

competitive pricing on newly offered contracts). Consequently, Provident Mutual's surplus must grow at least at the same rate as its assets.

10. Provident Mutual represents that the proposed 1.25 percent charge is reasonably related to its increased tax burden under section 848, taking into account the benefit to Provident Mutual of the amortization permitted by section 848, and the use by Provident Mutual of a 9.3 percent discount rate in computing the future deductions resulting from such amortization, such rate being the equivalent of Provident Mutual's cost of capital.

11. Applicants state that the exemption requested is necessary in order for them and any future separate accounts to rely on sub-paragraph (b)(13)(i) of Rule 6e-3(T), which provides critical exemptions from the sales load limitations of sections 27(a)(1) and 27(h)(1) of the 1940 Act. Applicants are exempted from those sales load limitations only if they adhere to the alternate sales load limitations set out in paragraph (b)(13)(i), and Applicants state that they generally could not meet those alternate limits if the proposed tax burden charge is included in sales load.

12. Applicants state that the public policy that underlies sub-paragraph (b)(13)(i), like that which underlies sections 27(a)(1) and 27(h)(1), is to prevent excessive sales loads from being charged in connection with the sale of periodic payment plan certificates. The treatment of a tax burden charge attributable to the receipt of premium payments as sales load would not in any way further this legislative purpose, because such a deduction has no relation to the payment of sales commissions or other distribution expenses.

Applicants' Conditions

Applicants agree to comply with the following as conditions to the exemptions requested herein:

1. Provident Mutual will monitor the reasonableness of the 1.25 percent charge.
2. The registration statement for any variable life insurance contract under which the 1.25 percent charge is deducted will include (a) disclosure of the charge, (b) disclosure explaining the purpose of the charge, and (c) a statement that the charge is reasonable in relation to Provident Mutual's increased tax burden as a result of section 848 of the Code.
3. Provident Mutual will also include as an exhibit to the registration statement for any variable life insurance contract under which the

1.25 percent charge is deducted an actuarial opinion as to (a) the reasonableness of the charge in relation to Provident Mutual's increased tax burden as a result of section 848 of the Code, (b) the reasonableness of the after tax rate of return used in calculating the charge, and (c) the appropriateness of the factors taken into account by Provident Mutual in determining the after tax rate of return.

Conclusion

Applicants submit that for the reasons and upon the facts set forth above, the requested exemptions from sections 27(c)(2) of the 1940 Act and paragraph (c)(4)(v) of Rule 6e-3(T) under the 1940 Act to permit Provident Mutual to deduct 1.25 percent of premium payments meet the standards in section 6(c) of the 1940 Act. In this regard, Applicants assert that granting the relief requested in this application would be appropriate in the public interest and consistent with the protection of investors and the purposes fairly intended by the policy and provisions of the 1940 Act.

For the Commission, by the Division of Investment Management, under delegated authority.

Jonathan G. Katz,
Secretary.

[FR Doc. 93-13845 Filed 6-10-93; 8:45 am]

BILLING CODE 8010-01-M

DEPARTMENT OF TRANSPORTATION

Office of the Secretary

Applications of Kitty Hawk Air cargo, Inc. for Certificate Authority and for an Exemption

AGENCY: Department of Transportation.

ACTION: Notice of order to show cause (Order 93-6-8) Dockets 48739 and 48785.

SUMMARY: The Department of Transportation is (1) directing all interested persons to show cause why it should not issue an order finding Kitty Hawk Air cargo, Inc., fit, willing, and able, and awarding it a certificate of public convenience and necessity to engage in foreign scheduled air transportation of property and mail between Miami, Florida, and Santo Domingo, Dominican Republic; and (2) granting the company's request for an exemption from section 401 of the Federal Aviation Act to enable it to engage in the proposed foreign air transportation pending final action on its certificate application.

DATES: Persons wishing to file objections should do so no later than June 23, 1993.

ADDRESSES: Objections and answers to objections should be filed in Dockets 48739 and 48785 and addressed to the Documentary Services Division (C-55, room 4107), U.S. Department of Transportation, 400 Seventh Street, SW., Washington, DC 20590, and should be served upon the parties listed in Attachment A to the order.

FOR FURTHER INFORMATION CONTACT:

Ms. Carol A. Woods, Air Carrier Fitness Division (P-56, room 6401), U.S. Department of Transportation, 400 Seventh Street, SW., Washington, DC 20590, (202) 366-2340.

Dated: June 8, 1993.

Patrick V. Murphy,

Acting Assistant Secretary for Policy and International Affairs.

[FR Doc. 93-13863 Filed 6-10-93; 8:45 am]

BILLING CODE 4910-02-M

Application of Polar Air Cargo for Certificate Authority

AGENCY: Department of Transportation.

ACTION: Notice of order to show cause (Order 93-6-9) Docket 48658.

SUMMARY: The Department of Transportation is directing all interested persons to show cause why it should not issue an order finding Southern Air Transport, Inc. d/b/a Polar Air Cargo fit, willing, and able, and awarding it a certificate of public convenience and necessity to engage in foreign scheduled air transportation of property and mail between points in the United States and Hong Kong, Australia, South Korea, Taiwan, and the Republic of Ireland.

DATES: Persons wishing to file objections should do so no later than June 23, 1993.

ADDRESSES: Objections and answers to objections should be filed in Docket 48658 and addressed to the Documentary Services Division (C-55, room 4107), U.S. Department of Transportation, 400 Seventh Street, SW., Washington, DC 20590, and should be served upon the parties listed in Attachment A to the order.

FOR FURTHER INFORMATION CONTACT:

Ms. Carol A. Woods, Air Carrier Fitness Division (P-56, room 6401), U.S. Department of Transportation, 400 Seventh Street, SW., Washington, DC 20590, (202) 366-2340.

Dated: June 8, 1993.

Patrick V. Murphy,

Acting Assistant Secretary for Policy and International Affairs.

[FR Doc. 93-13862 Filed 6-10-93; 8:45 am]

BILLING CODE 4910-62-M

Federal Aviation Administration

Availability of the Categorical Exclusion for Airspace Delegation Modifications within the Detroit Metro Terminal Airspace

AGENCY: Federal Aviation Administration (FAA), DOT.

ACTION: Notice of availability of a categorical exclusion.

SUMMARY: The FAA is issuing this notice to advise the public that the FAA Great Lakes Region has approved and signed a categorical exclusion for the permanent implementation of airspace delegation modifications within the Detroit Metro Terminal Airspace. These are minor modifications which transfer, from one air traffic controller to another, responsibility for the separation of aircraft within selected parcels of airspace. All parcels of airspace are under the jurisdiction of the Detroit Metropolitan Air Traffic Control Tower. These modifications do not affect the movement of aircraft below 3,000 feet above ground level (AGL) but, rather, affect en route procedures conducted at 3,000 feet or more AGL. FAA Order 1050.1D, Appendix 4, Paragraph 4k, allows Air Traffic to categorically exclude instrument approach procedures, departure procedures, and en route procedures conducted at 3,000 feet or more AGL from the requirement for environmental assessment. These modifications are well outside the 65 DNL contours for all airports within the Detroit Metro Terminal Airspace and should not result in any measurable environmental consequences.

ADDRESSES: The categorical exclusion is available for inspection at: Federal Aviation Administration, System Management Branch, 2300 East Devon Avenue, Des Plaines, Illinois 60018.

FOR FURTHER INFORMATION CONTACT: Ms. Annette Kochan, Environmental Specialist, AGL-530E, Federal Aviation Administration, 2300 East Devon Avenue, Des Plaines, Illinois 60018, Telephone (312) 694-7796.

SUPPLEMENTARY INFORMATION: The Federal Aviation Administration (FAA) Great Lakes Region is issuing this notice of availability of its May 14, 1993, categorical exclusion to assure that all persons have notice that the FAA has decided to redelegate the responsibility

for separation of aircraft within a few areas of the Detroit Metro Terminal Airspace.

Issued in Des Plaines, Illinois, on June 3, 1993.

Douglas F. Powers,

Manager, System Management Branch, Air Traffic Division, Great Lakes Region.

[FR Doc. 93-13797 Filed 6-10-93; 8:45 am]

BILLING CODE 4910-13-M

Air Traffic Procedures Advisory Committee

AGENCY: Federal Aviation Administration (FAA), DOT.

ACTION: Notice of meeting.

SUMMARY: The FAA is issuing this notice to advise the public that a meeting of the Federal Aviation Administration Air Traffic Procedures Advisory Committee (ATPAC) will be held to review present air traffic control procedures and practices for standardization, clarification, and upgrading of terminology and procedures.

DATES: The meeting will be held from July 12 through July 15, 1993, from 9 a.m. to 5 p.m. each day.

ADDRESSES: The meeting will be held at the Le Centre Sheraton, 1201 Rene-Levesque Boulevard West, Montreal, Canada.

FOR FURTHER INFORMATION CONTACT:

Mr. Timothy E. Halpin, Executive Director, ATPAC, Air Traffic Rules and Procedures Service, 800 Independence Avenue, SW., Washington, DC 20591, telephone (202) 267-3725.

SUPPLEMENTARY INFORMATION: Pursuant to section 10(a)(2) of the Federal Advisory Committee Act (Pub. L. 92-463; 5 U.S.C. app. 2), notice is hereby given of a meeting of the ATPAC to be held from July 12 through July 15, 1993, at the Le Centre Sheraton, 1201 Rene-Levesque Boulevard West, Montreal, Canada.

The agenda for this meeting will cover: a continuation of the Committee's review of present air traffic control procedures and practices for standardization, clarification, and upgrading of terminology and procedures. It will also include:

1. Approval of Minutes.
2. Submission and Discussion of Areas of Concern.
3. Discussion of Potential Safety Items.
4. Report from Executive Director.
5. Items of Interest.
6. Discussion and agreement of location and dates for subsequent meetings.

Attendance is open to the interested public but limited to the space

available. With the approval of the Chairperson, members of the public may present oral statements at the meeting. Persons desiring to attend and persons desiring to present oral statements should notify the person listed above not later than July 9, 1993. The next quarterly meeting of the FAA ATPAC is planned to be held from October 18-21, 1993, in Washington, DC. Any member of the public may present a written statement to the Committee at any time at the address given above.

Issued in Washington, DC, on June 4, 1993.

Timothy E. Halpin,

Executive Director, Air Traffic Procedures Advisory Committee.

[FR Doc. 93-13798 Filed 6-10-93; 8:45 am]

BILLING CODE 4910-13-M

DEPARTMENT OF THE TREASURY

Customs Service

[T.D. 93-41]

Determination that Merchandise Imported from the People's Republic of China is Being Produced with Convict, Forced or Indentured Labor by the Qinghai Hide and Garment Factory

AGENCY: Customs Service, Department of the Treasury.

