 2,630 completed interviews, 217 incomplete interviews, and 1,176 refusals for an overall response rate of 65%.

Design and Methods: National probability sample of telephone interviews conducted on a continuous basis: 7 days per week, approximately 220 interviews per month, and 2,600 per year. Data were weighted by ethnicity, gender, age, and education to agree with national totals. Self-reported frequency of food intake by categories was assessed.

Descriptive Variables: Age, gender, race and ethnicity, education, household size and income, and marital status.

Outcome Variables of Interest: Nutrition-related variables--awareness and knowledge of fiber; attitudes and behavior toward eating red meat, vegetables, fruits, whole grains and poultry; and use of various fats in food preparation.

Other health-related variables--self-perceptions of health, awareness of health risks and behaviors that increase or decrease cancer risk, and sources of cancer information.

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http://www.nci.nih.gov/

Selected Key Publications: None to date.

Nutrition Label Format Studies

Sponsoring Agency: Food and Drug Administration

Purpose: The purpose of these two studies was to evaluate alternative formats for a revised nutrition label in controlled-use situations so that the relative performance characteristics of alternative formats and of specific label features could be identified.

Conducted: October-November 1990 and November 1991

Target Population: Primary food shoppers 18 years and over.

Sample Size and Response Rate(s): The sample size for the first study was 1,460. The sample size for the second study was 1,216. Because of the design, response rates are not applicable.

Design and Methods: The sample was selected by shopping mall intercept methods for both studies. Both were conducted at eight geographically diverse shopping malls. For the first study, the sample was quota-controlled for age, race, income, and education. Subjects were randomly assigned to a predetermined sequence of format-product category combinations based on a 5 x 5 Greco-Latin Square to counterbalance the order of presentation of formats and format-product category combinations. Subjects were shown alternative formats and interviewed in interview facilities in the mall. Formats tested in the first study were the following: Control, Control/Daily Recommended Value (DRV), Adjective, Numeric (percent of daily value), and Bar Graph. Formats tested in the second study were the following: Control, Control/DRV, Percent DRV with DRV listed, Percent DRV without DRV listed, Adjective, Highlighting, and Grouping.

Descriptive Variables: Demographic characteristics; frequency of food label reading; health status of household members with respect to heart disease, diabetes, high blood pressure, stroke, and cancer; household members' dieting practices with respect to weight control and intake of sodium, and cholesterol and fat.

Outcome Variables of Interest: Variables of interest were objective performance measures and preference measures for the various formats. All formats in the second study were also tested on the measures used in the first study. Objective measures in the first study were based upon comparison of two products: accuracy, false positives, task time, and judgement of which product was more nutritious.

For the objective measures in the second study, the subject saw a label for one product at a time. Measures were based on evaluating front panel claims, daily dietary management, judgement of general nutritiousness, and use of the DRV concept. For the measure of daily dietary management, the subject was asked which nutrients they

would try to get more and less of in the other foods eaten that day, after eating three servings of the target food. Use of the DRV concept was tested by asking how many servings of the food would be needed to get all of the carbohydrates needed in a day.

Preference was measured in both studies by asking the subject which format they found most helpful and least helpful.

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Selected Key Publications:

Levy AS, Fein SB, Schucker RE. Performance characteristics of seven nutrition label formats. J Public Policy & Marketing 15(1):1-5. 1996.

Derby BM, Fein SB. Meeting the NLEA education challenge: A consumer research perspective. Shapiro R, ed. Nutrition Labeling Handbook. New York: Marcel Dekker. 315-52. 1995.

Levy AS, Fein SB, Schucker RE. More effective nutrition label formats are not necessarily preferred. J Am Diet Assoc 92(10):1230-34. 1992.

Levy AS, Fein SB, Schucker RE. Nutrition labeling formats: Performance and preference. Food Technol 45(7):116-21. 1991.

Levy AS, Fein SB, Schucker RE. Nutrition labeling formats: Performance and preference. Food Technol 45(7):116-21. 1991.

Point of Purchase Labeling Studies

Sponsoring Agency: Food and Drug Administration in cooperation with Giant Food, Inc.

Purpose: The purpose of these two studies was to determine whether shoppers would alter their food purchases if presented with brand-specific information that flags products with reduced amounts of sodium, calories, or fat and cholesterol. A secondary objective was to determine whether altered purchase behavior, if observed, would be replicated in a second market.

Conducted: 1981-83 and 1984-86

Target Population: Giant Food Store shoppers in Washington, D.C., and Baltimore, Maryland.

Sample Size and Response Rate(s): A total of 20 supermarkets, consisting of 10 matched pairs of stores, each pair consisting of 1 store selected from Washington, DC (test area) and 1 store from Baltimore, Maryland (control area). Stores were matched on size, type of shopping location, and demographic characteristics of the immediate shopping area. All stores produced usable data for analysis. Convenient samples of 100 shoppers per store were interviewed by Giant store personnel before and after introduction of the labeling program. This was done in test and control markets for both studies in order to determine awareness of and interest in the labeling program.

Design and Methods: Shelf tags were attached to 400 qualifying products in 16 product categories in Washington, DC test stores during 1981-83. Baltimore stores served as controls and received no shelf flags. During 1984-86, shelf flags were also placed in Baltimore stores and the number of flagged products was increased to 1,200, representing 49 product categories. During the second study Baltimore served as the test area and Washington as the control area. Weekly unit sales were analyzed using a repeated measure analysis of covariance design.

Descriptive Variables: Shoppers' surveys were analyzed by gender, age, and special diet status of the household.

Outcome Variables of Interest: Percent of sales (share of market) achieved by nutritionally flagged products (store data); claimed use of shelf flags (shopper data).

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Selected Key Publications:

Teisl M.F. Nutrition labeling: Information effects on consumer behavior and welfare. Doctoral dissertation, University of Maryland, College Park, Maryland. 1997.

Schucker RE, Levy AS, Tenney JE, Mathews O. Nutrition shelf- labeling and consumer purchase behavior. J Nutr Educ 24(2):75-81. 1992.

Levy AS, Schucker R, Tenney JE, Mathews, O. Consumer demand for detailed nutrition information: A case study. J Nutr Educ 20(4):161-166. 1988.

Levy AS, Stokes RC. Effects of a health promotion advertising campaign on sales of ready-to-eat cereals. Public Health Report 102(4):398-403. 1987.

Levy AS, Mathews O, Stephenson M, Tenney JE, Schucker RE. The impact of a nutrition information program on food purchases. J Public Policy and Marketing 4:1-13. 1985.

Levy A, Mathews O, Tenney J, Schucker R. The impact of a nutrition information program on food purchases. J Public Policy Marketing 4:1-13. 1985.

Weight Loss Practices Survey

Sponsoring Agency: Food and Drug Administration, co-sponsored by the National Heart, Lung, and Blood Institute, National Institutes of Health

Purpose: The purpose of the Weight Loss Practices Survey (WLPS) was to provide detailed information about the relative prevalence of different types and combinations of practices among weight-loss practitioners and to describe the relationships between individual characteristics and various features of weight-loss regimens. The survey also provided data to evaluate progress toward achieving national health objectives related to weight loss.

Conducted: September-November 1991

Target Population: Noninstitutionalized civilian adults, 18 years or older, trying to lose weight at the time of the survey.

Size and Response Rate(s):

	Sample Size	*Response Rate*
Current dieters	1,232	58%
African American oversample	205	68%
Nondieting controls	218	NA*

* Response rate cannot be calculated separately for the nondieting controls.

Design and Methods: The WLPS was a telephone survey of a random digit-dialed probability sample of adults in the continental United States who reported that they were trying to lose weight. African American respondents were oversampled. A two-stage Waksberg sampling procedure was used to select the respondents to be interviewed. Of the 10,840 households contacted, 72% completed the interview through the weight loss screening question. Background information was also collected from 218 nondieters.

Descriptive Variables:
Individual descriptors-- body mass index, age, race, sex, education, income, diet history, other health behaviors and self-perception of overweight.

Outcome Variables of Interest: current health practices, sources of health information, inventory of current weight-loss practices, self-reported height and weight, dieting and weight history.

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Selected Key Publications:

Biener L, Heaton A. Women dieters of normal weight: their motives, goals, and risks. Am J Public Health 85:714-7. 1995.

Heaton AW, Levy AS. Information sources of U.S. adults trying to lose weight. J Nutr Educ 27:182-90. 1995.

Serdula MK, Williamson DF, Anda RF, Levy A, Heaton A, Byers T. Weight control practices in adults: results of a multistate telephone survey. Am J Public Health 84:1821-4. 1994.

Levy AS, Heaton AW. Weight control practices of U.S. adults trying to lose weight. Ann Intern Med 119:661-6. 1993.

Williamson DF, Serdula MK, Anda RF, Levy AS, Byers T. Weight loss attempts in adults: goals, duration, and rate of weight loss. Am J Public Health 82:1251-7. 1992.

IV. FOOD COMPOSITION AND NUTRIENT DATA BASES

Food Coding Database: CSFII 1994-96 Technical Support Files

Sponsoring Agency: Agricultural Research Service, U.S. Department of Agriculture

Purpose: The Food Coding Database contains information used to code foods and their amounts consumed.

Available: 1994-96

Target Population: U.S. population

Sample Size and Response Rate: NA

Design and Methods: Each food in the Food Coding Database has an eight digit food identification code, a long and short description of the food, a set of measures for the food, and gram weights for those measures. Identification by brand names is widespread in the database. Most brand names are linked to a generically described food. When appropriate, measures and their gram weight equivalents are also specified by brand.

All records in the Food Coding Database have start and end date fields indicating the time period when the record was available for coding during CSFII 94-96.

Descriptive Variables: NA

Outcome Variables of Interest: NA

Contact Agency:

Food Surveys Research Group
Beltsville Human Nutrition Research Center
Agricultural Research Service
U.S. Department of Agriculture
4700 River Road, Unit 83
Riverdale, MD 20737
Phone: (301)734-8457
Fax: (301)734-5496
http://www.barc.usda.gov/bhnrc/foodsurvey/Tech.html
E-mail: fsrg@rbhnrc.usda.gov

Selected Key Publications:

Ingwersen LA and Perloff BP. Food intake data processing. In Tippett KS and Cypel

YS (eds.) Design and Operation: The Continuing Survey of Food Intakes by Individuals and Diet and Health Knowledge Survey, 1994-96. U.S. Department of Agriculture, Agricultural Research Service. Nationwide Food Surveys Report No. 96-1. 1997.

Food Composition Laboratory (Formerly, the Nutrient Composition Laboratory)

Sponsoring Agency: Agricultural Research Service, U.S. Department of Agriculture

Purpose: Design and develop new and/or improved measurement systems for the analysis of nutrients and other health-related constituents in foods by conducting appropriate research in chemistry, biochemistry, and biology. Scientists at the laboratory facilitate the transfer of new technologies to industrial, academic, and government laboratories in the United States and worldwide through a variety of mechanisms including scientific publications, lectures, and cooperative research and development agreements.

Conducted: Continuously since 1892

Target Population: NA

Sample Size and Response Rate(s): NA

Design and Methods: Research is focused on the development of measurement systems for fiber fractions, trace minerals, fatty acids, several phytonutrients and water-soluble vitamins. Research is ongoing to develop new instrumentation for the measurement of organic-mineral species and simultaneous multi-element analysis.

Descriptive Variables: NA

Outcome Variables of Interest: Scientists at the laboratory have developed several dependable new assay techniques, instruments and instrument modifications, and reference materials. Staff collaborate with food associations and Federal agencies to improve quality of food composition data. Collaborators include other ARS laboratories, the National Cancer Institute, National Heart, Lung, and Blood Institute, trade associations such as the National Food Processors Association, several universities and selected scientific instrument companies. Reference materials research is conducted in collaboration with the National Institute of Science and Technology and AOAC International.

Contact Agency:

Food Composition Laboratory, ARS
Beltsville Human Nutrition Research Center
Agricultural Research Service
Building 161, Room 102, BARC-East
Beltsville, MD 20705
Phone: (301) 504-8356
Fax: (301) 734-8498
http://www.nal.usda.gov/fnic/foodcomp/Data/

Selected Key Publications:

Ferretti A, Flanagan VP. Mass spectra of tert-butyldimethylsilyl ether derivatives of the major metabolite of prostaglandin F. Chem Physics Lipids 83:71-6. 1996.

Harnly JM. Instrumentation for simultaneous multi-element atomic absorption spectrometry. Fresenius J Anal Chem 355:501. 1996.

Li BW. Determination of sugars, starches and total dietary fiber in selected high consumption foods. J AOAC Intnl 79:718-23. 1996.

Miller-Ihli NJ. Graphite furnace atomic absorption spectrometry for the determination of chromium content of selected U.S. foods. J Food Comp Anal 9:290-300. 1996.

Smith CMM, Harnly JM. Characterization of a modified two-step furnace atomic absorption spectrometry for selective volatilization of iron species in hemin. J Anal Atom Spectrom 11:1055. 1996.

Thompson RH. Simplifying fatty acid analysis in multi-component foods with a standard set of isothermal GLC conditions coupled with ECL determinations. J Chromatogr Sci 34:495-504. 1996.

Zainal HA, LaCroix DE, Wolf WR. Utilization of chromatographic and spectroscopic techniques to study oxidation kinetics of selenomethionine. Fresenius J Anal Chem 356:311-14. 1996.

Bronner WE, Beecher GR. Extraction and measurement of prominent flavonoids in orange and grapefruit juice concentrates. J Chromatogr A 705:247-56. 1995.

Food Label and Package Survey (FLAPS)

Sponsoring Agency: Food and Drug Administration; the Food Service Inspection Service, USDA and the Office of Disease Prevention and Health Promotion, HHS were co-sponsors in 1994.

Purpose: The survey is conducted to monitor labeling practices of U.S. food manufacturers. The survey also includes a surveillance program to identify levels of accuracy of selected nutrient declarations compared with values obtained from nutrient analyses of products.

Conducted: Biennially since 1977 (Last survey conducted in 1995-1996.)

Target Population: All brands of processed foods regulated by FDA and distributed through grocery stores.

Sample size and Response rate: 1,250 food brands

Design and Methods: Biennial probability survey of retail packaged foods using commercial market research data base developed by the A.C. Nielsen Company (See page 161). The survey involves 1,250 individual food brands and represents about 82% of the packaged food supply in retail dollar terms. Label observations are interpreted on a share-of-the-market sales basis.

Biennial nutrient analysis of a representative sample of approximately 300 foods are analyzed for an average of eight nutrients. Data estimate the consistency between nutrient levels obtained through laboratory analysis and label values.

Descriptive Variables: 58 major supermarket food groups; approximately 234 product classes; brand importance (market leaders versus market followers); dollar and unit sales.

Outcome Variables of Interest: Prevalence of nutrition labeling in general as well as declaration of selected nutrients and ingredients (for example, cholesterol and sodium content, fats and oils, and food additives); also prevalence of nutrition claims and other label statements and descriptors.

Contact Agency:

Office of Food Labeling
Center for Food Safety and Applied Nutrition
Food and Drug Administration
200 C St., SW, HFS-150
Washington, DC 20204
Phone: (202) 205-4561

Fax: (202) 205-4594
http://vm.cfsan.fda.gov/list.html

Selected Key Publications:

Brecher S. Office of Food Labeling, Center for Food Safety and Applied Nutrition, Food and Drug Administration. Status of Serving Size in the Nutrition Labeling of Processed Foods: Food Label and Package Survey (FLAPS). Washington, DC: Food and Drug Administration. 1997.

O'Brien T. Office of Food Labeling, Center for Food Safety and Applied Nutrition, Food and Drug Administration. Status of Nutrition Labeling of Processed Foods: 1995 Food Label and Package Survey (FLAPS). Washington, DC: Food and Drug Administration. 1996.

National Nutrient Data Bank (NNDB)

Sponsoring Agency: Agricultural Research Service, U. S. Department of Agriculture

Purpose: The National Nutrient Data Bank (NNDB) is the repository of values for approximately 6000 foods and up to 80 components. Essentially all food composition databases, regardless of their exact format, are ultimately derived from the NNDB, which is maintained by the USDA Nutrient Data Laboratory (NDL). Data are obtained from the food industry, from USDA-initiated analytical contracts, and from the scientific literature. The primary products of the NNDB are the Nutrient Database for Standard Reference (SR) and the Primary Data Set, the basis of the Survey Nutrient Database for the Continuing Survey of Food Intakes by Individuals. The SR is used to develop the Nutrient Database for National Health and Nutrition Examination Surveys. These data are also used for epidemiological, clinical, and metabolic applications and to set food and nutrition policy, including food labeling policy. The food composition data and related documentation, including food descriptions, nutrient retention factors, and standard weights and measures are released via the Internet on NDL's home page (www.nal.usda.gov/fnic/foodcomp). The SR is updated annually to reflect changes in the food supply as well as changes in analytical methodology.

Conducted: Continuously since 1892

Target Population: U.S. Food Supply

Sample Size and Response Rate: NA

Design and Methods: NA

Descriptive Variables: NA

Outcome Variables of Interest: NA

Contact Agency:

Nutrient Data Laboratory
Beltsville Human Nutrition Research Center
Agricultural Research Service
4700 River Road, Unit # 89
Riverdale, MD 20737
Phone: (301) 734-8491
Fax: (301) 734-8491
http://www.nal.usda.gov/fnic/foodcomp/Data/
E-mail: jholden@rbhnrc.usda.gov or NDLinfo@rbhnrc.usda.gov

Selected Key Publications:

Schakel SF, Buzzard IM, and Gebhardt SE. Procedures for Estimating Nutrient Values for Food Composition Databases. J Food Comp and Analysis. 10: 102-114. 1997.

Haytowitz DB, Pehrsson PR, Smith J, Gebhardt SE, Matthews RH and Anderson B.A. Key Foods: Setting Priorities for Nutrient Analyses. J. Food Comp. and Analysis 9(4):331-364. 1996.

Holden J M and Davis CS. Strategies for sampling: The assurance of representative values. In: Quality and Accessibility of Food-related Data. Greenfield, H, AOAC International 105-117. 1995.

Mangels AR, Holden JM, Beecher GR, Forman M, Lanza E. The carotenoid content of fruits and vegetables: An evaluation of analytical data. J Amer Dietet Assoc 93(3): 284-296, 1993.

Recipe Database: CSFII 1994-96 Technical Support Files

Sponsoring Agency: Agricultural Research Service, U.S. Department of Agriculture

Purpose: The Recipe Database provides information which is used to generate the Survey Nutrient Database for CSFII 1994-96. The Recipe Database also serves as public documentation for how nutrient values were calculated for each survey food code.

Available: 1994-96

Target Population: U.S. population

Sample Size and Response Rate: NA

Design and Methods: The Recipe Database contains an initial entry for each unique food in the Food Coding Database. These entries include ingredients and their amounts, as well as factors for calculating moisture and fat changes and vitamin and mineral losses. During the food coding process, an initial recipe may have been modified to more closely match the food as described by the responding sample person. Recipes were modified primarily by deleting or substituting ingredients. Modified recipes are numbered for reference purposes and are included with the Recipe Database.

All recipes in the Recipe Database have start and end date fields indicating the time period when the recipe was available for calculating nutrient profiles during CSFII 1994-96. Multiple recipes exist for some food codes, due to changes in either ingredients or their amounts. Multiple records do not exist for modified recipes.

Descriptive Variables: NA

Outcome Variables of Interest: NA

Contact Agency:

Food Surveys Research Group
Beltsville Human Nutrition Research Center
Agricultural Research Service
U.S. Department of Agriculture
4700 River Road, Unit 83
Riverdale, MD 20737
Phone: (301)734-8457
Fax: (301)734-5496
http://www.barc.usda.gov/bhnrc/foodsurvey/Tech.html
E-mail: fsrg@rbhnrc.usda.gov

Selected Key Publications:

Ingwersen LA and Perloff BP. Food intake data processing. In Tippett KS and Cypel YS (eds.) Design and Operation: The Continuing Survey of Food Intakes by Individuals and Diet and Health Knowledge Survey, 1994-96. U.S. Department of Agriculture, Agricultural Research Service. Nationwide Food Surveys Report No. 96-1. 1997.

Survey Nutrient Database, CSFII 1989-91 and earlier

Sponsoring Agency: Agricultural Research Service, U.S. Department of Agriculture

Purpose: The Survey Nutrient Database (SNDB) contains nutrient composition information used to calculate the nutritive value of foods consumed in nationwide dietary intake surveys.

Available: Corresponds with USDA food consumption surveys for the following years: 1977-78, 1985-86, 1987-88, 1989-91. For the CSFII 1994-96, see the descriptions for the CSFII 1994-96 Technical Support Files: Food Coding Database, Survey Nutrient Database and Related Files, and Recipe Database. (pages 146-147; 157-158; and 154-155).

Target Population: U.S. population

Sample Size and Response Rate: NA

Design and Methods: The database includes data for food energy and 28 food components. The database was updated continuously to include new foods reported in USDA's Continuing Survey of Food Intakes by Individuals and HHS' National Health and Nutrition Examination Survey. New versions of the SNDB were generated to incorporate improved values released from the NNDB. Values not available from the NNDB were imputed from data for other forms of the food or from data for similar foods.

Descriptive Variables: NA

Outcome Variables of Interest: NA

Contact Agency:

Food Surveys Research Group
Beltsville Human Nutrition Research Center
Agricultural Research Service
U.S. Department of Agriculture
4700 River Road
Riverdale, MD 20737
Phone: (301)734-8457
Fax: (301)734-5496
http://www.nal.usda.gov/fnic/foodcomp/Data/ndbfcs.html

Selected Key Publications:

Perloff BP, Rizek RR, Haytowitz DH et al. Dietary intake methodology II: USDA's Nutrient Data Base for nationwide dietary intake surveys. J Nutr 120:1530-4. 1990.

Survey Nutrient Database and Related Files: CSFII 1994-96 Technical Support Files

Sponsoring Agency: Agricultural Research Service, U.S. Department of Agriculture

Purpose: The Survey Nutrient Database (SNDB) contains nutrient composition information used to calculate the nutritive value of foods consumed in the CSFII 1994-96; it was also used to complete work from NHANES III. Its source of nutrient values is the Primary Data Set of nutrient values maintained in the ARS Nutrient Data Laboratory.

Available: 1994-96

Target Population: U.S. population

Sample Size and Response Rate: NA

Design and Methods: The SNDB includes data for food energy and 48 food components, including 19 individual fatty acids. The SNDB consists of two files of nutrient values--Set 1 and Set 2. Values are identical in these two files with the following exception: where salt is considered an optional ingredient in a food, it was removed as a recipe ingredient (see Recipe Database) before the nutrient content of the food was calculated for Set 2. New versions of the SNDB are generated to incorporate improved nutrient values released from the NNDB.

All records in the Nutrient Database have start and end date fields indicating the time period when the record was available for coding during CSFII 1994-96. Many foods have multiple values for a nutrient, due to a change in the food such as changes in fortification nutrient levels.

Descriptive Variables: NA

Outcome Variables of Interest: NA

Contact Agency:

Food Surveys Research Group
Beltsville Human Nutrition Research Center
Agricultural Research Service
U.S. Department of Agriculture
4700 River Road, Unit 83
Riverdale, MD 20737
Phone: (301)734-8457
Fax: (301)734-5496
http://www.barc.usda.gov/bhnrc/foodsurvey/Tech.html

E-mail: fsrg@rbhnrc.usda.gov

Selected Key Publications:

Ingwersen, LA and Perloff, BP. Food intake data processing. In Tippett, KS and Cypel, YS (eds.) Design and Operation: The Continuing Survey of Food Intakes by Individuals and Diet and Health Knowledge Survey, 1994-96. U.S. Department of Agriculture, Agricultural Research Service. Nationwide Food Surveys Report No. 96-1. 1997.

Technical Support Information for the NHANES III, 1988-94 Dietary Interview Data Files

Sponsoring Agency: The NHANES III dietary data files were prepared by the National Center for Health Statistics (NCHS), U.S. Department of Health and Human Services. In turn, NCHS used the U.S. Department of Agriculture (USDA) Survey Nutrient Data Base (SNDB) System and the University of Minnesota, Nutrition Coordinating Center (NCC) database files to prepare the NHANES III dietary data files.

Purpose: The purpose of the NHANES III codebook is to provide data users with a list of the food codes and food descriptions for all foods and beverages reported during NHANES III. The NHANES III codebook is comprised of three information sources. The NHANES III codebook has a food code source variable to denote the source of the food codes reported in the data files. USDA's SNDB System 7-digit food codes were assigned to a majority of the foods and beverages that were reported during NHANES III. USDA provided SNDB files for each 3-year phase of the survey; these files included survey codebook, nutrient, and recipe files.

Two other types of food codes were included in the NHANES III foods files. The non-USDA survey food codes include 5-digit NCC food codes for spices and flavorings, and a special set of 7-digit NCHS combination food codes in the Combination Foods File.

The NHANES III foods files (Individual Foods File, Combination Foods File, and Variable Ingredients File) are accompanied by five look-up tables. The look-up tables provide descriptive information about the foods, beverages, and recipe ingredients that were reported in the public data release files. The descriptive tables include the survey codebook, a brand name product list, NCC food descriptions, NCC recipe ingredient descriptions, and food preparation descriptions.

Available: 1988-94

Target Population: U.S. population

Sample Size and Response Rate: NA

Design and Methods: Each food reported in the foods data files has a food code (USDA, NCC, or special NCHS combination food code), an NCC description, a USDA and NCC food description, brand name (when reported), and an NCC preparation description (selected foods). The gram weights that are reported for each food were computed using information found in the USDA SNDB codebook.

Descriptive Variables: NA

Outcome Variables of Interest: NA

Contact Agency:

Division of Health Examination Statistics
National Center for Health Statistics
Centers for Disease Control and Prevention
6525 Belcrest Road
Hyattsville, Maryland 20782-2003
Phone: (301) 436-8500
Fax: (301) 436-5431
Home page: None provided

Key Selected Publications:

U.S. Department of Health and Human Services (DHHS). National Center for Health Statistics. Third National Health and Nutrition Examination Survey, 1988-94, Reference manuals and reports (CD-ROM). Hyattsville, MD: Centers for Disease Control and Prevention, 1996. Available from the National Technical Information Service (NTIS), Springfield, VA. Acrobat .PDF format; includes access software: Adobe Systems Inc. Acrobat Reader 2.1.

Human Nutrition Information Service, US Department of Agriculture. Survey nutrient data bases for NHANES III, phase 2. Hyattsville, MD: US Department of Agriculture, 1995.

Human Nutrition Information Service, US Department of Agriculture. Survey nutrient data bases for NHANES III, phase 1. Hyattsville, MD: US Department of Agriculture, 1993.

McDowell M, Briefel RR, Warren RA, Buzzard IM, Feskanich D, Gardner SN. The dietary data collection system. An automated interview and coding system for NHANES III. Proceedings of the 14th National Nutrient Databank Conference, June 19-21, 1989. Ithaca, NY: CBORD Group, Inc. 1990.

V. FOOD SUPPLY DETERMINATIONS

A.C. Nielsen SCANTRACK

Sponsoring Agency: Economic Research Service, U.S. Department of Agriculture

Purpose: This survey measures supermarket sales and physical volume of all scannable packaged food products.

Conducted: Monthly since 1985

Target population: U.S. supermarket universe ($2 million + sales).

Sample Size and Response Rate(s): Before 1988, sample size included 150 supermarkets. Since 1988, sample size increased to about 3,000 supermarkets.

Design and Methods: Proprietary data purchased from A.C. Nielsen Company. The database provides monthly and annual data on total U.S. supermarket sales and volume for 4-digit food product classes, brands, and items. Product class data are available on hard copy for 1983 through 1996. In addition, data for the period covering August 1988 - December 1996 are available on CD-ROM. Individual brand data cannot be used outside sponsoring agencies because they are proprietary.

Descriptive Variables: NA

Outcome Variables of Interest: Sales and physical volume of specific package grocery items sold through supermarkets; for each item, the sales, physical volume, selling price, and percent of stores selling the product.

Contact Agency:

Economic Research Service
U.S. Department of Agriculture
1800 M Street NW, Room 2137
Washington, DC 20036-5831
Phone: (202) 694-5386
Fax: (202) 694-5662
http://www.econ.ag.gov

Selected Key Publications: NA

Fisheries of the United States

Sponsoring Agency: National Marine Fisheries Service, National Oceanic and Atmospheric Administration, U.S. Department of Commerce.

Purpose: This survey provides annual estimates of seafood disappearance in the distribution system.

Conducted: Annually since 1909

Target population: U.S. civilian resident population.

Sample Size and Response Rate(s): N/A

Design and Methods: DOC's National Marine Fisheries Service provides annual estimates on amounts of finfish and shellfish that disappear into the food distribution system. Quantities are derived by deducting exports, year-end inventories, and nonfood use from data on production, imports, and beginning inventories. The U.S. edible supply time series extends back to 1909 and is used to express consumption in pounds, edible meat weight, per capita (civilian resident population) for fresh, frozen, canned, and cured commodities, with limited detail at the species level.

Descriptive Variables: NA

Outcome Variables of Interest: Consumption in pounds, edible meat weight, per capita for fresh, frozen, canned, and cured commodities.