ACTION: Determination that merchandise is subject to 19 U.S.C. 1307.

SUMMARY: This document advises that the Commissioner of Customs, with the approval of the Secretary of the Treasury, has determined that certain sheepskin and leather, which are being, or are likely to be imported into the United States from the People's Republic of China (PRC), are being manufactured with the use of convict labor and/or forced labor and/or indentured labor by the Qinghai Hide and Garment Factory, Xining, Qinghai Province, PRC. The Qinghai Hide and Garment Factory may also be known as the Qinghai Leather and Wool Bedding and Garment Factory or the Qinghai Fur and Cloth Factory.

The Commissioner of Customs, pursuant to 19 CFR 12.42(f), has determined, on the basis of a Customs investigation, that such merchandise is being, or is likely to be imported into the United States in violation of section 307 of the Tariff Act of 1930, as amended. Imports of the aforementioned sheepskin and leather shall be considered and treated as prohibited by section 307 of the Tariff Act of 1930, as amended (19 U.S.C. 1307), unless, pursuant to 19 CFR 12.42(g), 12.43, and 12.44, the importer

establishes by satisfactory evidence that the merchandise was not mined, produced, or manufactured in any part with the use of a class of labor specified herein.

DATES: This determination shall take effect June 16, 1993.

FOR FURTHER INFORMATION CONTACT:

Bob Neckel, Senior Special Agent, Office of Investigative Programs, Office of Enforcement, Headquarters, U.S. Customs Service, 1301 Constitution Avenue NW., Washington, DC 20229 (202) 927-1510

SUPPLEMENTARY INFORMATION:

Background

Section 307, Tariff Act of 1930, as amended (19 U.S.C. 1307), provides in pertinent part:

All goods, wares, articles, and merchandise mined, produced, or manufactured wholly or in part in any foreign country by convict labor or/and forced labor or/and indentured labor under penal sanctions shall not be entitled to entry at any of the ports of the United States, and the importation thereof is hereby prohibited, and the Secretary of the Treasury is authorized and directed to prescribe such regulations as may be necessary for the enforcement of this provision.

"Forced labor" is defined to mean:

all work or service which is exacted from any person under the menace of any penalty for its nonperformance and for which the worker does not offer himself voluntarily. See, 19 U.S.C. 1307.

Pursuant to section 307, the Secretary of the Treasury promulgated implementing regulations found at 19 CFR 12.42, *et seq.* These regulations set forth the procedure for the Commissioner of Customs to make a finding that an article is being, or is likely to be imported into the United States which is being produced, whether by mining, manufacture, or other means, in any foreign locality with the use of convict labor, forced labor, or indentured labor under penal sanctions so as to come within the purview of 19 U.S.C. 1307.

Paragraph (f) of § 12.42, Customs Regulations (19 CFR 12.42(f)), provides that if the Commissioner of Customs finds that merchandise within the purview of 19 U.S.C. 1307 is being, or is likely to be, imported, [s]he will, with the approval of the Secretary of the Treasury, publish a finding to that effect in a weekly issue of the *Customs Bulletin* and in the *Federal Register*.

Finding

Pursuant to § 12.42(f), Customs Regulations (19 CFR 12.42(f)), it is hereby determined that certain articles

of the People's Republic of China are being, or are likely to be, imported into the United States, which are being produced, whether by mining, manufacture, or other means, with the use of convict, forced, or indentured labor.

Accordingly, based upon this finding, Customs officers shall withhold release of any of these articles from the People's Republic of China. Such articles may be exported only.

Articles	Item number from the Harmonized Tariff schedule (19 U.S.C. 1202)
Sheepskin and Leather (manufactured by Qinghai Hide and Garment Factory).	4102.10 through 4102.29, 4104.10 through 4111.00, 4301.10, 4303.90.

Approved: December 30, 1992.

John P. Simpson,

Acting Assistant Secretary (Enforcement).

Carol Hallett,

Commissioner of Customs.

Editorial Note: This document was received at the Office of the Federal Register on June 8, 1993.

[FR Doc. 93-13861 Filed 6-10-93; 8:45 am]

BILLING CODE 4820-02-M

Sunshine Act Meetings

Federal Register

Vol. 58, No. 111

Friday, June 11, 1993

This section of the FEDERAL REGISTER contains notices of meetings published under the "Government in the Sunshine Act" (Pub. L. 94-409) 5 U.S.C. 552b(e)(3).

FEDERAL DEPOSIT INSURANCE CORPORATION

Notice of Change in Subject Matter of Agency Meeting

Pursuant to the provisions of subsection (e)(2) of the "Government in the Sunshine Act" (5 U.S.C. 552b(e)(2)), notice is hereby given that at its open meeting held at 9:02 a.m. on Wednesday, June 9, 1993, the

Corporation's Board of Directors determined, on motion of Director Jonathan L. Fiechter (Acting Director, Office of Thrift Supervision), seconded by Director Eugene A. Ludwig (Comptroller of the Currency), concurred in by Acting Chairman Andrew C. Hove, Jr., that Corporation business required the withdrawal from the agenda for consideration at the meeting, on less than seven days' notice to the public, of the following matter:

Memorandum and resolution re: Delegation of Authority to Defer Appointing Receiver for Critically Undercapitalized Institutions.

By the same majority vote, the Board further determined that no earlier notice of the change in the subject matter of the meeting was practicable.

The meeting was held in the Board Room of the FDIC Building located at 550—17th Street, NW., Washington, DC

Dated: June 9, 1993.
Federal Deposit Insurance Corporation.

Robert E. Feldman,
Deputy Executive Secretary.
[FR Doc. 93-13968 Filed 6-9-93; 2:46 pm]
BILLING CODE 6714-01-M

Corrections

Federal Register

Vol. 58, No. 111

Friday, June 11, 1993

This section of the FEDERAL REGISTER contains editorial corrections of previously published Presidential, Rule, Proposed Rule, and Notice documents. These corrections are prepared by the Office of the Federal Register. Agency prepared corrections are issued as signed documents and appear in the appropriate document categories elsewhere in the issue.

Appendix A to 7 CFR 1755.390 [Corrected]

On page 29346, in the first column, in Appendix A to 7 CFR 1755.390, the table heading now reading "Jacket Slip Strength @ 50½°C" should read "Jacket Slip Strength @ 50°C".

BILLING CODE 1505-01-D

"Arizona" should appear in the first column of each.

BILLING CODE 1505-01-D

DEPARTMENT OF AGRICULTURE

Rural Electrification Administration

7 CFR Part 1755

RIN 0572-AA55

REA Specification for Filled Telephone Cables

Correction

In rule document 93-11895 beginning on page 29336 in the issue of Thursday, May 20, 1993, make the following correction:

FEDERAL EMERGENCY MANAGEMENT AGENCY

44 CFR Part 67

[Docket No. FEMA-7068]

Proposed Flood Elevation Determinations

Correction

In proposed rule document 93-13322 beginning on page 31929 in the issue of Monday, June 7, 1993, make the following corrections:

§ 67.4 [Corrected]

On page 31935, in § 67.4, in the two tables at the bottom of the page,

DEPARTMENT OF THE INTERIOR

Bureau of Land Management

[AZ-020-03-4210-04; AZA-27785]

Realty Action Exchange of Public and Private Lands in Mohave County, Arizona

Correction

In notice document 93-12287 appearing on page 29772 in the issue of Friday, May 21, 1993, make the following correction:

In the first column, in the land description, in Township 16 North, Range 20 ½ West, in Sec. 1, "S½N½," should read "S½N½".

BILLING CODE 1505-01-D

Federal Register

Friday
June 11, 1993

Part II

**Department of
Health and Human
Services**

**Department of
Agriculture**

**Ten-Year Comprehensive Plan for the
National Nutrition Monitoring and Related
Research Program; Notice**

DEPARTMENT OF HEALTH AND HUMAN SERVICES AND DEPARTMENT OF AGRICULTURE

Ten-Year Comprehensive Plan for the National Nutrition Monitoring and Related Research Program

AGENCIES: U.S. Department of Health and Human Services and U.S. Department of Agriculture.

ACTION: Publication of the ten-year comprehensive plan for the National Nutrition Monitoring and Related Research Program.

SUMMARY: The U.S. Department of Health and Human Services (HHS) and the U.S. Department of Agriculture (USDA) announce the issuance of the Ten-Year Comprehensive Plan for the National Nutrition Monitoring and Related Research Program, as required by Section 103 of the National Nutrition Monitoring and Related Research Act of 1990. The Plan set forth below was developed by HHS and USDA under the guidance of the Administration-wide Interagency Board for Nutrition Monitoring and Related Research. The Plan also responds to comments received during a period of public review (FR 57 55716-55767, October 29, 1991).

ADDRESS: Copies of the public comments received are available at the Human Nutrition Information Service (HNIS), USDA, 6505 Belcrest Road, room 360, Hyattsville, MD 20782, or at the National Center for Health Statistics (NCHS), Centers for Disease Control and Prevention (CDC), 6525 Belcrest Road, room 1000, Hyattsville, MD 20782.

FOR FURTHER INFORMATION CONTACT: Ms. Alanna Moshfegh, USDA/HNIS (see address above), telephone (301) 436-8457, or Dr. Ronette Briefel, HHS/CDC/NCHS (see address above), telephone (301) 436-3473.

SUPPLEMENTARY INFORMATION: Prior to its publication, the Ten-Year Comprehensive Plan was widely discussed and disseminated among a variety of professional audiences, including representatives from Federal, State, and local governments; academia; the health community; consumer interest groups; private industry; and the National Nutrition Monitoring Advisory Council. A total of 53 written comments were received during the 90-day comment period in addition to numerous other forms of input during the development of the Plan.

Responses to the Plan were compiled and evaluated. In general, the responses to the scope and objectives of the Plan were positive in nature, including acknowledgement of the comprehensive

scope of the Plan and the coordination that occurred to produce the draft Plan within the legislated time-frame. The major issues raised in the public comments included the need for:

- Improved and more timely dissemination of data and information from the Program,
- One responsible organization for each activity where possible to assure accountability,
- More specific description of how coverage of population subgroups at nutritional risk will be addressed,
- Inexpensive, robust methods for assessing the nutritional status of populations at State and local levels, including dietary intake,
- Improved timeliness in accomplishing and defining products for some activities,
- Recognizing the importance of examining food sufficiency throughout the Nutrition Monitoring Program,
- Including brand name data in the food and nutrient data base,
- Using food intake surveys to estimate exposure and risk for environmental contaminants and pesticide residues.