Contact Agency:

National Marine Fisheries Service
U.S. Department of Commerce
1335 East-West Highway
Silver Spring, MD 20910
Phone: (301) 713-2328
Fax: Not provided
http://www.noaa.gov.

Selected Key Publications:

U.S. Department of Commerce, National Oceanic and Atmospheric Administration, National Marine Fisheries Services. Fisheries of the United States: 111 pp. 1990 and 1991.

U.S. Department of Commerce, National Oceanic and Atmospheric Administration, National Marine Fisheries Services. Imports and Exports of Fishery Products Annual

Summary: 17 pp. 1990 and 1991.

U.S. Department of Commerce, National Oceanic and Atmospheric Administration, National Marine Fisheries Services. Frozen Fishery Products Annual Summary: 12 pp. 1990 and 1991.

U.S. Department of Commerce, National Oceanic and Atmospheric Administration, National Marine Fisheries Services. Processed Fishery Products Annual Summary, 1987: 23 pp. 1991.

U.S. Food and Nutrient Supply Series

Sponsoring Agency: Economic Research Service (ERS) and Center for Nutrition Policy and Promotion (CNPP), U.S. Department of Agriculture

Purpose: The Food and Nutrient Supply Series estimates levels of foods and nutrients available for consumption in the U.S. food supply. Important uses of these data are:

- to monitor the potential of the U.S. food supply to meet the nutritional needs of the U.S. population;
- to examine historical trends and evaluate changes in the American diet;
- to evaluate the effects of technological alterations and marketing changes on the food supply over time;
- to study the relationships between food and nutrient availability and nutrient-disease associations;
- to estimate complete demand systems that measure price and income elasticities of demand in a consistent way; and
- to facilitate management of Federal marketing, food assistance, nutrition education, food enrichment and fortification policy.

Conducted: Annually since 1909

Target Population: U.S. population

Sample Size and Response Rate(s): NA

Design and Methods: ERS provides annual estimates on amounts of major food commodities that disappear into the food distribution system at either the wholesale or retail level. Quantities are derived by deducting data on exports, year-end inventories, and nonfood use from the sum of data on production, imports, and beginning inventories. CNPP estimates nutrient levels in the food supply by multiplying the per capita quantities of each commodity by the nutrient composition of the edible portion per pound of food. Results from all foods are totaled for each nutrient and converted to a per day basis.

Descriptive Variables: NA

Outcome Variables of Interest: Per capita quantities of food and levels of food energy, energy-yielding nutrients, cholesterol, 10 vitamins, and 7 minerals provided by these foods; food energy and nutrient source contributions from each of the major food groups to the U.S. food supply.

Contact Agency:
Center for Nutrition Policy and Promotion

U.S. Department of Agriculture
1120 20th Street, NW, Suite 200, North Lobby
Washington, DC 20036
Phone: (202) 606-4839
Fax: (202) 208-2322
http://www.usda.gov/fcs/cnpp.htm

or

Economic Research Service
U.S. Department of Agriculture
1800 M Street, NW, Room 3063
Washington, DC 20036-5831
Phone: (202) 694-5462 or (202) 694-5449
Fax: (202) 964-5688
http://www.econ.ag.gov

Selected Key Publications:

Gerrior S, Bente L. Nutrient Content of the U.S. Food Supply, 1909-94, Home Economics Research Report No. 53, U.S. Department of Agriculture, Center for Nutrition Policy and Promotion. 1997

Gerrior S, Bente L. The U.S. Food Supply Series, 1970 to 1994: Nutrient Availability and Policy Implications. Family Economics and Nutrition Review 10(3):2-19. 1997.

Putnam JJ, Allshouse JE. Food Consumption, Prices, and Expenditures, 1970-95. Statistical Bulletin No. 939, U.S. Department of Agriculture, Economic Research Service. August 1997.

Gerrior S. Estimating Nutrient Contributions from Beef and Pork in the U.S. Food Supply Series. Family Economics and Nutrition Review 9(4):38-43. 1996.

Putnam J, Gerrior S. Americans Consuming More Grains and Vegetables, Less Saturated Fat. Food Review 20(3):2-12. 1997.

VI. NUTRITION MONITORING ACTIVITIES IN STATES

A number of federally supported nutrition monitoring activities are conducted at State and local levels to complement the Federal Nutrition Monitoring activities and to enhance the effectiveness of the National Nutrition Monitoring Program. The following section includes a sample of State level activities conducted and/or coordinated by the National Center for Chronic Disease Prevention and Health Promotion (NCCDPHP) at the Centers for Disease Control and Prevention and the U.S. Department of Agriculture. The table that follows survey descriptions summarizes the States, territories, and American Indian tribes that conduct some of these surveys. The table indicates whether a State or locality has any data for a particular survey but does not indicate continuous data. The States, territories, and tribes are organized by Census regions. Following the table are rosters of contacts for some of these surveys.

The last two pages of this chapter include information on the Association of State and Territorial Public Health Nutrition Directors (ASTPHND) and one example of a State-funded and implemented nutrition monitoring activity. Subsequent editions of this publication will include an expanded section that contains state and locally funded nutrition monitoring and related research activities.

Behavioral Risk Factor Surveillance System (BRFSS)

Sponsoring Agency: National Center for Chronic Disease Prevention and Health Promotion, Centers for Disease Control and Prevention

Purpose: The State-based BRFSS assesses the prevalence of personal health practices that are related to the leading causes of death. BRFSS has been used by State health departments to plan, initiate, guide health promotion and disease prevention programs, and to monitor their progress over time.

Conducted: Continuously since 1984 (Optional modules for the assessment of dietary fat and fruit and vegetable consumption were added to the system in 1990.)

Target Population: Adults 18 years and over residing in households with telephones in participating States.

Sample Size and Response Rate(s):

Year	*Median State sample size*	*Total number of States*	*Response rate*
1993	1805	50	82%
1994	1827	50	81%
1995	2039	50	80%

Design and Methods: Multistage, cluster telephone survey based on Waksberg's random digit-dialing method.

Descriptive Variables: State, age, sex, race and ethnic origin, education, employment status, and income.

Outcome Variables of Interest: Height, weight, smoking, alcohol use, weight control practices, diabetes, preventive health problems, mammography, pregnancy, cholesterol screening practices, awareness, treatment, and modified food frequencies for dietary fat, fruit, and vegetable consumption.

Contact Agency:

Division of Adult and Community Health (proposed) or
Division of Nutrition and Physical Activity (proposed)
National Center for Chronic Disease Prevention and Health Promotion
Centers for Disease Control and Prevention
4770 Buford Hwy, NE
Atlanta, GA 30341
Phone: (770)488-5292 or (770)488-6044

Fax: (770) 488-5974
http://www.cdc.gov/nccdphp/brfss/

Selected Key Publications:

Serdula M, Mokdad A, Byers T, Siegel P. Assessing alcohol consumption: beverage-specific vs. grouped-beverage questions. Journal of Studies on Alcohol (in press).

Liu S, Siegel P, Brewer RD, Mokdad AH, Sleet DA, Serdula MK. Prevalence of alcohol-impaired driving: results from a national self-reported survey. JAMA 277:122-125. 1997

Serdula MK, Byers T, Mokdad AH, Simoes E, Mendlein JM, Coates RC. The association between fruit and vegetable intake and chronic disease risk factors. Epidemiology 7:161-165. 1996.

Galuska D, Serdula MK, Pamuk EP, Siegel P. Trends in the prevalence of overweight in US adults: results of a multi-state survey. Am J Public Health 86:1729-1735. 1996.

Coates RJ, Serdula MK, Byers T et al . Evaluation of a brief telephone-administered food frequency questionnaire for surveillance of dietary fat intake. J Nutr 125:1473-1483. 1995.

Serdula MK, Coates RC, Byers T, Simoes E, Mokdad AH, Subar A. Fruit and vegetable intake in U.S. adults: results of a multi-state survey. Am J Public Health 85:236-239. 1995.

Simoes EJ, Byers T, Coates RJ, Serdula MK, Mokdad AH, Heath GW. The association between physical activity and dietary fat in American adults. Am J Public Health 85:240-243. 1995.

Serdula MK, Williamson DF, Anda RF, Levy A, Heaton A, Byers T. Current weight loss practices among US adults. Am J Public Health 84:1821-1824. 1994.

Serdula MK, Collins E, Williamson DF, Anda RF, Pamuk ER, Byers TE. Weight control practices in US adolescents and adults. Ann Intern Med 119(7 pt 2):667-671. 1993.

Serdula MK, Coates RJ, Byers T, Mokdad A, Jewell S, Chavez N, et al. Evaluation of a brief telephone questionnaire to estimate fruit and vegetable consumption in diverse study populations. Epidemiology 5:455-463. 1993.

Serdula M, Williamson DF, Kendrick JS, et al. Trends in alcohol consumption by pregnant women. JAMA 265(7):876-9. 1991.

Smith PF, Remington PL, Williamson DF, Anda RF. A comparison of alcohol sales data with survey data on self-reported alcohol use in 21 States. Am J Public Health 80(3):309-12. 1990.

Centers for Disease Control. Weight-loss regimens among overweight adults--Behavioral Risk Factor Surveillance System, 1987. MMWR 38(30):519-28. 1989.

Smith PF, Remington PL, et al. The epidemiology of drinking and driving: Results from the Behavioral Risk Factor Surveillance System, 1986. Health Educ Q 16(3):345-58. 1989.

Williamson DF, Serdula MK, Kendrick JS, Binkin NJ. Comparing the prevalence of smoking in pregnant and nonpregnant women, 1985-86. JAMA 261(1):70-4. 1989.

Bradstock K, Forman MR, Binkin NJ, et al. Alcohol use and health behavior lifestyles among U.S. women: The Behavioral Risk Factor Surveys. Addict Behav 13(1):61-71. 1988.

Demonstration Sites for Pediatric Nutrition Surveillance Systems (PedNSS) and Pregnancy Nutrition Surveillance Systems (PNSS)

Sponsoring Agency: National Center for Chronic Disease Prevention and Health Promotion, Centers for Disease Control and Prevention

Purpose: The purpose of these cooperative agreement projects with five state health departments is to establish demonstration test clinic sites to improve the quality of the PedNSS and/or PNSS surveillance. Specifically, the goals are to collect, process, analyze, and disseminate high quality data; to add new relevant data items; and to enhance the ability of these systems to monitor the nutrition-related problems of women and children.

Conducted: Cooperative agreements from October 1, 1996 through September 30, 1999

Target Population: Low-income, high risk women, infants, and children that participate in publicly-funded health, nutrition, and food assistance programs that submit their data to the PedNSS and PNSS.

Sample Size and Response Rate(s):

Each state must have the following available samples for each surveillance system:

1. For the PedNSS, a minimum of 1,000 children enrolled in the Special Supplemental Nutrition Program for Women, Infants, and Children (WIC) and seen each year at each of at least 10 clinic sites.
2. For the PNSS, a minimum of 300 women enrolled in WIC per year at each of at least 10 clinic sites.

Design and Methods: Each state is doing the following for PedNSS and/or PNSS: 1) selecting 10 demonstration site clinics for the project; 2) conducting an in-depth review of the equipment and techniques used to collect data and using this review to develop and implement training to assure appropriate standardized procedures to obtain high quality data; 3) developing and implementing a monitoring plan for data collection activities; 4) developing and implementing a plan to assess data quality on an ongoing basis and revising practices and techniques as needed; 5) adding to the surveillance system information on the type of formula fed to infants, whether the infant's mother was on WIC (PedNSS only), risk factors contributing to WIC eligibility, food security, dietary information, and physical activity; and, 7) evaluating the project for the improvement of data quality, the feasibility of collecting the new data items, and the usefulness of the new data items.

Descriptive Variables: State, county, clinic, reason for attending clinic, type of program, individual identification, marital and education status (PNSS only), age, sex,

and racial/ethnic origin.

Outcome Variables of Interest: Anthropometry (PedNSS - height, weight; PNSS - height, prepregnancy weight, pregnancy weight gain), birth weight of infant, hematology (hemoglobin or hematocrit), breast feeding status, medical care (PNSS only), smoking and alcohol use (PNSS only), and infant outcome (PNSS only) as well as the following new data items: type of formula fed to infant, whether mother participates in WIC (PedNSS only), risk factors for WIC eligibility, food security, dietary information, and physical activity.

Contact Agency:

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Home page: None provided.

Selected Key References: None provided.

EFNEP Evaluation/Reporting System

Sponsoring Agency: Cooperative State Research, Education, and Extension Service, U. S. Department of Agriculture

Purpose: Developed to capture the positive impacts of the Expanded Food and Nutrition Education Program. The system provides a variety of reports that are useful for management purposes, provides diagnostic assessments of participant needs, and exports summary data for State and National assessment of the program's impact.

Conducted: The MS-DOS version of this system was introduced in the fall of 1993 and is still in use in approximately 800 locations covering every state and six U. S. Territories. Since then a number of new features and capabilities have been added to the system. This includes, but is not limited to: being redesigned to operate under Microsoft Windows, adding a notebook feature, adding a subgroup feature, optional questions in addition to the base questions of the behavior checklist, and question sets. This upgraded version was released in March of 1998 and is already in use in some states. By the end of FY 99, it is expected that all states and territories would have made the transition.

Target Population: (1) Low-income homemakers/individuals living in either rural or urban areas, who are responsible for planning and preparing the family's food; emphasis on households with young children; (2) Low-income youth who live in rural or urban areas and who meet the state's definition of 4-H age.

Sample Size and Response Rate(s):

FY	# of Homemakers Reached	Response Rate
1993	204,366	Data are entered for all
1994	198,931	Participants by EFNEP
1995	216,822	Staff.
1996	213,940	
1997	204,049	

Also reach approximately 400,000 youth each year, however, evaluation data is less detailed.

Design and methods: Design and methods involved the input of the National EFNEP Evaluation and Reporting Committee and many others who served important roles. In addition to design and implementation, this group also pilot tested the various versions of the software, reviewed and modified the User's Manual, developed supporting documentation, designed sample data collection forms, and developed training tools and guides.

Food intake is assessed by using the 24-Hour Food Recall and the Behavior Checklist.

Via the 24-hour recall, participant diagnostic reports, and diet summary reports are created. The behavior checklist component provides an assessment of EFNEP's impact on participants' food safety, food resource management, and nutrition practices during enrollment. Data are collected from at entry into and at graduation from the education intervention by interview or self-administered forms, and then entered into the system.

Descriptive Variables: There are numerous variables within the system. Some of the descriptive ones are: (1) for homemaker: name, address, phone, age, sex, ethnicity, household income, # of children and ages, pregnant/nursing status, number participating in food assistance programs, date entered program, date exited program; (2) for youth: name, address, telephone, sex, ethnicity, date of birth, dates entered and exited the program (this list only represents some of the descriptive variables).

Outcome Variables of Interest: Name of food items, number of grams, serving size, number of servings from each of the Food Guide Pyramid groups, nutrient amounts (for calories, protein, fat, carbohydrates, fiber, alcohol, vitamin A, vitamin C, calcium, iron, vitamin B6), number and percent improving food related practices.

Contact Agency:

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http://www.reeusda.gov/ers4/home.htm

Expanded Food and Nutrition Education Program Contacts:
Each Land-Grant University/Institution has an EFNEP Coordinator within its Cooperative Extension Service Programs Office.

Selected Key Publications: None provided.

Food Consumption in Alaska, 1978

Sponsoring Agency: Science and Education Administration, U.S. Department of Agriculture

Purpose: Conducted as a supplement to the 1977-78 Nationwide Food Consumption Survey (NFCS)--see page 103. The NFCS describes food consumption behavior and assesses the nutritional content of diets for their implications for policies relating to food production and marketing, food safety, food assistance, and nutrition education.

Conducted: January to March 1978

Target Population: An area probability sample of urban households in Alaska and the individuals residing in those households.

Sample Size:

Households	*Individuals*
1,131	2,340

Design and Methods: The design and methods were the same as those used for the NFCS. In the household component, the household food manager was asked to recall with the aid of a food list, the kinds and amounts of food that disappeared from home food supplies during the previous 7 days. Such food includes food that was prepared and eaten and food that was discarded, as well as leftovers fed to pets. The food manager was also asked to report the price of each purchased food. In the individual component, each household member was asked to recall the kinds and amounts of foods eaten at home and away during the previous day and to keep a record of the foods eaten on the day of the interview and the following day (1-day recall/2-day record).

Descriptive Variables:
Household--Income, size, race of household respondent, education and employment of male and female heads, tenancy, and participation in the Food Stamp Program, WIC, and the School Lunch/Breakfast Programs.

Individuals--Sex, age, height, weight, and pregnancy/lactation/nursing status.

Outcome Variables of Interest:
Household--Quantity (pounds), monetary value (dollars), and nutritive values of food used from the household food supply.

Individual--Food intakes (grams) of food eaten at home and away from home; intakes of 15 nutrients and food components.

Contact Agency:

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Selected Publications:

U. S. Department of Agriculture, Science and Education Administration. Food and nutrient intakes of individuals in 1 day in Alaska, Winter 1978, Nationwide Food Consumption Survey 1977-78, Preliminary Report No. 6, 61 pp. NTIS Accession Number PB97-188478. 1981.

U. S. Department of Agriculture, Science and Education Administration. Food consumption and dietary levels of households in Alaska, Winter 1978, Nationwide Food Consumption Survey 1977-78, Preliminary Report No. 7, 25 pp. NTIS Accession Number PB97-188486. 1981.

Food Consumption in Hawaii, 1978

Sponsoring Agency: Science and Education Administration, U.S. Department of Agriculture

Purpose: Conducted as a supplement to the 1977-78 Nationwide Food Consumption Survey (NFCS)--see page 103. The NFCS describes food consumption behavior and assesses the nutritional content of diets for their implications for policies relating to food production and marketing, food safety, food assistance, and nutrition education.

Conducted: January to March 1978

Target Population: An area probability sample of households in Hawaii and the individuals residing in those households.

Sample Size:

Households	*Individuals*
1,256	3,068

Design and Methods: The design and methods were the same as those used for the NFCS. In the household component, the household food manager was asked to recall with the aid of a food list, the kinds and amounts of food that disappeared from home food supplies during the previous 7 days. This included food that was prepared and eaten and food that was discarded, as well as leftovers fed to pets. The food manager was also asked to report the price of each purchased food. In the individual component, each household member was asked to recall the kinds and amounts of foods eaten at home and away during the previous day and to keep a record of the foods eaten on the day of the interview and the following day (1-day recall/2-day record).

Descriptive Variables:
Household--Income, size, race of household respondent, education and employment of male and female heads, urbanization, tenancy, food sufficiency, and participation in the Food Stamp Program, WIC, and School Lunch/Breakfast Programs.

Individuals--Sex, age, height, weight, and pregnancy/lactation/nursing status.

Outcome Variables of Interest:
Household--Quantity (pounds), monetary value (dollars), and nutritive values of food used from the household food supply.

Individual--Food intakes (grams) of food eaten at home and away from home; intakes of 15 nutrients and food components.

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Selected Publications:

U. S. Department of Agriculture, Science and Education Administration. Food Consumption and Dietary Levels of Households in Hawaii, Winter 1978, Nationwide Food Consumption Survey 1977-78, Preliminary Report No. 4, 29 pp. NTIS Accession Number PB97-188452. 1981.

U. S. Department of Agriculture, Science and Education Administration. Food and nutrient intakes of individuals in 1 day in Hawaii, Winter 1978, Nationwide Food Consumption Survey 1977-78, Preliminary Report No. 5, 66 pp. NTIS Accession Number PB97-188460. 1981.

Food Consumption in Puerto Rico 1977

Sponsoring Agency: Science and Education Administration, U.S. Department of Agriculture

Purpose: Conducted as a supplement to the 1977-78 Nationwide Food Consumption Survey (NFCS)--see page 103. The NFCS describes food consumption behavior and assesses the nutritional content of diets for their implications for policies relating to food production and marketing, food safety, food assistance, and nutrition education.

Conducted: July to December 1977

Target Population: An area probability sample households in Puerto Rico and the individuals residing in those households.

Sample Size:

	Households	*Individuals*
1-day	3,040	7,881
3-days		6,510

Design and Methods: The design and methods were the same as those used in the NFCS. In the household portion, information on food used by a surveyed household was obtained in an interview with the person identified as most responsible for food planning and preparation. Trained Puerto Rican interviewers used an aided recall schedule (Spanish or English) to collect data on the kind, the quantity used, and the cost, if purchased, of each food or beverage used in each household during the 7 days prior to the interview. In the individual portion, each household member was asked to recall the kinds and amounts of food eaten at home and away during the previous day and to keep a record of the foods eaten on the day of interview and the following day (1-day recall/2-day record).

Descriptive Variables:
Household--Income; size; education of male and female heads; race of household respondent; urbanization; tenancy, housing and utility expenses; participation in the Food Stamp Program, WIC, and the School Lunch/Breakfast Programs.

Individual--Sex, age, height, weight, pregnancy/lactation/nursing status.

Outcome Variables of Interest:
Household--Quantity (pounds), monetary value (dollars), and nutritive values (15 nutrients) food used from household food supply during 7-day survey period.

Individual--Intakes (grams) of food eaten at home and away from home for the day of and the day following interview for 3 consecutive days; intakes of 15 nutrients and food components.

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E-mail: fsrg@rbhnrc.usda.gov

Selected Publications:

U.S. Department of Agriculture, Science and Education Administration. Food Consumption and Dietary Levels of Households in Puerto Rico, Summer and Fall 1977, Nationwide Food Consumption Survey 1977-78, Preliminary Report No. 9, 38 pp. NTIS Accession Number PB97-188502. 1982.

U.S. Department of Agriculture, Science and Education Administration. Food and Nutrient Intakes of Individuals in 1 Day in Puerto Rico, Summer and Fall 1977, Nationwide Food Consumption Survey 1977-78, Preliminary Report No. 12, 94 pp. NTIS Accession Number PB97-188536. 1982.

Food Stamp Program Cash-Out Evaluation in San Diego, Alabama, and Washington

Sponsoring Agency: Food and Consumer Service[1], U.S. Department of Agriculture

Purpose: The evaluations were conducted to assess the effects of providing Food Stamp benefits in the form of cash rather than coupons on a Food Stamp recipient's household food purchases, food use and nutrient availability, household expenditures by major budget categories, and on food assistance program participation and administrative costs.

Conducted: San Diego, May-August 1990 Alabama, August-November 1990 Washington State, July-October 1990

Target Population: Households receiving check or coupon benefits in the three sites.

Sample Size and Response Rate(s):

	Sample size	*Response rate**
San Diego County	1,078 households	78%
Alabama	2,291 households	78% (1/2 rural;1/2 urban)
Washington State	1,184 households	75%

* Percent of eligible households completing the interview.

Design and Methods: San Diego and Alabama--Experimental design. Washington State--Matched site design.

In-person interviews were conducted using an aided 7-day recall instrument similar to the NFCS household food use questionnaire.

Descriptive Variables: Race, age, sex, relationship to sampled person, household size, income, education, employment status, household expenditures, and participation in food assistance programs.

Outcome Variables of Interest: Quantity, total money value of purchased and nonpurchased food used at home per household and equivalent nutrition units (ENU), nutrients available to household per ENU, percent of RDA's and nutrient density for food used at home, nutrient availability per dollar, expenditures for food used at home

[1] Now called the Food and Nutrition Service.

and away from home, perceived adequacy of household food supplies, and days or meals with no food.

Contact Agency:

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http://www.usda.gov/fcs/fcs.htm

Selected Key Publications:

The Effects of Food Stamp Cash-Out on Administrative Costs, Participation, and Food Retailers in San Diego by M Ponza, J Ohls, J Minier, and C Nagatoshi, Mathematica Policy Research. September 1993.

The Effects of Food Stamp Cash-Out on Participants and Food Retailers in the Alabama ASSETS Demonstration by E Davis and A Werner, Abt Associates. April 1993.

The Effects of Cash-Out on Food Use by Food Stamp Participants in San Diego by J. Ohls, T. Fraker, A. Martini, and M. Ponza, Mathematica Policy Research. December 1992.

The Evaluation of the Alabama Food Stamp Cash-Out Demonstration by T Fraker, A Martini, J Ohls, M Ponza, and E Quinn, Mathematica Policy Research. September 1992 (two volumes).

Pediatric Nutrition Surveillance System (PedNSS)

Sponsoring Agency: National Center for Chronic Disease Prevention and Health Promotion, Centers for Disease Control and Prevention

Purpose: The purpose of PedNSS is to monitor simple key indicators of nutritional status among low-income, high-risk infants and children who participate in publicly funded health, nutrition, and food assistance programs.

Conducted: Continuously since 1973

Target Population: Low-income, high-risk children, birth-17 years of age, with emphasis on birth-5 years of age.

Sample Size and Response Rate(s): The coverage of PedNSS reflects the number of clinic visits in participating programs. Over 8.8 million records from 43 States plus the District of Columbia, Puerto Rico, and 6 Indian Reservations were submitted for analysis during Fiscal Year 1995. Data can be analyzed at individual, clinic, county, State, and national levels.

Design and Methods: Simple, key indicators of nutritional status are continuously monitored in States using clinic data from a convenience population of low-income children who participate in publicly-funded health, nutrition, and food assistance programs. Data are collected through client interview and records.

Descriptive Variables: State, county, clinic, reason for attending clinic, individual identification, age, sex, and ethnic origin.

Outcome Variables of Interest: Anthropometry (height and weight), birth weight, hematology (hemoglobin, hematocrit) and breastfeeding status and duration.

Contact Agency:

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Home page: Under development

Selected Key Publications:

Mei Z, Grummer-Strawn L, Yip R. Development of a research child growth reference and its comparison to the current international growth reference. Archives of Ped. & Adol. Medicine in press.

Mei Z, Scanlon KS, Grummer-Strawn LM, Freedman DS, Yip R, Trowbridge FL. Increasing prevalence of overweight among US low-income preschool children: the CDC Pediatric Nutrition Surveillance, 1983 to 1995. Pediatrics 101(1): E12 (electronic pages). 1998.

Sherry B, Bister D, Yip R. Continuation of decline in prevalence of anemia in low-income children. The Vermont Experience. Arch Pediatr Adolesc Med 151:928-930. 1997.

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Yip R, Mei Z. Variation of infant and childhood growth: Observations from the U.S. nutrition surveillance systems, in Maternal and Extrauterine Nutritional Factors: Their Influence on Fetal and Infant Growth. Pediatric Nutrition Surveillance System. 1996.

Yip R, Scanlon K, Trowbridge FL. Trends and patterns in height and weight status of low-income U.S. children. Food Science and Nutrition 33(4/5):409-421. 1993.

Yip R, Parvanta I, Scanlon K, Borland EW, Russell CM, Trowbridge FL. Pediatric Nutrition Surveillance System—United States, 1980–1991. MMWR 41:1-24. 1992.

Yip R, Scanlon K, Trowbridge FL. Improving growth status of Asian refugee children in the United States. JAMA 267:937-940. 1992.

Serdula MK, Cairns KA, Williamson DF, Brown, JE. Correlates of breast-feeding in a low income population of whites, blacks, and Southeast Asians. J Am Diet Assoc 91:41-5. 1991.

Yip R, Fleshood L, Spillman TC, Binkin NJ, Wong FL, Trowbridge FL. Using linked program and birth records to evaluate coverage and targeting in Tennessee's WIC program. Public Health Report 106:176-182. 1991.

Dallman PR, Yip R. Changing characteristics of childhood anemia. The Journal of Pediatrics 114:161-164. 1989.

Yip R. The changing characteristics of childhood iron nutritional status in the United States. CDC 38-61. 1989.

Yip R, Binkin NJ, Trowbridge FL. Altitude and childhood growth. J Pediatr 113(3):486-89. 1988.

Gayle HD, Yip R, Frank MJ, Neiberg PI, Binkin NJ. Validation of maternally reported birth weights among 46,637 Tennessee WIC Program participants. Public Health Rep 103:143-7. 1988.

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Yip R, Binkin NJ, Fleshood L, Trowbridge FL. Declining prevalence of anemia among low income children in the United States. JAMA 258(12):1619-23. 1987.

Gayle HD, Dibley MJ, Marks JS, Trowbridge FL. Malnutrition in first two years of life. Am J Dis Child 141:531-34. 1987.

Peck RE, Marks JS, Dibley MJ, et al. Birth weight and subsequent growth among Navajo children. Public Health Rep 102(5):500-7. 1987.

Peck RE, Marks JS, Dibley MJ, et al. Nutritional status of minority children, United States 1986. MMWR 36(23):366-9. 1987.

Pregnancy Nutrition Surveillance System (PNSS)

Sponsoring Agency: National Center for Chronic Disease Prevention and Health Promotion, Centers for Disease Control and Prevention

Purpose: The system monitors nutrition-related problems and behavioral risk factors associated with low birth weight among high-risk prenatal populations. The PNSS is used to identify preventable nutrition-related problems and behavioral risk factors in order to target interventions.

Conducted: Continuously since 1978 (The system was enhanced in 1989 to include additional data items.)

Target Population: Low-income, high-risk pregnant women.

Sample Size and Response Rate(s): The coverage of PNSS reflects the number of pregnant women who participate in the programs contributing to the surveillance system. Over 599,000 records from 18 States, the Navajo Nation, and the Intertribal Council of Arizona were submitted for analysis during Fiscal Year 1995.