Specific areas of the Plan that have been added or changed as a result of the public comments include the addition of a section on dissemination of information; the establishment of a three-tiered system for designating responsible, contributing, and collaborating organizations for each activity in the Plan and an annual review of progress by the Interagency Board; revisions of certain activities to address better coverage of population subgroups; strengthening activities to further the development and use of appropriate methods for assessing nutritional status and food sufficiency; and the establishment of a task force to examine the issue of using brand name food items for nutrition monitoring.

Dated: June 3, 1993.

Ellen Haas,

Assistant Secretary for Food and Consumer Services, Department of Agriculture.

J. Michael McGinnis,

Deputy Assistant Secretary for Health (Disease Prevention and Health Promotion, Public Health Service, HHS).

Ten-Year Comprehensive Plan for the National Nutrition Monitoring and Related Research Program

Foreword

The National Nutrition Monitoring and Related Research Act of 1990 requires the establishment and implementation of a Ten-Year Comprehensive Plan for nutrition monitoring and related research. The

Plan coordinates the nutrition monitoring activities of 22 Federal agencies under the joint direction of the Department of Agriculture and the Department of Health and Human Services. The goal of the Plan is to establish a comprehensive nutrition monitoring and related research program for the Federal government 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.

This document provides a brief history and review of past accomplishments in Federal nutrition monitoring and presents the Plan for the next decade, 1992-2002. The Plan defines over 70 activities for nutrition monitoring and related research required by law or recommended by scientific experts and nutrition monitoring data users, and identifies priorities for the Federal agencies responsible for conducting nutrition monitoring surveys and related research. The Plan complements and expands the current programs for nutrition monitoring in the Federal Government. Each listed activity includes the assigned responsible agencies and the timelines for completion.

The broad range of activities in the Ten-Year Plan would provide the Federal government the opportunity to achieve the main objectives of a coordinated comprehensive National Nutrition Monitoring and Related Research Program. Some projects are currently underway, and others have been outlined for future implementation.

Meeting the objectives toward which endeavors are directed for national nutrition monitoring and related research will be heavily influenced by the financial resource availability of the agencies involved to complete critical projects and activities. We estimate that allocations of about 20 to 40 percent above current funding levels (\$156.5 million in FY 1992) will be needed if we are to meet the goals that have been set for a comprehensive National Nutrition Monitoring and Related Research Program. Based on budget projections developed to reflect the activities designed to be completed during the first five years of the Plan, additional appropriations of over \$200 million may be required to fully implement the Ten-Year Plan through FY 1998. These funds are in addition to the support that will be needed to maintain the ongoing

baseline activities that underpin the Plan-specific activities.

The Ten-Year Plan was developed to complement and enhance the wide range of nutrition monitoring activities that have been underway for many years. It cannot be emphasized enough that the success of this undertaking can only be achieved if the Congress consistently provides a reasonable level of support for the 7 Departments and 22 agencies covered by the Plan over the next decade.

In recent years, even modest increases for the support of nutrition monitoring and related research have not always been forthcoming. To bring to fruition all the potential in the Ten-Year Plan will require a long-term commitment by both the Executive and Legislative Branches of the Federal Government.

Outline

Ten-Year Comprehensive Plan for the National Nutrition Monitoring and Related Research Program

Acronyms and Abbreviations

I. Introduction

II. The National Nutrition Monitoring and Related Research Program (NNMRRP)

- A. Purposes and uses of nutrition monitoring data
- B. Milestones of the National Nutrition Monitoring System
- C. Structure of Federal coordination of the NNMRRP
- D. The National Nutrition Monitoring Advisory Council

III. Scope and format of the Ten-Year Comprehensive Plan

IV. Activities of the Interagency Board for Nutrition Monitoring and Related Research (IBNMRR)

V. National objectives and activities

Objective V-A: Provide for a comprehensive NNMRRP through continuous and coordinated data collection

1. Nutrition and related health measurements
2. Food and nutrient consumption
3. Knowledge, attitudes, and behavior assessments
4. Food composition and nutrient data bases

Objective V-B: Improve the comparability and quality of data across the NNMRRP

1. Nutrition and related health measurements
2. Food and nutrient consumption
3. Knowledge, attitudes, and behavior assessments
4. Food composition and nutrient data bases

Objective V-C: Improve the research base for nutrition monitoring

1. Nutrition and related health measurements
2. Food and nutrient consumption
3. Knowledge, attitudes, and behavior assessments
4. Food composition and nutrient data bases

5. Food supply determinations

VI. State and local objectives and activities

Objective VI-A: Develop and strengthen State and local capacity for continuous and coordinated data collection

Objective VI-B: Improve methodologies to enhance comparability of NNMRRP data across Federal, State, and local levels

Objective VI-C: Improve the quality of State and local nutrition monitoring data

VII. Calendar for planned IBNMRR, national, State, and local objectives and activities

VIII. References

IX. Appendices

Appendix 1 Joint DHHS-USDA Working Group for the development of the Ten-Year Comprehensive Plan for the National Nutrition Monitoring and Related Research Program

Appendix 2 Nutrition monitoring activities from 1892 through 1991

Appendix 3 Current and planned nutrition monitoring activities from 1992-2002

Appendix 4 Overview of current NNMRRP surveys and surveillance activities

Appendix 5 Detailed conceptual model of food to health

Appendix 6 Illustration of the relationships among nutrition policymaking, research, and monitoring with respect to a coronary risk factor, biomedical education program

X. Glossary

Acronyms and Abbreviations

The following list of acronyms and abbreviations is provided as a quick index of Federal departments, agencies, survey activities, and non-Federal organizations that are mentioned more than once in this report. Parenthetical acronyms and abbreviations identify the parent department and agencies to which the listed agencies or committees belong.

ADAMHA—Alcohol, Drug Abuse, and Mental Health Administration¹ (DHHS/PHS)

AMS—Agricultural Marketing Service (USDA)

ARS—Agricultural Research Service (USDA)

ASTPHND—Association of State and Territorial Public Health Nutrition Directors

BHE—Bureau of Home Economics (USDA)

BHNHE—Bureau of Human Nutrition and Home Economics (USDA)

BLS—Bureau of Labor Statistics (DOL)

BRFSS—Behavioral Risk Factor Surveillance System (DHHS/PHS/CDC/NCCDPHP)

CES—Cooperative Extension Service (USDA)

CDC—Centers for Disease Control and Prevention (DHHS/PHS)

CFERD—Consumer and Food Economics Research Division (USDA/ARS)

CSFII—Continuing Survey of Food Intakes by Individuals (USDA/PHS)

CSRS—Cooperative State Research Service (USDA)

CSSS—Coordinated State Surveillance System (DHHS/PHS/CDC/NCCDPHP)

DHEW—Department of Health, Education, and Welfare

¹ ADAMHA was reorganized to the Substance Abuse and Mental Health Services Administration (SAM HSA) on October 1, 1992.

DHHS—Department of Health and Human Services

DOC—Department of Commerce

DOD—Department of Defense

DOL—Department of Labor

EPA—Environmental Protection Agency

ERS—Economic Research Service (USDA)

ES—Extension Service (USDA)

FASEB—Federation of American Societies for Experimental Biology

FDA—Food and Drug Administration (DHHS/PHS)

FLAPS—Food Labeling and Package Survey (DHHS/PHS/FDA)

FNS—Food and Nutrition Service (USDA)

FSIS—Food Safety and Inspection Service (USDA)

HCFA—Health Care Financing Administration (DHHS)

HERB—Home Economics Research Branch (USDA/ARS)

HFCS—Household Food Consumption Survey

HHANES—Hispanic Health and Nutrition Examination Survey (DHHS/PHS/CDC/NCHS)

HNIS—Human Nutrition Information Service (USDA)

HRSA—Health Resources and Services Administration (DHHS/PHS)

IBNMRR—Interagency Board for Nutrition Monitoring and Related Research

ICNM—Interagency Committee on Nutrition Monitoring

IHS—Indian Health Service (DHHS/PHS)

INFOODS—International Food Composition Data System

ICHNR—Interagency Committee on Human Nutrition Research

JNMEC—Joint Nutrition Monitoring Evaluation Committee (DHHS/USDA)

LSRO—Life Sciences Research Office (FASEB)

NASA—National Aeronautics and Space Administration

NCCDPHP—National Center for Chronic Disease Prevention and Health Promotion (DHHS/PHS/CDC)

NCEH—National Center for Environmental Health (DHHS/PHS/CDC)

NCHS—National Center for Health Statistics (DHHS/PHS/CDC)

NCI—National Cancer Institute (DHHS/PHS/NIH)

NCL—Nutrient Composition Laboratory (USDA/ARS)

NFCS—Nationwide Food Consumption Survey (USDA/PHS)

NHANES—National Health and Nutrition Examination Survey (DHHS/PHS/CDC/NCHS)

NHIS—National Health Interview Survey (DHHS/PHS/CDC/NCHS)

NHLBI—National Heart, Lung, and Blood Institute (DHHS/PHS/NIH)

NIA—National Institute on Aging (DHHS/PHS/NIH)

NIAID—National Institute of Allergy and Infectious Disease (DHHS/PHS/NIH)

NIAMS—National Institute of Arthritis and Musculoskeletal and Skin Diseases (DHHS/PHS/NIH)

NICHD—National Institute of Child Health and Human Development (DHHS/PHS/NIH)

NIDA—National Institute on Drug Abuse (DHHS/PHS/NIH)
 NIDDK—National Institute of Diabetes and Digestive and Kidney Disease (DHHS/PHS/NIH)
 NIDR—National Institute of Dental Research (DHHS/PHS/NIH)
 NIH—National Institutes of Health (DHHS/PHS)
 NLEA—National Labeling and Education Act
 NMFS—National Marine Fisheries Service (DOC/NOAA)
 NNDB—National Nutrient Data Bank (USDA/HNIS)
 NNMAC—National Nutrition Monitoring Advisory Council
 NNMRRP—National Nutrition Monitoring and Related Research Program
 NNMS—National Nutrition Monitoring System
 NOAA—National Oceanic and Atmospheric Administration (DOC)
 OASFC—Office of the Assistant Secretary for Food and Consumer Services (USDA)
 OASH—Office of the Assistant Secretary for Health (DHHS/PHS)
 ODPHP—Office of Disease Prevention and Health Promotion (DHHS/OASH/PHS)
 PedNSS—Pediatric Nutrition Surveillance System (DHHS/PHS/CDC/NCCDPHP)
 PHS—Public Health Service (DHHS)
 PNSS—Pregnancy Nutrition Surveillance System (DHHS/PHS/CDC/NCCDPHP)
 SAMHSA—Substance Abuse and Mental Health Services Administration (DHHS/PHS)
 TDS—Total Diet Study (DHHS/PHS/FDA)
 USARIEM—United States Army Research Institute of Environmental Medicine (DOD)
 USDA—United States Department of Agriculture
 WIC—Special Supplemental Food Program for Women, Infants, and Children (USDA/FNS)
 YRBS—Youth Risk Behavior Survey (DHHS/PHS/CDC/NCCDPHP)

I. Introduction

The National Nutrition Monitoring and Related Research Act of 1990 (Pub. L. 101-445) defines the term "nutrition monitoring and related research" as "the set of activities necessary to provide timely information about the role and status of factors that bear on the

contribution that nutrition makes to the health of the people of the United States" (1). The establishment and implementation of a coordinated program is mandated in Title I of the Act: "The National Nutrition Monitoring and Related Research Program." The Act requires the preparation of a ten-year comprehensive plan for nutrition monitoring and related research.