Design and Methods: Simple key indicators of pregnancy nutritional status and behavioral risk factors are monitored using clinic data from participating States. The data are collected on a convenient population of low income, high-risk pregnant women who participate in publicly-funded prenatal nutrition and food assistance programs.

Descriptive Variables: State, county, clinic, reason for attending clinic, individual identification, age, ethnic origin, marital status, migrant status, and education.

Outcome Variables of Interest: Simple key indicators of pregnancy nutritional status, behavioral risk factors, and birth outcome are measured using readily available clinical data. Pre-gravid weight status, anemia (hemoglobin, hematocrit), pregnancy behavioral risk factors (smoking and drinking), birth weight, and other indicators are monitored. Breast-feeding and formula- feeding data are also collected. Additional data items added in 1989 include expanded smoking and alcohol consumption questions and information on weight gain and feeding behaviors.

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Selected Key Publications:

Pregnancy-Related Behaviors Among Migrant Farm Workers --Four States, 1989-1993. Morbid Mortal Wkly Rep 46(13):283-286. 1997.

Ahluwalia I, Grummer-Strawn L, Scanlon K. Exposure to environmental tobacco smoke and birth outcome: Increased effects on pregnant women aged 30 years or older. AJE, 1997.

Perry G, Yip R, Zyrokowski C. Nutritional Risk Factors Among Low-Income Pregnant US Women: The Centers for Disease Control and Prevention (CDC) Pregnancy Nutrition Surveillance System, 1979 Through 1993. Seminars in Perinatology 19(3):211-221. 1995.

Cogswell M, Yip R. The influence of fetal and maternal factors on the distribution of birth weight. Seminars in Perinatology. 1995.

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Kim I, Hungerford DW, Yip R, Kuester SA, Zyrkowski C, Trowbridge FL. Pregnancy Nutrition Surveillance System—United States, 1979–1990. MMWR 41:25-41. 1992.

Centers for Disease Control. Anemia during pregnancy in low-income women. MMWR 39(5):73-6. 1990.

Larsen CE, Serdula MK, Sullivan, KM. Macrosomia: Influence of maternal overweight among a low income population. Am J Obstet Gynecol 162(2):490-4. 1990.

Centers for Disease Control. Racial/ethnic differences in smoking, other risk factors and low birth-weight among low-income pregnant women, 1978-88. MMWR 39(55-3):13-21. 1990.

Puerto Rico Nutrition Study, 1984

Sponsoring Agency: Human Nutrition Information Service[1] and Food and Nutrition Service, U.S. Department of Agriculture

Purpose: USDA was charged by the U.S. Congress to investigate and report back by March 1985 on the food assistance program operations in Puerto Rico. Public Law 98-204 and accompanying language on the House report required that the program be assessed from (1) the nutritional adequacy of home foods available to participating households and (2) the household food expenditure levels among program participants.

Conducted: August-December 1984

Target Population: The sample was designed to yield approximately 2,500 housekeeping households in Puerto Rico with a disproportionate number of current, former, and non-nutrition program participants. Housekeeping households are those households with at least 1 member eating 10 or more meals from the household food supply.

Sample Size and Response Rate(s): Screeners were used to determine eligibility (housekeeping) of the households.

Of the 3,699 total housing units, 3,249 were occupied.

Of the 2,943 total housing units screened, 2,759 were identified as eligible.

Of the 2,759 eligible households, 2,437 participated for a response rate of 88% of eligible households.

Design and Methods: The design and methods were directed by the Congress to replicate the household portion of the NFCS 1977-78, Puerto Rico, with adjustments to account for the disproportionate number of current, former, and non-nutrition program participants.

Information on food used by surveyed households was obtained in an at-home interview with the person identified as most responsible for food planning and preparation. Trained Puerto Rican interviewers used an aided recall schedule (Spanish or English) and recorded the kind, form, and cost, if purchased, of each food and beverage used in the household during the 7 days before the interview. Nutrient availability and dietary levels were derived using food composition data files.

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[1]On February 20, 1994, legislation passed by Congress moved the functions of the Human Nutrition Information Service to the Agricultural Research Service, USDA.

Descriptive Variables: Household characteristics, such as income, household size, sex and age of members, number of meals eaten by members, number of guest meals and snacks, education and employment of household heads, participation in food programs, and other factors that might affect food consumption patterns are included in the survey.

Outcome Variables of Interest: Money value (dollars), quantity (pounds), and nutritive values of food used by participants and nonparticipants in the Nutrition Assistance Program (NAP) and the Food Stamp Program (FSP) are of interest in determining the effectiveness of NAP compared to FSP.

Contact Agency:

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Selected Publications:

Devaney B, Fraker TM. Cashing out food stamps: Impacts on food expenditures and diet quality. J Policy Analysis and Management 5(4):725-41. 1986.

Fraker TM, Devaney B, Calvin ES. An evaluation of the effect of cashing out food stamps on food expenditures. American Economics Association Papers and Proceedings 76(2):230-234. 1986.

Mathematica Policy Research, Inc. Evaluation of the Nutrition Assistance Program in Puerto Rico, Vol. I: Environment,. Participation, Administrative Costs, and Program Integrity, A Report to the U.S. Congress. Washington: 1985.

Mathematica Policy Research, Inc. Evaluation of the Nutrition Assistance Program in Puerto Rico, Vol. II: Effect on Food Expenditure and Diet Quality, A Report to the U.S. Congress. Washington: 1985.

Surveillance of Severe Pediatric Undernutrition (SSPUN)

Sponsoring Agency: National Center for Chronic Disease Prevention and Health Promotion, Centers for Disease Control and Prevention

Purpose: SSPUN was a State-based, pilot effort to obtain population-based estimates of preschool children who suffer from severe pediatric undernutrition, including the etiologies and risk factors of the problem.

Conducted: 1989-90

Target Population: Low-income, high-risk children 6 months-5 years of age.

Sample Size and Response Rate(s): Four States (Mississippi, Florida, Massachusetts, and Louisiana) were awarded cooperative agreement funds to determine the feasibility of monitoring the prevalence, etiologies and risk factors for severe pediatric undernutrition. States used a variety of case finding methods in WIC, Head Start, outpatient clinics, etc.

Number of cases: 1046*

* Number includes cases from Florida, Massachusetts, and Mississippi but does not include Louisiana (missing) cases.

Design and Methods: Children were identified through multiple reporting sources including hospitals, public health clinics, day care facilities, and schools. Anthropometric measurements were taken, and a survey was administered to determine etiologies and additional risk factors.

Descriptive Variables: State, catchment area, facility, individual identification, age, sex, and ethnic origin.

Outcome Variables of Interest: Anthropometry (height and weight), birth weight, hematology (hemoglobin and hematocrit), recent or chronic illness history, food program participation, and various other potential risks.

Contact Agency:

Division of Nutrition and Physical Activity (proposed)
Maternal and Child Health Branch (MS-K25)
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Fax: None provided
http://www.cdc.gov/nccdphp/nccdhome.htm

Selected Key Publications: None provided.

Youth Risk Behavior Survey (YRBS)

Sponsoring Agency: National Center for Chronic Disease Prevention and Health Promotion, Centers for Disease Control and Prevention

Purpose: To monitor priority health risk behaviors among adolescents through national, state, and local surveys.

Conducted: National, state, and local school-based surveys of high school students were initiated in 1990 and have been conducted biennially since 1991. National surveys of special populations of youth are conducted periodically.

Target Population: The national, state, and local school-based surveys target students in grades 9-12 nationwide. National surveys of special populations of youth have targeted out of school youth, college students, and alternative school students.

Sample Size and Response Rate: The national school-based survey sample size averages about 12,000 with at least a 60% overall response rate. The state and local school-based surveys average about 2,000 with at least a 60% overall response rate. Overall response rate is calculated by multiplying the school response rate by the student response rate.

Design and Methods: The national school-based surveys use a three-stage cluster sample design to create a nationally representative sample of all public and private school students in grades 9-12. The state and local school-based surveys use a two-stage cluster sample design to create representative samples of public school students in their jurisdiction. The questionnaire is self-administered during a regular classroom period.

Descriptive Variables: State, age, sex, grade, race, and ethnic origin.

Outcome Variables of Interest: Smoking, alcohol use, weight control practices, exercise, and minimal eating practices information.

Contact Agency:

Division of Adolescent and School Health (MS-K33) or
Division of Nutrition and Physical Activity (proposed)
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http://www.cdc.gov/nccdphp/youthris.htm

Selected Key Publications:

Youth Risk Behavior Surveillance--United States, 1995. MMWR 45 (SS-4). September 27, 1996.

Measuring the Health Behavior of Adolescents: the Youth Risk Behavior Surveillance System. Public Health Reports 108(Supplement 1). 1993.

Surveillance Systems in States

States	*Surveys*			
	BRFSS	PNSS	PedNSS	YRBS
New England				
Maine	BRFSS		PedNSS	YRBS
New Hampshire	BRFSS	PNSS	PedNSS	YRBS
Vermont	BRFSS	PNSS	PedNSS	YRBS
Massachusetts	BRFSS	PNSS	PedNSS	YRBS
Rhode Island	BRFSS			YRBS
Connecticut	BRFSS			YRBS
Middle Atlantic				
New York	BRFSS	PNSS	PedNSS	YRBS
New Jersey	BRFSS	PNSS	PedNSS	YRBS
Pennsylvania	BRFSS		PedNSS	YRBS
Puerto Rico	BRFSS	PNSS	PedNSS	YRBS
U.S. Virgin Islands	BRFSS			YRBS
East North Central				
Ohio	BRFSS		PedNSS	YRBS
Indiana	BRFSS	PNSS	PedNSS	YRBS
Illinois	BRFSS	PNSS	PedNSS	YRBS
Michigan	BRFSS	PNSS	PedNSS	YRBS
Wisconsin	BRFSS	PNSS	PedNSS	YRBS
West North Central				
Minnesota	BRFSS	PNSS	PedNSS	YRBS
Iowa	BRFSS	PNSS	PedNSS	YRBS
Missouri	BRFSS	PNSS	PedNSS	YRBS
North Dakota	BRFSS	PNSS	PedNSS	YRBS
Standing Rock			PedNSS	
South Dakota	BRFSS		PedNSS	YRBS
Cheyenne River Sioux			PedNSS	
Rosebud Sioux			PedNSS	
Nebraska	BRFSS	PNSS	PedNSS	YRBS
Kansas	BRFSS	PNSS	PedNSS	YRBS
South Atlantic				
Delaware	BRFSS		PedNSS	YRBS
Maryland	BRFSS		PedNSS	YRBS
District of Columbia	BRFSS	PNSS	PedNSS	YRBS
Virginia	BRFSS			YRBS

West Virginia	BRFSS			YRBS
North Carolina	BRFSS	PNSS	PedNSS	YRBS
South Carolina	BRFSS			YRBS
Georgia	BRFSS	PNSS	PedNSS	YRBS
Florida	BRFSS	PNSS	PedNSS	YRBS
East South Central				
Kentucky	BRFSS		PedNSS	YRBS
Tennessee	BRFSS		PedNSS	YRBS
Alabama	BRFSS		PedNSS	YRBS
Mississippi	BRFSS		PedNSS	YRBS
West South Central				
Arkansas	BRFSS		PedNSS	YRBS
Louisiana	BRFSS		PedNSS	YRBS
Oklahoma	BRFSS	PNSS	PedNSS	YRBS
Texas	BRFSS			YRBS
Chickasaw Nation			PedNSS	
Mountain				
Montana	BRFSS	PNSS	PedNSS	YRBS
Idaho	BRFSS	PNSS	PedNSS	YRBS
Wyoming	BRFSS	PNSS	PedNSS	YRBS
Shoshone/Aprapaho			PedNSS	
Colorado	BRFSS		PedNSS	YRBS
New Mexico	BRFSS		PedNSS	YRBS
Arizona	BRFSS	PNSS	PedNSS	YRBS
Navajo Nation		PNSS	PedNSS	
Intertribal Council		PNSS	PedNSS	
Utah	BRFSS	PNSS	PedNSS	YRBS
Nevada	BRFSS		PedNSS	YRBS
Pacific				
Washington	BRFSS		PedNSS	YRBS
Oregon	BRFSS		PedNSS	YRBS
California	BRFSS		PedNSS	YRBS
Alaska	BRFSS	PNSS	PedNSS	YRBS
Hawaii	BRFSS	PNSS	PedNSS	YRBS
American Samoa		PNSS		YRBS
Guam		BRFSS	PNSS	YRBS
Marshall Islands				YRBS
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Alaska Department of Education
Office of Instructional Improvement and Evaluation
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American Samoa Government
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School Improvement Unit
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Arkansas Department of Education
Comprehensive School Health
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California State Department of Education
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Connecticut State Department of Education
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Illinois State Board of Education
School Improvement Planning and Assistance
100 North First Street, Mailstop N242
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Indiana Department of Education
Division of Student Services
State House, Room 229
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Maine Department of Education
Bureau of Instruction
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ASTPHND:

The Association of State and Territorial Public Health Nutrition Directors (ASTPHND) is a 501 (c)(3) non-profit membership organization that provides national and state leadership on food and nutrition policy, programs, and services. The Association's members direct the nutrition programs in the public health agencies of the 50 States, the District of Columbia, and the five Territories. They are a network of public health nutritionists working to improve the health of American population through statewide and local community efforts. ASTPHND monitors the trends in the Public Health and Community Nutrition Workforce by completing a biennial survey for all of the states. Every public health nutritionist, in every state, receives a survey to fill out. The survey lists source of community nutritionist funding, training needs, education, salary, type of job and numbers of public health nutritionists in the state over time.

Additional state-funded nutrition monitoring activities will be detailed in subsequent editions of the Directory of Federal and State Nutrition Monitoring Activities as information becomes available.

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North Dakota's Food Security Monitoring System

Sponsoring Agency: North Dakota Department of Health MCH/WIC Program

Purpose: To determine the extent of food security/insecurity in the North Dakota WIC populating.

Conducted: March, 1998

Target Population: Families participating in the North Dakota Special Supplemental Nutrition Program for Women, Infants and Children (WIC)

Sample Size and Response Rate(s): Approximately 4,000 completed surveys. (WIC sites with less than 100 families distributed survey to all families; sites with 100-200 families distributed to at least 100 families; larger sites distributed to about one third of families.)

Design and Methods: Paper survey distributed to WIC families during March, 1998 appointments.

Descriptive Variables: Employment status; household size; WIC agency

Outcome Variables of Interest: Food security questions for past month and for past twelve months.