The primary goal of the Ten-Year Comprehensive Plan is to establish a comprehensive 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.

This document provides a brief history and review of past accomplishments of the National Nutrition Monitoring System (NNMS) in the United States. It also presents the Ten-Year Plan, 1992-2002, describing current nutrition monitoring activities (listed in the appendices) and planned activities required to improve and expand the nutrition monitoring program (sections IV through VII).

This Ten-Year Comprehensive Plan was developed by the Joint U.S. Department of Health and Human Services (DHHS) and the U.S. Department of Agriculture (USDA) Working Group (Appendix 1) under the guidance of the Interagency Board for Nutrition Monitoring and Related Research with broad input from the National Nutrition Monitoring Advisory Council, the public health community, and other users of nutrition monitoring data, including scientific advisors to Federal agencies, food and nutrition researchers, economists, food industry, and academia. The Plan responds to comments received when the proposed

plan was published in the *Federal Register* in October 1991 for a 90-day public review period (2). In addition, recommendations for NNMS made by scientific experts over the past decade, including the Joint Nutrition Monitoring Evaluation Committee (3), the Expert Panel on Nutrition Monitoring (4), the Coordinating Committee on Evaluation of Food Consumption Surveys of the National Research Council (5), and the Research Triangle Institute (RTI) (6) were considered in the development of this Plan.

The activities in this Plan reflect four areas: (a) Requirements of the law; (b) priorities identified by Federal agencies responsible for conducting nutrition monitoring surveys and related activities; (c) recommendations from scientific experts and organizations; and (d) recommendations from users of nutrition monitoring data.

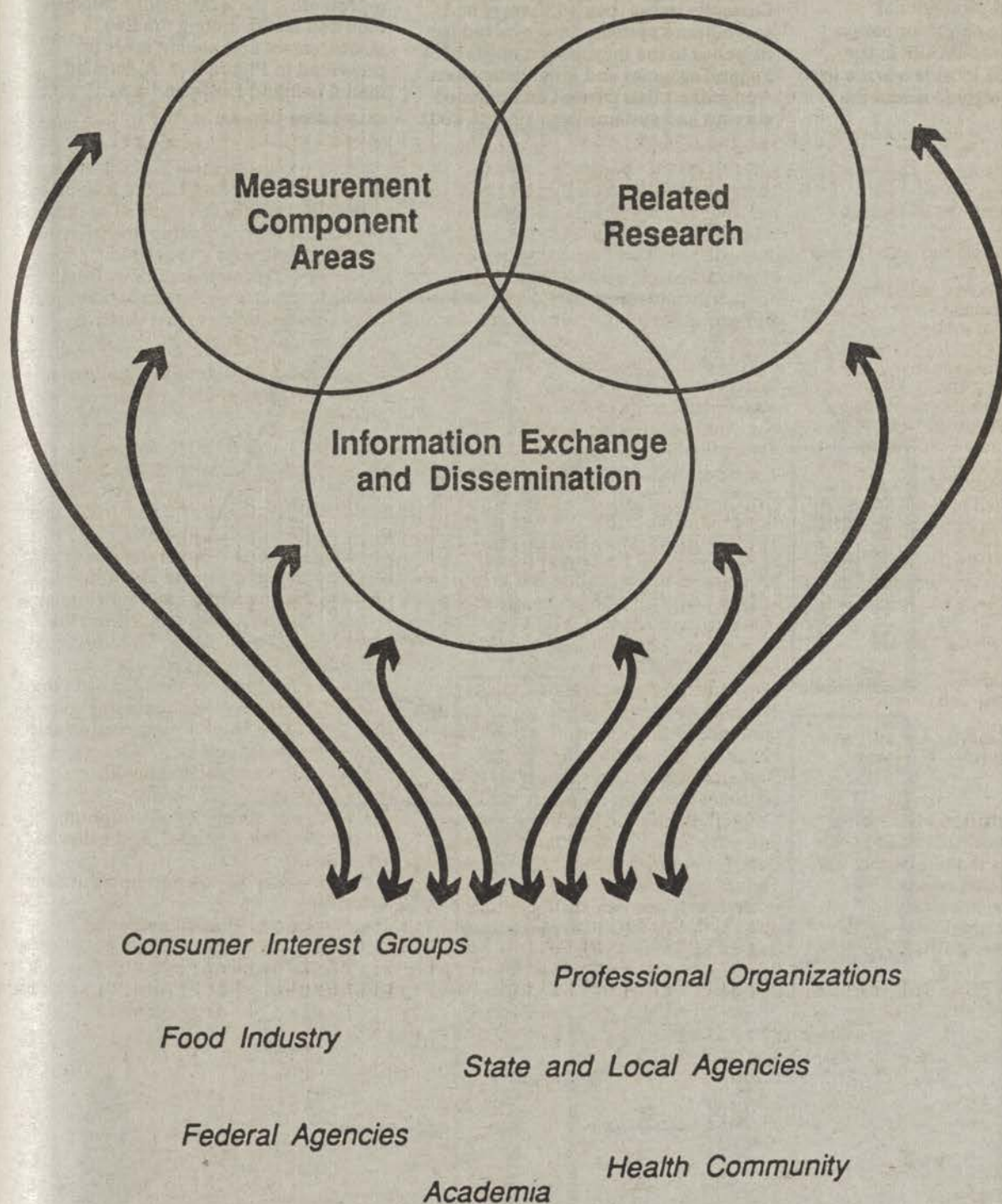
II. The National Nutrition Monitoring and Related Research Program (NNMRRP)

NNMRRP was formerly known as NNMS. NNMS has been defined as "a complex assortment of interconnected activities that provide information about the contribution that diet and nutritional status make to the health of the American people and about the factors affecting dietary and nutritional status" (7). The name change from the "Monitoring System" to "Monitoring and Related Research Program" continues the long-held emphasis of the three major focuses as shown in Figure II-1. One focus is the five measurement component areas:

- Nutrition and related health measurements;
- Food and nutrient consumption;
- Knowledge, attitudes, and behavior assessments;
- Food composition and nutrient data bases; and
- Food supply determinations.

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Figure II-1. The National Nutrition Monitoring and Related Research Program--Foci, Users, and Contributors



The other two focuses are research activities and exchange and dissemination of data and other relevant information among Federal, State, and local agencies; food industry; the health community; consumer interest groups; academicians; and professional organizations. Data and information from each focus of NNMRRP at the national, State, and local levels are used directly and indirectly to assess the

dietary, nutritional, and related health status of the population.

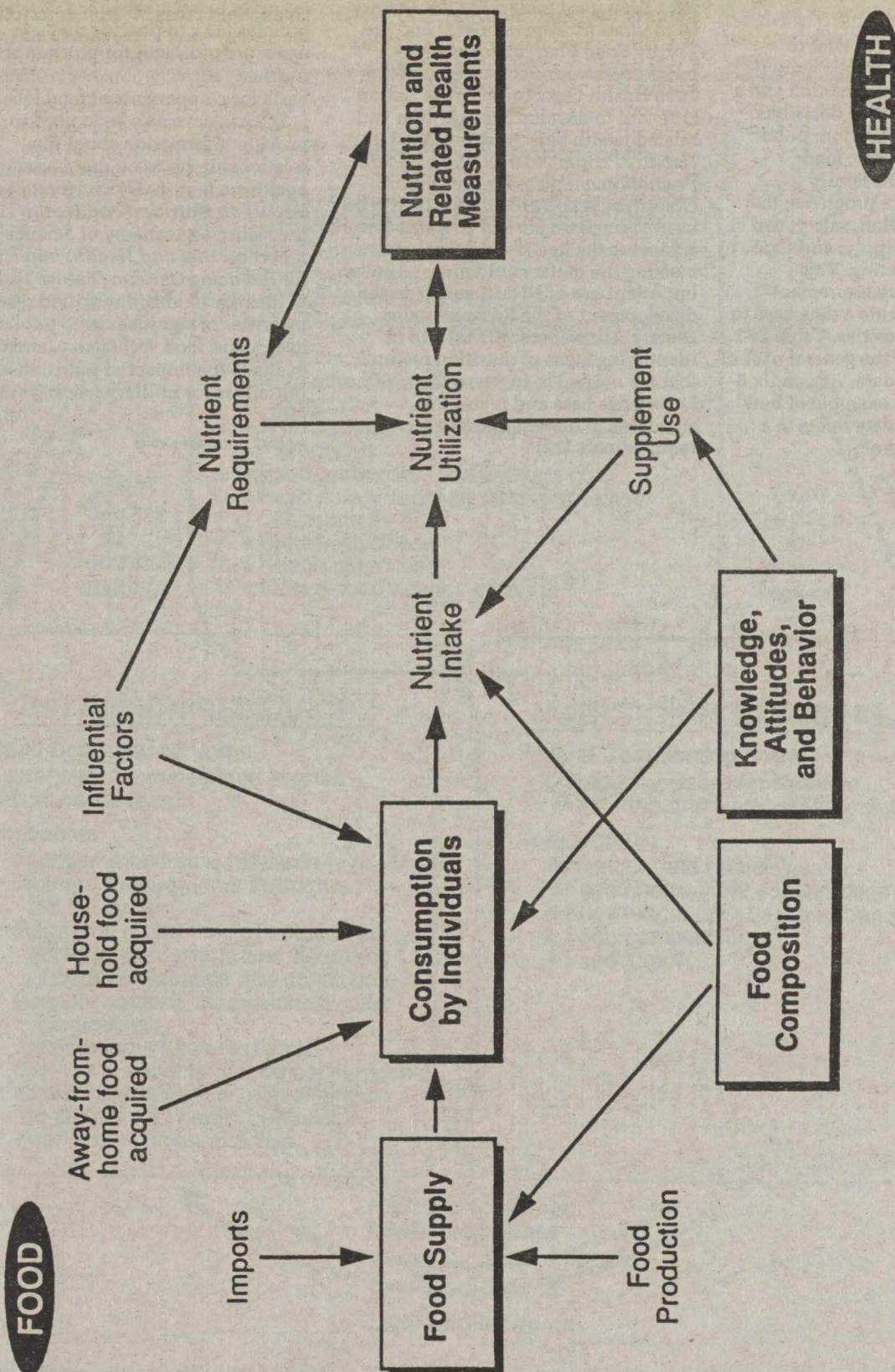
A chronological listing of past (1892-1991) nutrition monitoring surveys and activities classified by the five NNMRRP components is found in appendix 2. Currently, more than 40 surveys and surveillance systems have evolved in response to the information needs of Federal agencies and other data users. Appendix 3 lists current and planned surveys and systems from 1992 to 2002

organized by the five measurement component areas. A brief description of the surveys and surveillance activities that constitute NNMRRP is found in appendix 4.

A general conceptual model representing the relationship between food and health among the five measurement component areas is presented in Figure II-2. A detailed model is found in appendix 5.

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Figure II-2. Relationship of Food to Health.*



*Boxes indicate 5 measurement component areas of the NNMRRP. Adapted from detailed conceptual model (see Appendix 5.)

A. Purposes and Uses of Nutrition Monitoring Data

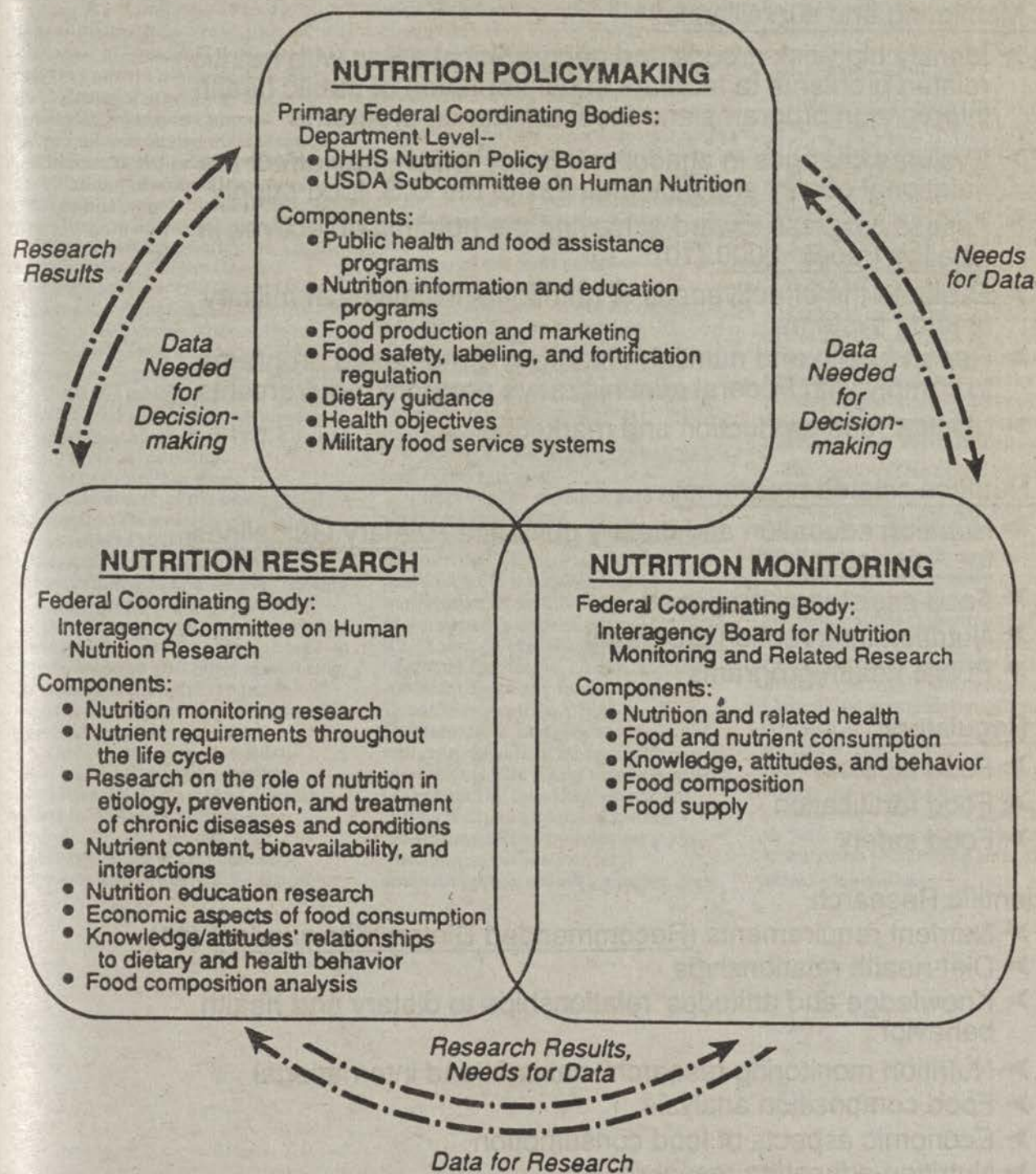
Nutrition monitoring is vital to policymaking and research (Figure II-3). Monitoring provides information and a data base for public policy decisions related to nutrition education; public health nutrition programs; food assistance programs; Federally supported food service programs; the regulation of fortification, safety, and labeling of the food supply; and food production and marketing. The nutrition monitoring measurement components also provide a data base to establish research priorities. Table II-1 provides examples of the general uses of nutrition monitoring data. Appendix 6 provides one specific example of how nutrition monitoring data relate to a health education program.

More specifically, data from NNMS have been used to develop the *Dietary Guidelines for Americans* (8) and the Thrifty Food Plan (9), to evaluate progress towards achievement of the 1990 Health Objectives for the Nation (10), and to develop the nutrition and related health objectives included in *Healthy People 2000: National Health Promotion and Disease Prevention Objectives* (11). These data will also be used to track trends and progress toward achieving the health objectives and meeting the dietary guidelines. Another important use of NNMS data is in the development of the Recommended Dietary Allowances (RDAs) and in identifying areas of nutrition research that are needed to increase the knowledge base and revise the standards of human nutrient requirements (12).

Data have been used by regulatory agencies to examine U.S. fortification policies (13), to provide dietary exposure estimates for nutrient and non-nutrient food components (14), and as a basis for components of food labeling (15). Data have also been used to provide information about the relationship between diet, nutrition, and health such as in *The Surgeon General's Report on Nutrition and Health* (16) and the National Academy of Science's report on *Diet and Health: Implications for Reducing Chronic Disease Risk* (17), to identify food and nutrition research priorities of significance to public health and food sufficiency, and to evaluate the impact of nutrition initiatives for military feeding systems (18).

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Figure II-3. Relationships among Nutrition Policymaking, Research, and Monitoring*



*Adapted from the Operational Plan for the National Nutrition Monitoring System (6).

Table II-1. Uses of Nutrition Monitoring Data

I. Public Policy

A. Monitoring and surveillance:

- Identify high-risk groups and geographical areas with nutrition-related problems to facilitate implementation of public health intervention programs and food assistance programs
- Evaluate changes in agricultural policy which may affect the nutritional quality and healthfulness of the U.S. food supply
- Assess progress toward achieving the nutrition objectives in Healthy People 2000 (10)
- Evaluate the effectiveness of nutritional initiatives of military feeding systems
- Report health and nutrition data from State-based programs to comply with Federal administrative program requirements
- Monitor food production and marketing

B. Nutrition-related programs:

- Nutrition education and dietary guidance (Dietary Guidelines for Americans) (7)
- Food assistance programs
- Nutrition intervention programs
- Public health programs

C. Regulatory:

- Food labeling
- Food fortification
- Food safety

II. Scientific Research

- Nutrient requirements (Recommended Dietary Allowances) (11)
 - Diet-health relationships
 - Knowledge and attitudes' relationships to dietary and health behavior
 - Nutrition monitoring research--national and international
 - Food composition analysis
 - Economic aspects of food consumption
 - Nutrition education research
-

B. Milestones of the National Nutrition Monitoring System

Table II-2 provides a listing of the milestones of NNMS beginning with the Food and Agriculture Act of 1977. NNMS was formally established as a result of the passage of this Act, which required the Secretaries of USDA and the U.S. Department of Health, Education, and Welfare (currently DHHS) to submit a proposal for a comprehensive nutritional status monitoring system to Congress (19,20). The proposal included an analysis of deficiencies in the existing surveys and surveillance systems and provided recommendations for improving and expanding the scope of Federal nutrition monitoring activities. Upon recommendation of the General Accounting Office, DHHS and USDA prepared the *Joint Implementation Plan for a Comprehensive National Nutrition Monitoring System* and submitted it to Congress in September 1981. This plan described the major goals and objectives of NNMS and how the Departments intended to achieve them (21). The two specific objectives of the Implementation Plan were:

- Achievement of the best possible coordination between the two largest components of NNMS—the National Health and Nutrition Examination Survey (NHANES) and the Nationwide Food Consumption Survey (NFCS);
- Development of a reporting system to translate the findings from these two national surveys and other monitoring activities into periodic reports to Congress on the nutritional status of the American population.

According to this plan, a Joint Nutrition Monitoring Evaluation Committee (JNMEC) was to develop reports to Congress at three-year intervals. In 1983, JNMEC was established as a Federal advisory committee and prepared the report

entitled *Nutrition Monitoring in the United States: A Progress Report From the Joint Nutrition Monitoring Evaluation Committee* (3). This report provided an overview of the dietary and nutritional status of the population and was transmitted to Congress in July 1986. During this time period (1984), there was also a report prepared by the National Academy of Sciences that was funded by USDA and DHHS. This publication described uses of food consumption data and recommendations on survey design that would facilitate wider application of survey data (5).

In 1987, DHHS and USDA published the *Operational Plan for the National Nutrition Monitoring System* (7), a revision of the 1981 *Joint Implementation Plan for the Comprehensive National Nutrition Monitoring System* (21). The goals of the *Operational Plan for the National Nutrition Monitoring System* were:

- Achieve a comprehensive system through coordination among NNMS components;
- Improve information dissemination and exchange; and
- Improve the research base for nutrition monitoring.