Contact Agency:

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Selected Key Publications: None

VII. NUTRITION MONITORING RESEARCH

The National Nutrition Monitoring and Related Research Program is designed to meet nutrition policy and program needs in the United States. In turn, policy and programs are formulated based on information gleaned from nutrition monitoring and nutrition research. To meet the expanding needs of the monitoring program, continued research is needed to improve data collection methods and our understanding of the relationship between food and health. Specifically, research can help us to determine the best way to assess dietary intake, attitudes and knowledge; questions to incorporate into surveys; the effect of diet on biochemical and health measures; and to develop indicators and model standards applicable for use in a variety of settings and with population subgroups. Although improvements in dietary intake methodology have been made, such as automating data collection and coding, measurement errors still exist for capturing intake from people. Survey research, then, aims to estimate dietary intake and reduce the measurement error at all levels. Research can be conducted in the area of sample design and survey methods for population subgroups at nutritional risk and for specific geographic areas. It can provide better interpretive criteria for nutritional indicators and mechanisms to link and use various data sets in the monitoring system. A number of Federal agencies conduct nutrition monitoring research. Examples of some of these activities are included in this chapter.

NCHS/CDC Nutrition Monitoring Research

To improve nutrition surveys and nutrition surveillance systems, nutrition researchers at the National Center for Health Statistics (NCHS), Centers for Disease Control and Prevention (CDC) are involved in the development of improved methodology to assess nutritional status using anthropometric, dietary, and laboratory approaches. Using the third National Health and Nutrition Examination Survey (NHANES III) as an example, CDC nutrition research focuses on growth in children, overweight in children and adults, iron deficiency anemia, folate status, vitamin/mineral supplement use, food insecurity, trends in dietary fat intake and serum cholesterol levels, salt/sodium intake and hypertension, antioxidants, infant eating patterns including breastfeeding and health, calcium intake and bone densitometry, and alcohol intake. Whether in the area of dietary methodology research or the development of nutritional status indicators, the CDC has been at the fore of research. With an interest in expanding services to the state and local levels, the CDC has also provided research leadership in this area. The following section highlights key nutrition monitoring research either carried out by staff from the National Center for Health Statistics (NCHS), alone or in collaboration with other Centers, agencies, academia, or contractors or with NCHS expert advice or funding.

I. Dietary Methods Research

The Ten-Year Plan for Nutrition Monitoring and Related Research identified numerous

areas for research and action. Among them was a continued emphasis on the importance of research to evaluate and improve on dietary methods used to collect and report survey information on dietary intake. Specifically in the area of food and nutrient consumption, the plan called for the improved measurement of dietary status in surveys and surveillance systems; procedures for determining usual intakes of foods and nutrients; improved, practical dietary methods; and instruments for defining and measuring food insecurity.

Briefel RR. Assessment of the US diet in national nutrition surveys: national collaborative efforts and NHANES. Am J Clin Nutr 59(1 Suppl): 164S-167S. 1994.

McDowell MA. The NHANES III Supplemental Nutrition Survey of older Americans. Am J Clin Nutr 59(1 Suppl): 224S-226S. 1994.

- **Study on energy underreporting:** Using NHANES III data, NCHS staff embarked on a study to learn the extent to which people underreport energy intake in a national survey. Information from the 24-hour recall were analyzed for nonpregnant adults ages 20 years and older. An estimate for underreporting was obtained by computing a ratio of energy intake (EI) to estimated basal metabolic rate (BMR_{est}). In sum, approximately 18% of men and 28% of women were classified as underreporters and underreporting of intake was highest in women and persons who were older, overweight, or trying to lose weight. Various other factors also contributed to energy underreporting.

  Briefel RR, Sempos CT, McDowell MA, Chien S, Alaimo K. Dietary methods research in the third National Health and Nutrition Examination Survey: underreporting of energy intake. Am J Clin Nutr 65(suppl): 1203S-9S. 1997.

  Briefel RR, McDowell MA, Alaimo K, Caughman CR, Bischof AL, Carroll MD, Johnson CL. Total energy intake of the US population: the third National Health and Nutrition Examination Survey, 1988-1991. Am J Clin Nutr 62(5 Suppl, Nov), 1072S-1080S. 1995.

- **Portion size research:** In preparation for the next NHANES, NCHS contracted with Kansas State University and Tennessee State University to conduct a series of portion size research studies. The objectives of the studies were: 1) to evaluate selected measurement aids for use during NHANES using an in-person interview methodology; 2) To determine the accuracy of portion size estimates that were obtained using specific types of measurement aids; specific foods were tested in each experiment; 3)to provide recommendations for the food measurement aids that could be used in an NHANES setting. The contractors provided recommendations and candid assessments of their research findings. The studies employed diverse groups of study subjects and unique research protocols to make the research tasks more realistic for the subjects. Factors that

affect the task of quantifying foods and were observed included respondent characteristics, cognitive factors, and food characteristics.

Chambers IV, Edgar. NHANES Dietary Methodology Research: Alternative approaches for quantifying snack foods and beverages. Prepared under contract to the National Center for Health Statistics. February 1998.

Godwin, Sandria. NHANES Dietary Methodology Research. Alternative approaches for quantifying meats and fish, wedge-shaped foods, foods eaten in large quantities, and table spreads and gravies. Prepared under contract to the National Center for Health Statistics. February 1998.

- **Estimation of usual intake for selected nutrients:** Nutrient intake and biochemical blood and serum indicators collected from a sample of individuals vary between and within individuals from day to day. When making population inferences, it is appropriate to estimate the average or usual nutrient intake or biochemical measurement for an individual using distributions that reflect only the between-individual variance. Iowa State University (ISU) in cooperation with the ARS of the USDA has developed such a procedure to estimate the distribution of the usual nutrient intakes (Nusser et al., 1996). NCHS staff worked with ISU to apply the method to selected dietary and biochemical variables, collected in NHANES III (1988-94). Distributions of individual usual intakes and biochemical measures for the selected variables and supbpopulations were estimated, including parameters such as the mean, standard deviation, skewness, and percentiles.

  Nusser SM, Carriquiry AL, Dodd KW, Fuller WA. A semiparametric transformation approach to estimating usual intake distributions. J Am Stat Assoc 91:1440-1449. 1996.

  Carriquiry AL, Dodd KW, Nusser SM. Estimating Adjusted Intake and Biochemical Measurement Distributions for NHANES III. Final report prepared for the National Center for Health Statistics. 1997.

- **Replicate data needs:** In preparation for the next NHANES, NCHS and ISU have begun to estimate the percent of respondents who require a second 24-hour recall to enable the calculation, within a specified level of precision, of reliable estimates of usual intake distributions. Issues related to determining what variables require replicate data and how best to collect them are also being addressed.

- **Dietary Reference Intakes and NHANES III:** Under the auspices of the Institute of Medicine, Food and Nutrition Board's Standing Committee on the Scientific Evaluation of Dietary Reference Intakes, a number of reports will be

issued that provide guidance to federal agencies about nutrient needs (Dietary Reference Intakes) and replace the former Recommended Dietary Allowances. To date and as part of the review process two independent panels, one that analyzed the scientific literature regarding human requirements for calcium, phosphorus, magnesium, vitamin D, and fluoride throughout the lifespan, including the relationship to chronic diseases and data on dietary intake and a second to consider the same issues relative to folic acid and other B-vitamins, were convened. Staff from NCHS were instrumental in providing data on current intakes of these nutrients, from foods and dietary supplements, in the United States population. Data provided by NCHS aided in the development of recommendations to avoid deficiency, provide adequate intake levels to promote health/prevent disease, and indicate maximum intake levels above which risk of toxicity would increase. Other reports that will be released in the future cover nutrients and other food components such as antioxidants, macronutrients, trace elements, electrolytes and water, fiber and phytoestrogens. Staff from NCHS will continue to contribute toward this process.

Institute of Medicine, Food and Nutrition Board. Dietary Reference Intakes for Calcium, Phosphorus, Magnesium, Vitamin D, and Fluoride. A Report of the Standing Committee on the Scientific Evaluation of Dietary Reference Intakes. National Academy Press. Prepublication Report. 1997.

Institute of Medicine, Food and Nutrition Board. Dietary Reference Intakes for Thiamin, Riboflavin, Niacin, Vitamin B_6, Folate, Vitamin B_{12}, Pantothenic Acid, Biotin, and Choline: A Report of the Standing Committee on the Scientific Evaluation of Dietary Reference Intakes and its Panel on Folate, Other B Vitamins, and Choline and Subcommittee on Upper Reference Levels of Nutrients (prepublication copy). Washington, DC: National Academy Press, 1998. National Academy Press. Draft Report. 1998.

- **Vitamin and mineral supplement project:** Detailed information on dietary supplement intake was obtained in NHANES III. In order to enable researchers to estimate nutrient intake from supplements, products reported had to be linked to a database that provides such information. NCHS, through a contract with Medistat, developed the only large data base of nutritional supplements with concentrations available in this country. The data set will be used to estimate total nutrient intake and the contribution of nutritional supplements to nutritional status, and link dietary supplement intake to health outcomes in the NHANES III data base. Methods that will enable improved data collection and maintenance of a dietary supplements, antacids, and over-the-counter drugs database for the next NHANES survey are being developed.

- **Development of a food security scale:** The Ten-Year Comprehensive Plan for Nutrition Monitoring called for the development of a standard measure of food

insecurity and hunger in the United States for use at the national, state, and local levels. A Federal Interagency Working Group for Food Security Measurement, chaired by the Food and Consumer Service and NCHS in partnership with academic and other private-sector research experts collaborated to develop an instrument using prior research and an agreed upon framework. The resulting 18-item scale captures various indicators along the continuum of food insecurity and assumes that limited resources and access to food are prime factors leading to food insecurity. Using the scale, households may be classified into various levels of severity including, food secure, food insecure with no hunger, food insecure with moderate hunger, and food insecure with severe hunger. In 1995, the U.S. Bureau of the Census conducted the first ever Food Security Supplement to its regular Current Population Survey (CPS), using the 18-item scale. This represents the first measure of food insecurity and hunger using the agreed upon scale and a nationally representative sample of U.S. households. In the near future, NHANES, the Continuing Survey of Food Intakes by Individuals, and CPS, three nationally representative surveys of the United States population will incorporate the scale.

Hamilton WL, Cook JT, Thompson WW, Buron LF, Frongillo EA, Olson CM, Wehler CA. Household food security in the United States in 1995: Summary report of the food security measurement project. Alexandria, VA: U.S. Department of Agriculture, Food and Consumer Service. 1997.

Hamilton WL, Cook JT, Thompson WW, Buron LF, Frongillo EA, Olson CM, Wehler CA. Measures of food security, food insecurity, and hunger in the United States in 1995: Technical report of the food security measurement study. Alexandria, VA: U.S. Department of Agriculture, Food and Consumer Service, July 1997.

Briefel RR, Woteki CE. Development of food sufficiency questions for the third National Health and Nutrition Examination Survey. J Nutr Educ 24(1): 24-28. 1992.

Carlson S, Briefel R. The USDA and NHANES food sufficiency question as an indicator of hunger and food insecurity. Conference on Food Security Measurement and Research, Papers and Proceedings, pp. 48-56. Alexandria, VA: FCS/USDA. 1995.

- **Consensus Workshop on Dietary Assessment for Nutrition Monitoring and Tracking the Year 2000 Objectives:** In 1993 NCHS, in collaboration with other Federal agencies sponsored a conference to address dietary assessment methodologies in the National Nutrition Monitoring and Related Research Program. The workshop and work that preceded aimed to establish consensus on the selection, use and interpretation of dietary methods used for nutrition

monitoring surveys and surveillance systems; establish dietary methods appropriate for state/local use that are comparable with national dietary methods; and recommending dietary methods for monitoring selected Year 2000 objectives on dietary fat intake, fruit and vegetable intake, calcium intake, and alcohol risk reduction. Meeting participants developed recommendations based on dietary methods research and identified additional areas of research.

Krebs-Smith, SM, DA Cook, AF Subar, L Cleveland, and J Friday. Assessing fruit and vegetable intakes: Toward the year 2000. Am J Publ Health 85:1623-1629. 1995.
National Center for Health Statistics. Consensus workshop on dietary assessment: Nutrition monitoring and tracking the Year 2000 Objectives. Wright J, Ervin B, Briefel R, eds. Hyattsville, MD. 1994

II. Nutritional Status Indicators

The ARS, National Center for Environmental Health (NCEH), and NCHS have the lead responsibility to develop a core set of standardized dietary and nutritional status indicators that are coordinated with those for the Year 2000 objectives and to develop appropriate interpretive criteria for the general population and subgroups of the population. These agencies are also responsible for the development of laboratory measures of nutritional status and dietary intake; and survey sampling, design, and measurement procedures for high-risk subgroups and geographic areas.

- **Revised growth charts:** Originally developed in 1977, the NCHS/CDC Growth Charts are in the process of being revised to track the growth of children (from birth to nineteen years of age) in the U.S. and around the world. In preparation for this research project, the NHANES III sample design included the oversampling of children ages 2 months through five years of age. Data used to update the growth charts include: NHANES III measures, birth certificate information, reported information on NHANES III questionnaires, and results from deliberations from various meetings and workshops with other Government agencies, academia, professional associations, states and the World Health Organization. Research questions considered included the need to create separate ethnic-specific, low birthweight, and exclusively breastfed infant charts; and need to create adjustments for sexual maturation. The growth charts, which will be released by the end of 1998, now will use National data for all ages, including infants; they will pool data from various surveys to establish new curves; will include BMI charts; and will be electronically accessible, for use in pediatricians offices, state and local health departments, federal surveillance programs, and public assistance clinics.

  Roche AF, Guo SS, Johnson CL, Kuczmarski RJ, Briefel RR. Revision of the U.S. National Center for Health Statistics Growth Charts. In: Studies in Human

Biology. Bodzsar BE and Susanne, eds. Edotvos University Press, Budapest. pp. 105-112. 1996.

National Center for Health Statistics. Executive Summary of the Growth Chart Workshop, December 1992. Prepared by Alex Roche for the National Center for Health Statistics. 1994.

National Center for Health Statistics. Executive Summary of Workshop to Consider Secular Trends and Possible Pooling of Data in Relation to the Revision of the NCHS Growth Charts, November 1995. Prepared by Alex Roche for the National Center for Health Statistics. 1995.

National Center for Health Statistics. Executive Summary of the NCHS Low Birth Weight Workshop, In press.

- **Nutritional biochemistries:** NCHS with NCEH and the National Center for Chronic Disease Prevention and Health Promotion (NCCDPHP) have worked on research to provide nutritional biochemistry reference data and estimate prevalence of deficiency and toxicity.

- **Development of statistical models to establish screening criteria for hemochromatosis:** NCHS has worked on statistical modeling of NHANES III iron status data in non-Hispanic whites to help assess whether iron overload is present in that population. In previous studies, the prevalence of HLA-linked hemochromatosis, thought to be the most common genetic illness in whites, has been estimated by identifying homozygotes in the population. Because not all homozygotes express the disease phenotypically, the accuracy of these estimates is uncertain. A team from Moorehead State University, George Washington University, the University of Utah, Case Western Reserve, and NCHS analyzed the distribution of transferrin saturation values in NHANES II to estimate the prevalence of hemochromatosis heterozygotes in the US population. Their results confirmed that the gene for hemochromatosis is common.