In 1988, the Interagency Committee on Nutrition Monitoring (ICNM) was established to provide a formal mechanism for facilitating achievement of the system's expanded goals (22). The ICNM was co-chaired by the Assistant Secretary for Health, DHHS, and the Assistant Secretary for Food and Consumer Services, USDA, with representation from Federal agencies with responsibility for nutrition monitoring. The ICNM was responsible for enhancing the effectiveness and productivity of Federal nutrition monitoring efforts by improving the planning, coordination, and communication among agencies. As a

first step, the ICNM compiled the *Directory of Federal Nutrition Monitoring Activities* (23). This directory was published in September 1989 as a companion document to the triennial reports to Congress on nutrition monitoring. This publication has been well received and is extensively used by the public health community, academia, the private sector, and government.

The second progress report to Congress entitled *Nutrition Monitoring in the United States: An Update Report on Nutrition Monitoring*, published in September 1989, was prepared by an expert panel of the Life Sciences Research Office (LSRO), Federation of American Societies of Experimental Biology (FASEB), for USDA and DHHS (4). This report updated the dietary and nutritional status information presented in the 1986 report and provided an in-depth analysis of the contributions of NNMS to the evaluation of the relationship of dietary and nutritional factors to cardiovascular disease and to the assessment of iron nutriture.

The National Nutrition Monitoring and Related Research Act (Pub. L. 101-445) was signed into law on October 22, 1990 (1). It was intended " * * * to strengthen national nutrition monitoring by requiring the Secretary of the Department of Agriculture and the Secretary of the Department of Health and Human Services to prepare and implement a ten-year plan to assess the dietary and nutritional status of the United States population, to support research on, and development of, nutrition monitoring, * * * " (1). The Act establishes several mechanisms to ensure the collaboration and coordination of Federal agencies as well as State and local governments involved in nutrition monitoring activities.

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Table II-2. Milestones of the National Nutrition Monitoring System

YEAR	MILESTONE
1977	➤ Food and Agriculture Act (Pub. L. 95-113) passed
1978	➤ Proposal for a comprehensive nutritional status monitoring system submitted to Congress
1981	➤ Joint Implementation Plan for a Comprehensive National Nutrition Monitoring System published
1983	➤ Joint Nutrition Monitoring Evaluation Committee formed
1984	➤ <u>National Survey Data on Food Consumption: Uses and Recommendations</u> published
1986	➤ <u>First Report to Congress: Nutrition Monitoring in the United States: A Progress Report from the Joint Nutrition Monitoring Evaluation Committee</u> published
1987	➤ Operational Plan for the National Nutrition Monitoring System published
1988	➤ Interagency Committee on Nutrition Monitoring (ICNM) formed
1989	➤ <u>The Directory of Federal Nutrition Monitoring Activities</u> published ➤ <u>Second Report to Congress: Nutrition Monitoring in the United States: An Update Report on Nutrition Monitoring</u> published
1990	➤ National Nutrition Monitoring and Related Research Act (Pub. L. 101-445) passed
1991	➤ Interagency Board for Nutrition Monitoring and Related Research established through incorporation and expansion of the ICNM

C. Structure of Federal Coordination of the NNMRRP

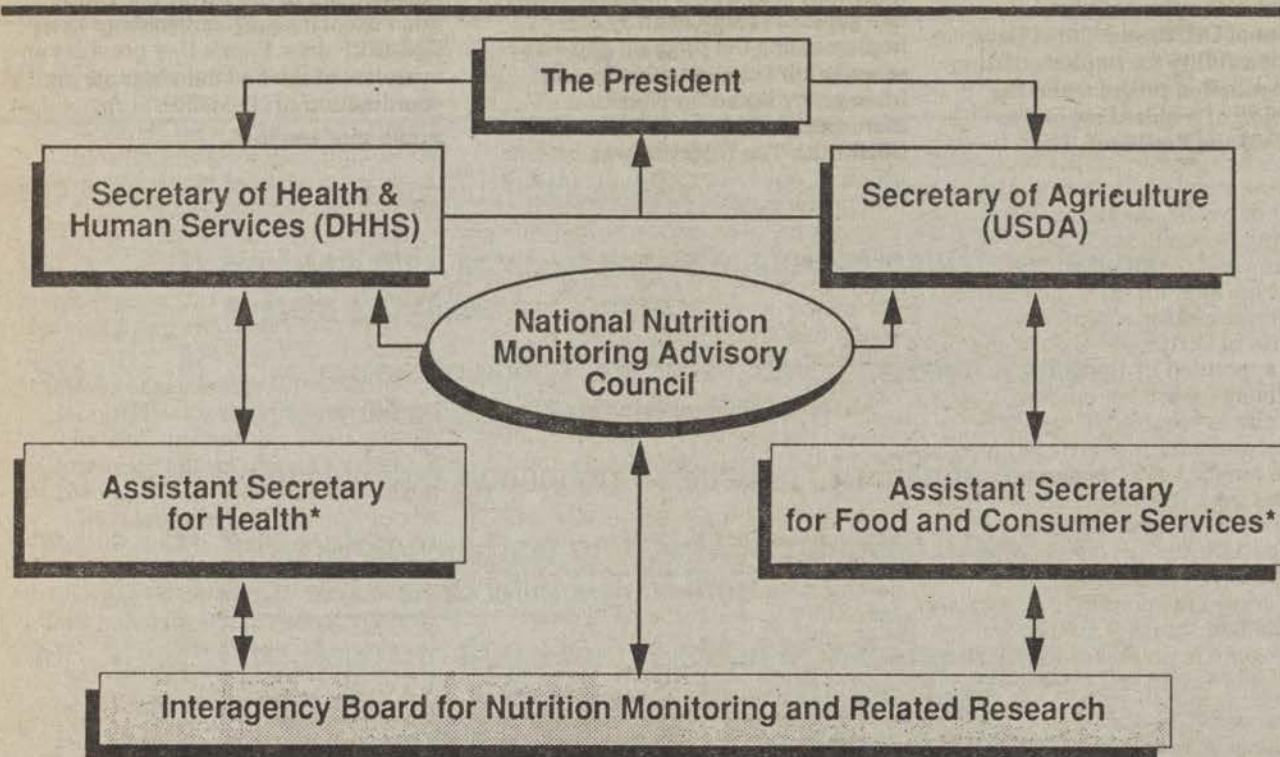
As specified in the Act, the Secretaries of DHHS and USDA have joint responsibility for implementation of the coordinated program and the transmission of required reports to Congress via the President. The

Assistant Secretary for Health, DHHS, and the Assistant Secretary for Food and Consumer Services, USDA, have been delegated the responsibility of implementing the program and also serve as joint chairpersons for the Interagency Board for Nutrition Monitoring and Related Research (IBNMRR). The IBNMRR was

established in 1991 through the expansion of the function and membership of the ICNM to include other agencies that contribute or use NNMRRP data. Figure II-4 provides an overview of the Federal structure for coordination of NNMRRP.

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Figure II-4. Structure of Federal Coordination of the National Nutrition Monitoring and Related Research Program



Members:

- Agency for International Development
- Agricultural Research Service, USDA
- Bureau of the Census, DOC
- Bureau of Labor Statistics, DOL
- Cooperative State Research Service, USDA
- Department of Defense
- Department of Education
- Department of Veterans Affairs
- Economic Research Service, USDA
- Environmental Protection Agency
- Extension Service, USDA
- Food and Drug Administration, DHHS
- Food and Nutrition Service, USDA
- Food Safety and Inspection Service, USDA
- Health Resources and Services Administration, DHHS
- Human Nutrition Information Service, USDA
- Indian Health Service, DHHS
- National Center for Chronic Disease Prevention and Health Promotion, CDC, DHHS
- National Center for Health Statistics, CDC, DHHS
- National Institutes of Health, DHHS
- National Marine Fisheries Service, NOAA, DOC
- Substance Abuse and Mental Health Services Administration, DHHS

* Co-chair, Interagency Board for Nutrition Monitoring and Related Research and Ex-officio, National Nutrition Monitoring Advisory Council

D. The National Nutrition Monitoring Advisory Council

The Act also stipulated the establishment of the National Nutrition Monitoring Advisory Council (NNMAC). The IBNMRR receives scientific and technical guidance from the NNMAC. The Council is composed of the co-chairpersons of IBNMRR and nine voting members with expertise in the areas of public health, nutrition monitoring research, and food production and distribution. Five members are appointed by the President based on recommendations by the Secretaries of DHHS and USDA, and four are appointed by Congress. Appointments are to be renewed periodically as required by the Act. Technical and administrative support is provided jointly by co-executive secretaries from DHHS and USDA.

The Council will evaluate the scientific and technical quality of the Comprehensive Plan and the effectiveness of the coordinated program and recommend areas for improvement of the Program in annual reports to the Secretaries of DHHS and USDA.

III. Scope and Format of the Comprehensive Plan

The requirements of the Plan encompass a broad range of activities needed to achieve the primary goal and objectives of a coordinated national nutrition monitoring program. Current activities planned between 1992 and 2002 are listed in Appendix 3. Activities that complement and expand current NNMRRP activities are addressed in sections IV, V, and VI. Section IV describes the responsibilities and planned activities of IBNMRR. The activities are not listed in any priority order. Section V consists of three cross-cutting objectives and describes the planned activities within the five measurement components of NNMRRP. Some activities are cross-cutting and consequently will appear in more than one component to assure comprehensiveness and coordination. Section VI contains three objectives and discusses mechanisms to enhance State and local nutrition monitoring efforts and to facilitate coordination of these efforts with Federal activities. Section VII contains the calendars for the activities listed in sections IV, V, and VI.

In addition, the overall Plan emphasizes improving the information about selected population subgroups and effective exchange with data users (sections V and VI). Expansion of information on the dietary and nutritional status of specific subgroups

in the population is an important part of the goal of creating a comprehensive nutrition monitoring program. Many of the surveys of NNMRRP are used to collect data on various subgroups of the population such as low-income groups. However, data are limited or inadequate for some groups, including institutionalized persons, American Indians, Alaska Natives, migrant farm workers, homeless persons, elderly persons, pregnant and lactating women, infants, and preschool and school-aged children. Because issues related to these groups cut across NNMRRP components, population subgroup issues are included in each relevant section.

Although the Monitoring Program is limited to coverage of some population subgroups, the current surveys and surveillance systems of NNMRRP are an under-utilized national resource. Many academicians, health professionals, and local officials are not aware of the type and magnitude of health and nutrition surveillance data available to them through the Nutrition Monitoring Program. More aggressive methods are needed to promote and disseminate survey and other nutrition monitoring data and related information. In addition to preparing, promoting, and distributing survey reports and data tapes, efforts should be directed toward instructing users on how to access, process, and interpret data appropriately via the provision of training manuals, survey documentation on methods and quality control procedures, and data user conferences at national and regional levels.