  Building on this work, NCCDPHP is currently preparing guidelines on screening for iron overload in the U.S., but many questions remain, including whether screening should be done in minorities (in particular non-Hispanic blacks and Mexican Americans), and what appropriate screening criteria for minorities should be.

  Gordeuk VR, McLaren CE, Looker AC, Hasselblach V, Brittenham GM. Distribution of transferrin saturations in the African-American population. Blood 91(6): 2175-2179. 1998.

McLaren CE, Gordeuk VR, Looker AC, Hasselblad V, Edwards CQ, Griffen LM, Kushner JP, Brittenham GM. Prevalence of heterozygotes for hemochromatosis in the white population of the United States. Blood 86(5):2021-2027. 1995.

Looker AC, Sempos CT, Liu KA, Johnson CL, Gunter EW. Within-person variance in biochemical indicators of iron status: effects on prevalence estimates. Am J Clin Nutr 52(3, Sep), 541-547. 1990.

- **Iron deficiency guidelines:** Using NHANES III data and NCHS staff support, the NCCDPHP has recently released guidelines to help health professional assess iron status and help to diagnose iron deficiency and iron deficiency anemia, especially in children and young women.

Centers for Disease Control and Prevention. Recommendations to prevent and control iron deficiency in the United States. MMWR 47(RR-3): 1-29. 1998.

Looker AC, Dallman PR, Carroll MD, Gunter EW, Johnson CL. Prevalence of iron deficiency in the United States. JAMA Mar 26;277(12):973-976. 1997.

Looker AC, Gunter EW, Johnson CL. Methods to assess iron status in various NHANES surveys. Nutr Rev 53(91), 246-254. 1995.

Life Sciences Research Office, Federation of American Societies for Experimental Biology. Assessment of the iron nutritional status of the U.S. population based on data collected in the Second National Health and Nutrition Examination Survey, 1976-80. Bethesda, Maryland: Federation of American Societies for Experimental Biology, Special Publications Office. 1984.

- **Folate status research:** NCHS, in collaboration with other CDC Centers and Tufts University have conducted a series of analyses to assess serum and red cell folate, homocysteine, methyl malonic acid, and vitamin B_{12}, as well as dietary folate intake and supplement use. These data will be used to further elucidate the relationship between these analytes and neural tube defects and heart disease. In addition, research methods to estimate folate status and the best model to estimate folate deficiency has proceeded. This information is critical to interpret folate status data from NHANES III and decide on measurement methods to use in the next NHANES survey.

Raiten DJ, Fisher KD. Assessment of folate methodology used in the third National Health and Nutrition Examination Survey (NHANES III, 1988-1994). J Nutr 125(5, May), 1371S-1398S. 1995.

Life Sciences Research Office, Federation of American Societies for Experimental Biology. Assessment of the folate nutritional status of the U.S.

population based on data collected in the Second National Health and Nutrition Examination Survey, 1976-80. Bethesda, Maryland: Federation of American Societies for Experimental Biology, Special Publications Office, 1984.

- **Bone mineral density project:** The International Committee on Standards in Bone Densitometry used NHANES III reference data as part of their femur bone mineral density standardization efforts. NCHS staff served as consultants on the project. This effort will increase confidence in scan results, provide a more clear definition of patients' conditions, and enable comparison of data between scans performed on difference devices and provide expanded reference data for the United States.

  Hanson J. Letter to the editor: Standardization of femur BMD. J Bone and Mineral Res 12(8): 1316-1317. 1997.

  Looker AC, Harris TB, Madams JH, Sempos CT. Dietary calcium and hip fracture risk: the NHANES I Epidemiologic Follow-Up Study. Osteoporos Int 3(4, Jul), 177-184. 1993.

  Wahner HW, Looker A, Dunn WL, Walters LC, Hauser MF, Novak C. Quality control of bone densitometry in a national health survey (NHANES III) using three mobile examination centers. J Bone Miner Res 9(Jun): 951-960. 1994.

- **Weight status and WIC:** NCHS staff, in collaboration with staff from the Division of Nutrition and Physical Activity at the NCCDPHP completed analyses of nutrient intake and weight status of children participating in the Special Supplemental Food Program for Women, Infants, and Children (WIC) compared to other low-income children, using NHANES III data. This research indicates that, on the whole, dietary intakes of WIC participants were not associated with an increased prevalence of overweight.

  Centers for Disease Control and Prevention. Nutritional status of children participating in the Special Supplemental Nutrition Program for Women, Infants and Children - United States, 1988-1991. MMWR 45(3): 65-69. 1996.

  Nutritional status of children participating in the Special Supplemental Nutrition Program for Women, Infants, and Children--United States, 1988-1991. From the Centers for Disease Control and Prevention. JAMA 275(10): 750-752. 1996.

- **The relationship of body composition, nutrition, and health in military women:** The Food and Nutrition Board's (FNB) Subcommittee on Body Composition, Nutrition, and Health in Military Women, on which NCHS staff serves, provided recommendations on standards for body composition, fitness and nutrient requirements for military women.

NAS/FNB Subcommittee on Body Composition, Nutrition, and Health in Military Women. Assessing readiness in military women: The relationship of body composition, nutrition, and health. The National Academy Press, 1998.

III. State and local efforts

Improved coordination and linkage of dietary methods used at the national level to methods used at State and local levels is essential. In addition, comparable dietary data collection methods are needed for nutrition monitoring and for tracking progress toward reaching certain Year 2000 Health objectives at national, State, and local levels.

- **State estimates for overweight using small area estimation statistical procedures:** With legislation that is state specific and decreased funding for state-level nutrition monitoring and surveillance, it becomes crucial to be able to use National data to make state and other local estimates. NCHS staff has been working on models to enable small area estimates for overweight. Future work will likely include small area estimates for the following variables: blood lead, blood pressure, and blood cholesterol.

- **Development of a food security short form:** Staff from NCHS and NCCDPHP, in collaboration with the Food and Nutrition Service and Abt Associates developed a subscale from the full 18-item scale for use at the state and local levels, where space and financial constraints hinder their inclusion of the preferred full scale. A paper on the subscale will be submitted for publication shortly. See dietary methods section for information on the 18-item food security scale.

- **Anthropometry Training Video:** NCHS produced a 30-minute video entitled, the "NHANES III Anthropometric Procedures Video." This product demonstrates standardized anthropometric procedures that were used in the body measurements component of NHANES III. The procedures shown in the video allow others to follow the NHANES III anthropometric methodology, and enable comparisons of data collected in local clinics and other population based studies with the national reference data. Copies of the video are available from the Government Printing Office, Stock Number 017-022-01335-5. Additional information about the video is available through the CDC home page on http://www.cdc.gov/nchswww/products/catalogs/subject/video/video.htm.

IV. Additional Examples of Nutrition Methods References:

Chumlea WMC, Kuczmarski RJ. Using a bony landmark to measure waist circumference. J Am Diet Assoc (Letter to the Editor) 95(1): 12. 1995.

Loria C, Arroyo D, Briefel R. Cultural biases influencing dietary interviews with Mexican Americans - the HHANES experience. Am J Clin Nutr 59(1), S291. 1994.

Sempos C, Flegal KM, Johnson CL, Loria CM, Woteki CE, Briefel RR. Issues in the long-term evaluation of diet in longitudinal studies. J Nutr 123(2-II): 406-412. 1993.

Briefel RR, Flegal KM, Winn DM, Loria CM, Johnson CL, Sempos CT. Assessing the nation's diet: limitations of the food frequency questionnaire. J Am Diet Assoc 92(8): 959-962. 1992.

National Center for Health Statistics. Dietary Survey Methodology Workshop for the third National Health and Nutrition Examination Survey. Briefel RR, Sempos CT, eds. Vital Health Stat 4(27). Hyattsville, MD. 1992.

Sempos CT, Briefel RR, Flegal KM, Johnson C, Woteki CE. Factors involved in selecting a dietary survey methodology for national nutrition surveys. Aust J of Nutr and Diet 49(2): 2-27 and 29-30. 1992.

Loria CM, McDowell MA, Johnson CL, Woteki CE. Nutrient data for Mexican-American foods: are current data adequate? J Am Diet Assoc (91), 919-922. 1991.

Woteki CE, Briefel R, Hitchcock D, Ezzati T, Maurer, K. Selection of nutrition status indicators for field surveys: the NHANES III design. J Nutr 120 (Suppl 11): 1440-1445. 1990.

NHANES III Dietary interviewer's training manual. Rockville, Maryland: Westat, Inc. 1989.

Harris T, Woteki CE, Briefel RR, Kleinman JC. NHANES III for older persons: nutrition content and methodological considerations. Am J Clin Nutr 50(5 Suppl): 1145-9; discussion 1231-5. 1989.

McDowell MA, Briefel RR. The Dietary Data Collection System--Automated interview and coding system for NHANES III. Proceedings-Fourteenth National Nutrition Databank Conference, Iowa City. 1989.

Sempos CT, Briefel RR, Woteki CE. Dietary survey methods in national nutrition surveys. In: Proceedings of the Workshop on Dietary Survey Methodology. AS Truswell, ed. University of Sydney, Sydney, NSW, Australia. 1988.

Woteki CE. Dietary survey data: sources and limits to interpretation. Nutr Rev May, 204-213. 1986.

Woteki CE. Methods for surveying food habits: How do we know what Americans are eating? Clin Nutr 5(1)(Jan/Feb), 9-16.(Includes 20 references.) 1986.

Life Sciences Research Office, Federation of American Societies for Experimental Biology. Suggested measures of nutritional status and health conditions for the Third National Health and Nutrition Examination Survey. Bethesda, Maryland: Life Sciences Research Office. 1985.

Johnson CL, Murphy RS. Analytic concerns relating physiological measures to reported dietary intake data (National Health and Nutrition Examination Survey, United States). Research bulletin - Massachusetts Agricultural Experiment Station (675,Jan), 138-143. 1982.

Contact agency:

Division of Health Examination Statistics
National Center for Health Statistics
6525 Belcrest Road, Room 1000
Hyattsville, MD 20782-2003
Phone: (301) 436-3473
Fax: (301) 436-5431
http://www.cdc.gov/nchswww/

Agricultural Research Service (USDA) and the National Heart, Lung, and Blood Institute (NIH/HHS) Nutrition Monitoring Research

- **National Food and Nutrient Analysis Program:** The National Heart, Lung, and Blood Institute of the National Institutes for Health and the Agricultural Research Service (ARS), with funding from NCHS and other Federal agencies, have teamed up to work on the National Food and Nutrient Analysis Program to achieve long-sought improvements in the National Nutrient Data Base through a comprehensive revision of scientific concept and technical approach. The program will be directed by the Nutrient Data Laboratory, ARS, USDA. Research activities will comprise four linked components: 1) Evaluate existing data for scientific quality; 2) Identify Key Foods and Nutrients for sampling and analysis plans; 3) Devise and implement a nationally based sampling plan for foods; and 4) Analyze sampled foods under USDA-supervised laboratory contracts. The nutrient data yielded by this program will be of unprecedented analytical quality, will be statistically representative of the national food supply and of national food consumption patterns, and will provide unbiased estimates of the mean and variance for high priority food items.

Contact Agencies:

Food Composition Laboratory, ARS
Beltsville Human Nutrition Research Center
Agricultural Research Service
Building 161, Room 102, BARC-East
Beltsville, MD 20705
Phone: (301) 504-8356
Fax: (301) 734-8498
http://www.nal.usda.gov/fnic/foodcomp/Data/
E-mail: NDLinfo@rbhnrc.usda.gov

Division of Heart and Vascular Diseases
National Heart, Lung and Blood Institute
Rockledge II, Room 9186, Suite 7940
6701 Rockledge Drive
Bethesda, MD 20892
Phone: (301) 435-0529
Fax: (301) 480-1336
E-mail: ErshowA@gwgate.nhlbi.nih.gov

Center for Nutrition Policy and Promotion (CNPP), U.S. Department of Agriculture Nutrition Monitoring Research

- **The Healthy Eating Index (HEI):** In 1995, the Center for Nutrition Policy and Promotion released the Healthy Eating Index (HEI), an aggregate measure of overall diet quality. The purpose of this and follow up activities is to "improve the methodologies and technologies, including those suitable for use by States and localities, available for the assessment of nutritional and dietary status and trends;" and to "develop uniform standards and indicators for the assessment and monitoring of nutritional and dietary status, for relating food consumption patterns to nutritional and health status, and for use in the evaluation of Federal food and nutrition intervention programs;" as mandated by Public Law 101-445 -- The National Nutrition Monitoring and Related Research Act (7 USC 5313, Sec. 103(b)6-7). The HEI has been calculated in 1995 and 1998. Because estimates of the HEI for the U.S. population are based on food and nutrient intake data from national surveys such as USDA's Continuing Survey of Food Intakes by Individuals and HHS' National Health and Nutrition Examination Survey, updates to the HEI for the population are possible only when nationally representative survey data become available.

  The HEI provides a picture of people's overall diet. The HEI has 10 equally-weighted components, each based on different aspects of a healthful diet. The score of each component ranges between 0 and 10 and the overall index, from 0 to 100. The components can be grouped in terms of those that relate to adequacy or sufficiency, to moderation, and to variety in the diet. Specifically, components 1 through 5 measure the degree to which a person's diet contains adequate servings of the 5 major food groups depicted in the Food Guide Pyramid: grains, vegetables, fruits, milk, and meats. Components 6-9 measure how well recommendations to moderate fat, saturated fat, sodium, and cholesterol are met: component 6 is based on total fat consumption as a percentage of total food energy intake; component 7 is based on saturated fat consumption as a percentage of total food energy intake; component 8 is based on cholesterol intake and component 9 is based on sodium intake. Finally, component 10 reflects the amount of variety in a person's diet. Estimated population HEI average scores have been in the low- to mid-sixties (out of a possible 100).

  Variyam JN, Blaylock J, Smallwood D, Basiotis PP. "USDA's Healthy Eating Index and Nutrition Information." Economic Research Service and Center for Nutrition Policy and Promotion, U.S. Department of Agriculture. Washington, DC. Technical Bulletin No. 1866. 1998.

  Kennedy ET, Basiotis PP. "Indices to Monitor Overall Diet Quality." Cereal Foods World 42(2):74-78. 1997.

Kramer-LeBlanc CK, Basiotis PP, Kennedy ET. “Maintaining Food and Nutrition Security in the United States with Welfare Reform.” Am J Agricultural Economics 79(5):105-112. 1997.