To increase awareness, cost-effective mechanisms that facilitate cooperation and collaboration, avoid duplication of efforts, and are easily accessible to practitioners, community workers, policymakers, journalists, and researchers are needed. When new data are released and scientific reports and chartbooks published, such communication methods as newsletters and briefings need to be explored.

Another possible mechanism is a central clearinghouse for nutrition monitoring and related research activities that houses copies of survey and surveillance questionnaires, data collection instruments, published information, and related research articles. This could be a valuable resource for all NNMRRP users and contributors—Federal and non-Federal. In addition, this clearinghouse has the potential to contain information on State and non-governmental nutrition monitoring data and activities.

Input from NNMRRP data users is also important to keep the Program

flexible for meeting a variety of needs. Periodic formal evaluations are recommended to continually improve the responsiveness of NNMRRP to its users.

Given competing demands for limited national resources and resulting budget limitations, the goals for National Nutrition Monitoring and Related Research contained in this report would have to be evaluated against other competing national needs at specific points in time.

IV. Activities of the Interagency Board for Nutrition Monitoring and Related Research (IBNMRR)

The IBNMRR serves as the central coordination point for the National Nutrition Monitoring and Related Research Program for the Federal government. Members of the Board are responsible for representing their agencies in all areas of nutrition monitoring. Board products and activities are completed by appointed working groups and designated staff from member agencies.

The activities below identify the major mechanisms the Board will employ for coordinating NNMRRP. The required activities of IBNMRR as defined by Public Law 101-445 are listed first and followed by planned Board activities. Section VII contains the calendar of required activities (Table VII-1) and the calendar of planned activities (Table VII-2) for IBNMRR.

Public Law 101-445 Required Activities of IBNMRR

- Meet on a quarterly basis for the two-year period following enactment of the Act, and as appropriate thereafter.

- Coordinate the preparation of the annual budget report on nutrition monitoring to the President for transmittal to Congress.

- Coordinate the preparation of the biennial reports on progress of the coordinated Program and policy implications of scientific findings to the President for transmittal to Congress. This report includes the annual report of NNMAC.

- Coordinate the preparation of the periodic scientific reports that describe the nutritional and related health status of the population to Congress.

Planned Activities of IBNMRR

- Review biennially IBNMRR membership and representation to be responsive to the Act and the Ten-Year Plan.

- Establish working groups to address topics of special interest and/or high priority. Currently, there are three IBNMRR working groups (Survey

Comparability, Food Composition Data, and Federal-State Relations and Information Dissemination and Exchange) that hold regular meetings that provide the framework for increased communication and collaboration among the member agencies.

- Coordinate the update of Nutrition Monitoring in the United States: The Directory of Federal and State Nutrition Monitoring Activities every three years, expanding to include sources of non-Federal data.

- Coordinate the preparation of a chartbook that updates and provides data and information from NNMRRP intermediate to publication of the scientific reports.

- Establish a central clearinghouse for nutrition monitoring and related research funded by all Federal agencies participating in IBNMRR.

- Develop a set of procedures to solicit input regarding NNMRRP and the Comprehensive Plan from State and local governments, the private sector, public interest groups, health care professionals, and scientific communities to revise and update the Ten-Year Comprehensive Plan.

- Evaluate and report on an annual basis the progress in accomplishing the activities included in the Ten-Year Comprehensive Plan, including yearly three-year timelines of planned survey and surveillance activities across all IBNMRR agencies.

- In 1997 and 2002, evaluate the progress in accomplishing the activities of the Ten-Year Comprehensive Plan and report the findings and recommendations and revise the Comprehensive Plan, as appropriate.

- Respond to recommendations of NNMRRP regarding the enhancement of the Comprehensive Plan and coordinated Program.

- Identify a mechanism for independent review and evaluation of the purposes, uses, and capabilities of surveys in NNMRRP to meet intended objectives.

V. National Objectives and Activities

Numerous activities are scheduled in this Ten-Year Plan in order to achieve the overall goal of the National Nutrition Monitoring and Related Research Program. Three overall national objectives have been identified that are critical to the success of the overall goal:

- Provide for a comprehensive NNMRRP through continuous and coordinated data collection;
- Improve the comparability and quality of data across NNMRRP; and

- Improve the research base for nutrition monitoring.

These objectives are consistent with and expand upon the goals delineated in the 1981 *Joint Implementation Plan for the Comprehensive National Nutrition Monitoring System* (20) and the 1987 *Operational Plan for the National Nutrition Monitoring System* (6) and are applicable to each of the five measurement component areas of NNMRRP. In this section, the planned activities are described by component area within each of these overall objectives.

For each planned activity in sections V and VI, the "responsible," "contributing," or "collaborating" Federal organizations are listed alphabetically. Determination of the "responsible organization" was made if the activity is part of the basic mission or the responsibility of an organization. Responsible organizations are accountable for initiating collaboration, organizing activities, and communicating progress to the other involved agencies and IBNMRR. "Contributing" refers to substantial participation in planning, conducting, and evaluating the activity with the responsible organization(s). "Collaborating" agencies will serve as participants and in an advisory, communicative capacity. The planned activities are necessary to achieve a coordinated and comprehensive Nutrition Monitoring Program. They imply a level of activity beyond the current levels.

Objective V-A. Provide for a Comprehensive NNMRRP Through Continuous and Coordinated Data Collection

The establishment of a focused, comprehensive National Program for Nutrition Monitoring and Related Research involves more than just coordinating current activities in the five measurement component areas. It includes improvement of methodologies for the collection and interpretation of data, timely processing and release of data, expanding coverage of population subgroups, and addressing current nutrition issues. Continuous collection of data in cross-sectional and longitudinal surveys and surveillance systems within NNMRRP is needed to evaluate and monitor the contribution that diet and nutritional status make to the health of the U.S. population. In addition, the expansion and coordination of assessments of knowledge, attitudes and behavior, food composition, and the food supply is critical for an effective NNMRRP.

Specifically, there needs to be increased coordination between NHANES, CSFII and HFCS. Several activities detailed in this Ten-Year Plan address this need. Areas that will be addressed include, but are not limited to, the following:

- Timing of the next NHANES and CSFII for the general population and for selected subgroups of the population to assure adequate coverage of monitoring the dietary status of the population (activities V-A-1.2, V-A-2.1, and V-A-2.2).

- Sampling plans for upcoming surveys to identify the general population and population subgroups (activity V-A-2.1) and defining key population descriptors to be measured across surveys in a comparable manner (activities V-A-2.1, V-B-2.1, and V-B-2.2).

- Methods used for dietary intake assessment (activities V-B-2.3, V-B-2.5, V-B-4.2, and V-C-2.7).

- Uniform reporting guidelines in the publication of survey findings, survey operations, and response rates (activities V-A-2.1 and V-B-2.4).

- Exploration of the development of a joint sampling design between NHANES and CSFII (activities V-A-2.1, V-C-1.1, and V-C-2.3).

- Establishment of a mechanism to combine data from NHANES and CSFII into a single estimation model (activity V-A-2.1, V-B-2.2, V-C-1.1, and V-C-2.3).

1. Nutrition and Related Health Measurements

Nutrition and related health data have a wide variety of policy, research, health and nutrition education, medical care practices, and reference standards applications. These data have been used to establish baseline data for the 1990 and 2000 *Health and Nutrition Objectives for the Nation* (10,11) and to estimate the prevalence of nutrition and related health conditions in the population.

NHANES, conducted by DHHS/CDC/NCHS, provides national data on the nutritional status, dietary intake, and numerous health indices of the U.S. population. Physical measures such as body measurements, blood pressure, dental examinations, and biochemical and hematological tests allow for studying the relationship between diet and nutritional and related health status. Thus, NHANES is the cornerstone of this NNMRRP measurement component. A number of other surveys and surveillance systems, primarily conducted by DHHS/CDC, also contribute nutrition-related health information, particularly for pregnant

women, infants, and children. The National Health Interview Survey (NHIS) provides information about self-reported health conditions annually and about special nutrition and health topics periodically. NHIS has recently been redesigned to produce improved estimates for minority groups in the population.

Nutrition and related health information from these and other surveys and surveillance systems provide data to define mid-course progress toward the Year 2000 Health Objectives. The continuous collection of these data are required for generating reference distributions and for monitoring trends over time.

Planned Activities

V-A-1.1

Coordinate the planning for coverage, tracking, and reporting of findings from surveys and surveillance systems used to collect nutrition and related health data in NNMRRP to monitor the Year 2000 Health Objectives; coordinate the development of standardized nutrition and related health indicators with those established for the Year 2000 Objectives, as appropriate; release remaining Hispanic HANES nutrition data tapes for public use and publish nutrition-related information from Hispanic HANES.

Responsible organization: CDC/NCHS.

Contributing organizations: CDC/NCCDPHP, DOD, FDA, HNIS, HRSA, IHS, NIH.

V-A-1.2

Develop and implement a plan for improved coverage of subgroups of the population at nutritional risk (for example, low-income populations, American Indians, and Alaska Natives) that would include a compilation of existing surveys, surveillances, and related research information; the assessment of gaps; and recommendations for technical and research-related assistance to Federal, State, and local jurisdictions to improve their coverage of selected subgroups.

Responsible organizations: CDC/NCHS, HNIS.

Contributing organizations: CDC/NCCDPHP, FDA, FNS, IHS, NIH.

Collaborating organization: HRSA.

V-A-1.3

Publish scientific reports every five years, based on data from NNMRRP. These reports integrate current and planned assessments of nutrition and related health status collected from a wide variety of survey and surveillance activities.

Responsible organizations: CDC/NCHS, HNIS.

Contributing organizations: IBNMRR.

V-A-1.4

Publish a report, such as a chartbook, based on data from NNMRRP between releases of NNMRRP scientific reports.

Responsible organizations: CDC/NCHS, HNIS.

Contributing organizations: IBNMRR.

V-A-1.5

Publish a revised directory every three years to describe current national nutrition monitoring surveys and activities, expanding to include new IBNMRR members' and States' activities.

Responsible organization: CDC/NCHS.

Contributing organizations: IBNMRR.