Basiotis PP, Hirschman JD, Kennedy ET. “Economic and Sociodemographic Determinants of Healthy Eating as Measured by USDA’s Healthy Eating Index.” Consumer Interest Annual 42:81-88. 1996.

U.S. Department of Agriculture, Center for Nutrition Policy and Promotion. “The Healthy Eating Index.” Report No. CNPP-1. 1995.

Kennedy ET, Ohls J, Carlson S, Fleming K. “The Healthy Eating Index: Design and Applications.” J Am Dietet Assoc 95(10):1103-08. 1995.

Contact Agency:

Center for Nutrition Policy and Promotion
U.S. Department of Agriculture
1120 20th Street, NW, Suite 200 North Lobby
Washington, DC 20036
Phone: (202) 418-2312
Fax: (202) 208-2322
http://www.usda.gov/cnpp

VIII. SEARCHING AGRICOLA AND MEDLINE

What are AGRICOLA and MEDLINE?

AGRICOLA (AGRICultural OnLine Access) and MEDLINE are bibliographic data bases that include information about food and nutrition. AGRICOLA consists of citations for journal articles, monographs, theses, audiovisual materials, and technical reports relating to all aspects of agriculture, while MEDLINE is a biomedical data base consisting of citations from journal articles only. There are currently over 3 million records in the AGRICOLA data base and over 9 million records in MEDLINE. Most of the items listed in AGRICOLA are available at the U.S. Department of Agriculture's National Agricultural Library (NAL) located in Beltsville, Maryland. Journals from citations on MEDLINE can be found at the U.S. Department of Health and Human Services' National Library of Medicine (NLM) located in Bethesda, Maryland.

Access to AGRICOLA and MEDLINE

You can access MEDLINE/PubMed and other related databases through MEDLARS, a free service provided by the National Library of Medicine. PubMed is an easy-to-use, flexible system that allows you to search using free text (natural language) as well as the subject headings and Boolean operators mentioned below. The service can be accessed through the Internet (http://www.ncbi.nlm.nih.gov/PubMed/).

MEDLINE and AGRICOLA on CD-ROM are produced by SilverPlatter, Inc., and are available at many libraries. Online access to both AGRICOLA and MEDLINE is available through commercial vendors including the DIALOG Corporation and DIMDI (Germany). In the summer of 1998, AGRICOLA also will be available through NAL's Web site (http://www.nal.usda.gov).

Searching AGRICOLA and MEDLINE--Some general tips

Before beginning to search a database, it is important to develop a search strategy. A search strategy contains the key words, phrases, or terms that you wish to search; synonyms for these terms; and how you want to combine the terms. Your search strategy should contain several terms for each aspect of the search. You can refer to the index on the CD-ROM version. AGRICOLA is indexed using terms from Great Britain's Commonwealth Agricultural Bureau (CAB) Thesaurus and Library of Congress subject headings and MEDLINE is indexed using terms from the National Library of Medicine's controlled vocabulary, MeSH (Medical Subject Headings).

Combining terms for your search strategy is based upon Boolean Logic which uses the operators AND, OR, and NOT. When you combine two terms with AND, you will get only citations that contain both terms. For example, if you use pumpkin AND pie, you will get all citations containing the words pumpkin and pie. When you use OR you will

get citations containing either one term or the other. For example, if you use pumpkin OR pie, some of the citations will contain pumpkin and others will contain pie. If you use NOT, you will eliminate citations containing that term. For example, if you search pumpkin NOT pie, you will eliminate all citations containing the word pie. NOT is especially useful for eliminating unrelated terms.

Searching techniques differ for AGRICOLA and MEDLINE and depending on whether the search is done on-line or on a CD-ROM. For example, some systems allow you to search consecutive words like National Health and Nutrition Examination Survey, while others only allow you to search using controlled vocabulary. In some cases, certain words cannot be used as part of your key words or phrases. These words are called stop words and include the Boolean operators AND, OR, and NOT, as well as other simple prepositions, such as FOR and BY. When these occur in the title of a survey, they need to be replaced with a code. The data base vendors, a librarian, staff at the Food and Nutrition Information Center (FNIC) of the National Agricultural Library, or at the MEDLARS Management Section at the National Library of Medicine can help you with these codes and with additional searching tips. The CD-ROM version contains an extensive set of help screens. Training for searching AGRICOLA on-line is available through the National Agricultural Library and for MEDLINE through the National Library of Medicine. Call for information about upcoming training sessions.

Searching for Nutrition Monitoring Information (AGRICOLA only)

To search for citations about the nutrition monitoring surveys using AGRICOLA, it is best to search using the survey name. If the survey is sometimes referred to by a second or shortened name, you should also search for those terms. For example, if information is needed about the National Health and Nutrition Examination Survey, use Health and Nutrition Examination Survey. This will bring up both citations including the word National and those without it. Also use HANES and NHANES. When you combine these terms with OR, the duplicates will be removed.

If the name of the survey contains a range of years or a version number, add this information to the search separately from the name of the survey. For example, for information about NHANES III, combine your set of survey names with (III or THIRD). Most of the citations will be relevant.

When searching for a supplement or follow-up to a survey, do NOT include these terms as part of the name of the survey. For example, for the National Health Interview Survey--Supplement on Aging, use National Health Interview Survey AND supplement. You may also want to add AND aging, but wait to see how many references you retrieve. It is best to begin with a less specific search first, and then narrow your search as needed by adding more key words. Often just the survey name will bring up the relevant citations. For some activities without a specific survey name, such as the U.S. Food and Nutrition Supply Series or the Nutrient Composition Laboratory, you need to

search differently. For the U.S. Food and Nutrition Supply Series, you can find Economic Research Service publications by using the terms (food AND consumption AND expenditures) and limiting them to the title. Limiting the publishing agency to USDA will make the results more relevant. You can also use food consumption United States or food prices United States, but beware of items unrelated to the Federal activities.

Searching for the Nutrient Composition Laboratory and National Nutrient Data Bank is more difficult. For the best results, search by the name of a specific researcher as an author. You can also search for (food composition OR composition tables) and USDA as the publishing agency for citations published by USDA as a result of these activities.

For the Vital Statistics System, reports can be retrieved by entering (vital AND health statistics) in the subtitle. Many of these reports are about other Federal monitoring surveys. Using vital statistics brings up citations unrelated to the Vital Statistics System.

For more information about how to search AGRICOLA or MEDLINE, contact:

AGRICOLA only:
Food and Nutrition Information Center (FNIC)
Room 304, National Agricultural Library Bldg.
10301 Baltimore Blvd.
Beltsville, MD 20705-2351
Phone: (301) 504-5719
E-mail: fnic@nal.usda.gov

MEDLINE only:
MEDLARS Management Section
National Library of Medicine
Building 38A, Room 4-421
8600 Rockville Pike
Bethesda, MD 20894
Phone: (888) 346-3656
E-mail: custserv@nlm.nih.gov

The NLM Help Desk can be contacted between the hours of 8:30 a.m. and 10:45 p.m. EST, Monday-Friday and 10:00 a.m. to 5 p.m. EST, Saturday.

IX. DATA SET AVAILABILITY

Directly from an Agency

As the previous chapters indicate, much data are generated by the surveys of the National Nutrition Monitoring Program. For selected surveys, agencies produce data sets for public use; in other cases, they publish reports with findings from the various surveys. Many agencies offer information on CD-ROMs and are phasing out the use of the more expensive public-use data tapes. In addition, many agencies are making data sets accessible through the Internet. The following section includes information that will enable the reader to locate data sets of interest.

NTIS

Some agencies make data sets available through the National Technical Information Service (NTIS). Please see the NTIS webpage for data set availability and ordering information: http://www.fedworld.gov/ntis/ntishome.html.

USGPO

Many reports and documents referenced in this Directory are available from the U.S. Government Printing Office (GPO). You can search and browse for Government information products available for sale through GPO and can place orders online, via fax, mail, or telephone at a local U.S. Government Bookstore (http://www.access.gpo.gov/su_docs/sale.html). The GPO Order Desk is open from 8:00 a.m. and 4:00 p.m. eastern time, Monday through Friday, and can be reached on (202) 512-1800 or fax (202) 512-2250.

INTERNET TOOL

The Federal Electronic Research and Review Extraction Tool or FERRET, http://ferret.bls.census.gov/cgi-bin/ferret, a computer search tool developed by the U.S. Commerce Department's Census Bureau and the Department of Labor's Bureau of Labor Statistics (BLS), enables users to access and manipulate large demographic and economic data sets over the Internet. Ferret was developed to provide one-stop access to statistics from the CPS and the SIPP. FERRET allows users to quickly locate current and historical information from these sources, get tabulations for specific information they need, make comparisons between different data sets, create simple tables and download large amounts of data from the Internet to desktop and larger computers for custom reports.

U.S. DEPARTMENT OF AGRICULTURE

Center for Nutrition Policy and Promotion

- See CNPP's home page (http://www.usda.gov/cnpp) or contact them directly (202/ 418-2312) for more information on the HEI index and related-products ordering information.

Food and Nutrition Service

- Contact NTIS to order School Nutrition Dietary Assessment Study tapes (PB94-500956GEI). Reports from all other surveys may be obtained by calling the FNS office or checking their website. The agency does not yet make available CD-ROMs, but plans to make them available in the future.

Agricultural Research Service

- The following survey data sets and technical support files are available through NTIS:
  -- CSFII/DHKS 1994-96 CD-ROMs
  -- CSFII/DHKS 1989-91 CD-ROMs
  -- NFCS 1987-88 Magnetic Data Tapes
  -- CSFII 1985-86, 1985 and 1986 Series Magnetic Data Tapes
  -- NFCS 1977-78 (by season, state, and income) Magnetic Data Tapes

- The following food composition databases are available on the ARS's Nutrient Data Laboratory home page (http://www.nal.usda.gov/fnic/foodcomp):
  -- USDA Nutrient Database for Standard Reference, Release 11-1.
  -- Selected Foods Containing Trans Fatty Acids, 1995
  -- Provisional Table on the Vitamin K Content of Foods, 1994
  -- USDA-NCI Carotenoid Food Composition Database, 1993
  -- Provisional Table on the Selenium Content of Foods, 1992
  -- Provisional Table on the Vitamin D Content of Foods, 1991
  -- Nutritive Value of Foods, 1990
  -- Sugar Content of Selected Foods: Individual and Total, 1987
  -- USDA Table of Nutrient Retention Factors, Release 3

Cooperative State Research, Education, and Economics Service

- See the EFNEP Evaluation and Reporting System home page (http://www.reeusda.gov/ers4/home.htm) or contact the office directly on (202) 720-6079 to obtain ordering information.

Economic Research Service

- To obtain data sets, technical files, and/or publications from ERS, see their home page (http://www.econ.ag.gov) or contact them directly on (202) 694-5386.

U.S. DEPARTMENT OF COMMERCE
Bureau of the Census

- Data from the 1995 and 1996 March Supplement and the 1996 Displaced Workers Supplement to the CPS are available through the FERRET system, while data from the SIPP will be included in the near future. To obtain other data on CPS and SIPP, contact the agency contact listed in the text.

National Oceanic and Atmospheric Administration

- To obtain data sets and/or reports on the National Seafood Consumption Survey, the Survey of Fish Purchases by Socio-economic Characteristics, and Fisheries of the United States contact the National Marine Fisheries Service on (301) 713-2358 or see their home page (http://www.nmfs.gov/).

U.S. DEPARTMENT OF DEFENSE

- To obtain data sets and/or reports on the Nutritional Evaluation of Military Feeding Systems and Military Populations contact the U.S. Army Research Institute of Environmental Medicine on (508) 651-4874 or see their home page (http://www.acda.gov/factshee/defense.htm).

U.S. DEPARTMENT OF HEALTH AND HUMAN SERVICES

National Center for Health Statistics, Centers for Disease Control and Prevention

- NCHS has catalogs listing publications and their GPO stock numbers. The catalogs can be obtained by calling or writing to the Data Dissemination Branch, Division of Data Services, National Center for Health Statistics, 6525 Belcrest Road, Hyattsville, MD 20782 (telephone number is 301-436-8500). The NCHS Catalog of Electronic Data Products can also be downloaded from http://www.cdc.gov/nchswww/products/catalogs/catelec.htm. In the near future, NCHS hopes to make data sets available on-line through the FERRET system.

- Electronic data products (including data tapes and CD-ROMs) for the NAMCS, NHDS, NHHCS, NNHS, and NSAS surveys are available from NTIS. Data are also available directly from NCHS. In addition, some of the NAMCS, NHDS, NHHCS, NNHS, and NSAS datasets may be downloaded from the Internet.

- Public use data files for the NSFG are available on cartridge tape from NTIS. Recent cycles of the survey (1988, 1990, 1995) are also available from NTIS on CD-ROM, with documentation and SETS software included. Ordering information for data and selected reports, as well as selected tabulations and summary fact sheets, can be found on the NSFG home page (http://www.cdc.gov/nchswww/about/major/nsfg/nsfg.htm). You can also order paper copies of most NCHS reports directly from NCHS or GPO.

- NHIS data for the period 1969-1986 are available on tape, and from 1987 forward on CD-ROM. They can also be obtained through NCHS or NTIS.

- Public use tapes for NHANES I, NHANES II, NHANES III, and HHANES can be obtained from NTIS. For NHANES III, CD-ROMs containing data and reports are available directly from NCHS. In the near future, NCHS hopes to make data sets available on-line through the FERRET system.

- All NHEFS public use data tapes (1982-84, 1986, 1987 and 1992) are available from NTIS on mainframe cartridge tapes. 1992 NHEFS public use data files can also be downloaded free of charge from: http://www.cdc.gov/nchswww/datawh/ftpserv/ftpdata/ftpdata.htm.

National Center for Chronic Disease Prevention and Health Promotion

- For all NCCDPHP/CDC-sponsored surveys, obtain ordering information directly from the Contact Agency listed in the text.

National Institutes of Health

- For all NIH-sponsored surveys, obtain ordering information directly from the Contact Agency listed in the text.

Food and Drug Administration

- For all FDA-sponsored surveys, obtain ordering information directly from the Contact Agency listed in the text.

U.S. DEPARTMENT OF LABOR

Bureau of Labor Statistics

- Data tapes for the Consumer Expenditure Survey, 1960-95, are available from BLS. Starting 1995, BLS makes available data on CD-ROM only. CD-ROMs are also available for a few files produced prior to 1995. For further technical information, contact the Division of Consumer Expenditure Surveys, Bureau of Labor Statistics on (202) 606-6900 and for purchasing information, contact them on (202) 606-7786. See the BLS home page (http://stats.bls.gov/csxhome.htm) for additional information.

U.S. DEPARTMENT OF STATE

Agency for International Development

- For AID-sponsored surveys, obtain ordering information directly from the Contact Agency listed in the text.

DEPARTMENT OF
HEALTH AND HUMAN SERVICES

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