Collaborating organizations: IBNMRR Federal-State Relations and Information Dissemination and Exchange Working Group

2. Food and Nutrient Consumption

Food and nutrient consumption measurements include estimations of an individual's intake of foods and beverages (nonalcoholic and alcoholic) and nutritional supplements, as well as levels of non-essential nutrients such as dietary fiber. Data from assessment of the food consumption and dietary status of the population provide information needed for making public policy and research decisions related to food fortification, food safety, food labeling, food production and marketing, military feeding systems, food assistance, public health, and nutrition education.

These data can also be used for trend analysis provided methods of data collection of past, current, and future surveys are comparable.

The USDA's Continuing Survey of Food Intakes by Individuals (CSFII) and DHHS' NHANES, the two cornerstone NNMRRP surveys, provide national estimates of food and nutrient intakes in the general U.S. population and subgroups. The CSFII emphasizes the food and nutrient intake of the general population and subgroups of the population as it relates to various socioeconomic factors. In NHANES, dietary intake is related to health status in the same individuals. USDA's Household Food Consumption Survey (HFCS) provides the only source of collective information on household food use, nutrient availability, and food expenditures. These surveys also provide the potential to assess levels of additives and pesticides in diets consumed.

In addition to the cornerstone surveys, there are other surveys within

NNMRRP that provide valuable food and nutrient intake data. CDC/NCHS' and FDA's Vitamin/Mineral Supplement Intake Survey, incorporated into the 1986 National Health Interview Survey, provided estimates of the prevalence of supplement use, characteristics of users, and quantities of nutrients consumed from supplements. FDA's Total Diet Study provides analysis of foods on an annual basis and resultant estimates of the intakes of nutritional elements and metals. DOD's periodic assessments of food and nutrient consumption of military populations are used to monitor and improve the effectiveness of nutritional initiatives for military food service and health promotion programs.

Planned Activities

V-A-2.1

Develop a yearly plan to coordinate the planning, conducting, and reporting of findings from CSFII and NHANES for the general population and for selected subgroups of the population defined at increased nutritional risk. The yearly joint plan will include coordination of timing, sample design, subgroup coverage, data collection methods, questionnaire content, use of standardized key population descriptors, and analysis and reporting of survey data.

Responsible organizations: CDC/NCHS, HNIS.

Contributing organizations: Federal data users.

V-A-2.2

Develop and implement a plan for improved coverage of subgroups of the population at increased risk for under- and over-consumption of nutrients and food components (including food insufficiency) that would include a compilation of existing survey, surveillance, and related research information; assessment of gaps; and recommendations for technical and related research assistance to Federal, State, and local jurisdictions to improve their coverage of selected subgroups.

Responsible organizations: CDC/NCHS, HNIS.

Contributing organizations: CDC/NCCDPHP, EPA, FDA, FNS, IHS, NIH.

V-A-2.3

Incorporate current and planned assessments of food and nutrient consumption data collected from a wider variety of surveys and surveillance activities, such as those from the military populations, into the NNMRRP scientific report every five years (V-A-1.3) and into intermediate reports such as a chartbook (V-A-1.4).

Responsible organizations: CDC/NCHS, HNIS.

Contributing organizations: IBNMRR.

V-A-2.4

Identify the food intake data needed to address food safety issues such as exposures to pesticide residues and recommend methods for meeting these needs.

Responsible organizations: EPA, FDA, HNIS.

Contributing organizations: AMS, CDC/NCHS, ERS, NMFS.

Collaborating organization: FSIS.

3. Knowledge, Attitudes, and Behavior Assessments

National surveys that measure knowledge, attitudes, and behavior about diet and nutrition and how these relate to health were added to nutrition monitoring only in the past decade. Consequently, less is known about the knowledge, attitudes, and behavior of the general population than is known about their food consumption and nutritional status. Collection of national data on a continuous basis on awareness of diet and health relationships, knowledge and attitudes toward dietary guidance, and food safety, along with dietary behavior, food choices, and health status are needed. Provided the criteria are met for use of standardized approaches, including sample design, estimation procedures, and population descriptor variables (6), this data collection will allow the linkage of behavior with health measurements as well as with dietary measurements.

In general, the focus of the Health and Diet Surveys conducted by FDA was on people's awareness of relationships between diet and risk for chronic disease and on health-related knowledge and attitudes. The focus of the Diet and Health Knowledge Survey initiated by USDA in 1989 was on the relationship of individuals' knowledge and attitudes about dietary guidance and food safety to their food choices and nutrient intakes. The focus of the Behavioral Risk Factor Surveillance System initiated by DHHS/CDC in 1981 was on personal behavior and its relationship to nutritional and health status. Other surveys in this area are conducted by State and local agencies and by private industry.

Coordinated collection of dietary and health knowledge and attitudes would help to avoid duplication of efforts, to identify and prioritize monitoring needs, and to strengthen linkages between national surveys and programs that use these data for program planning and evaluation purposes. The results of these surveys are used to plan national

strategies for encouraging and assisting people to adopt healthy eating patterns.

Planned Activities

V-A-3.1

Establish and institute a mechanism for improved coordination among Federal agencies that collect and use survey information about knowledge, attitudes, and behavior to assess gaps and duplications in existing surveys.

Responsible organizations: FDA, HNIS.

Contributing organizations: CDC/NCCDPHP, CDC/NCHS, NIH.

Collaborating organizations: DOD, ERS, ES, FSIS, HRSA, IHS.

V-A-3.2

Prepare reports on knowledge, attitudes, and behavior using available NNMRP data for the Dietary Guidelines Advisory Committee to use for the 1995 and 2000 revisions of the Dietary Guidelines for Americans.

Responsible organization: HNIS.
Contributing organizations: CDC/NCHS, FDA, NIH, ODPHP.

Collaborating organizations: CDC/NCCDPHP, ES.

V-A-3.3

Conduct surveys of knowledge, attitudes, and behavior to provide better coverage of subgroups of the population and relevant topics.

Responsible organizations: FDA, HNIS.

Contributing organizations: CDC/NCCDPHP, CDC/NCHS, NIH.

Collaborating organizations: DOD, ES, FSIS, HRSA, IHS.

4. Food Composition and Nutrient Data Bases

USDA operates the National Nutrient Data Bank (NNDB) for the purpose of deriving representative nutrient values for foods consumed in the United States. Values from NNDB are released in Agriculture Handbook No. 8, "Composition of Foods * * * Raw, Processed, Prepared," and as part of the USDA Nutrient Data Base for Standard Reference. These values are used, in turn, as the core of most nutrient data bases developed in the United States for special purposes, such as those used in the commercially available dietary analysis programs.

USDA produces the Survey Nutrient Data Base from NNDB for analysis of nationwide dietary intake surveys. The Survey Nutrient Data Base contains data for 28 food components and energy for each food item included. A system is in place at USDA to periodically update this Nutrient Data Base with the most current information available from

NNDB. A continuous goal for the Survey Nutrient Data Base is its expansion and improvement to achieve adequate representation of these foods and nutrients for nutrition monitoring purposes. Currently, only a limited number of the foods within NNDB and the Survey Nutrient Data Base have separate entries by brands. A review of the need for more descriptive specificity, including brand name information, needs to be based on the uses of the data.

FDA's Total Diet Study provides information on the levels of selected nutrients and organic and elemental contaminants in the U.S. food supply from core foods. "Core foods" are defined as those foods that are consumed most frequently in NFCS or NHANES, depending on which is most current. These foods are collected from retail markets, prepared for consumption, and analyzed individually for nutrients and other food components at the Total Diet Laboratory.

Food composition data bases must evolve and change continually to respond to the changing food supply and changing public health issues. Additional data may need to be incorporated to strengthen the existing data base, or values may become obsolete as analytical methods are improved or as foods change over time. Food composition values need to be continually evaluated and periodically updated.

Planned Activities

V-A-4.1

Evaluate the specificity of food items on the current Survey Nutrient Data Base in terms of known long-range needs for nutrition monitoring purposes not for only the general population but also for ethnic subgroups and include and update forms of food and brand name items where current level of specificity is inadequate.

Responsible organizations: CDC/NCHS, HNIS.

Contributing organizations: ARS, FDA.

Collaborating organizations: EPA, FNS, IHS, NIH, NMFS.

V-A-4.2

Develop and implement a plan for prioritizing and adding components to the Survey Nutrient Data Base.

Responsible organization: HNIS.

Contributing organizations: ARS, CDC/NCHS, FDA.

Collaborating organizations: CSRS, FNS, NIH.

V-A-4.3

Establish a government-industry task force or other mechanism to increase voluntary contribution of food composition information by food industry and to encourage the use of standardized food composition measurements by food industry to facilitate the use of their data for nutrition monitoring purposes.

Responsible organizations: ARS, HNIS.

Contributing organizations: FDA, FSIS.

Collaborating organization: CDC/NCHS.

V-A-4.4

Evaluate the effectiveness of criteria used for verifying and updating food composition values over time and revise, formalize, and document as appropriate. Verification of values should include evaluation of food recipes or formulas and sampling plans that may be used to generate the values.

Responsible organization: HNIS.

Contributing organizations: CDC/NCHS, FDA.

Collaborating organization: ARS.

V-A-4.5

Develop, implement, and maintain procedures for tracking changes to the food composition and nutrient data bases that will permit trend analysis of dietary intake data.

Responsible organization: HNIS.

Contributing organizations: CDC/NCHS, FDA.

Collaborating organizations: IBNMRR Working Group on Food Composition Data.

V-A-4.6

Determine the extent of documentation needed by users to improve interpretation of food component intake data derived from the survey nutrient and food coding data bases and establish procedures to provide the information to users.

Responsible organization: HNIS.

Collaborating organizations: CDC/NCHS, FDA, FNS.

V-A-4.7

Develop and implement a plan for establishing and maintaining a nutritional supplements data base.

Responsible organization: CDC/NCHS.

Contributing organization: FDA.

Collaborating organization: HNIS.

V-A-4.8

Periodically review and evaluate the food composition data component of the NNMRRP to determine, first, its

effectiveness in meeting the needs of the Program and, second, the adequacy of dissemination of the food composition information to the users of NNMRRP data.

Responsible organizations: ARS, HNIS.

Contributing organizations: IBNMRR Working Group on Food Composition Data.

5. Food Supply Determinations

Since the beginning of this century, U.S. food supply estimates have indicated levels of foods and nutrients available for consumption. Thus, changes in the American diet can be evaluated from an historical perspective. These data can also be used to assess the potential of the U.S. food supply to meet the nutritional needs of the population and may also be useful in epidemiological studies. Yet, the dissemination of food supply estimates has not been as widespread as data from other components of the monitoring system. Awareness of the data, their potential uses, and limitations need to be increased. Emphasis must be placed on documentation, interpretation, and usefulness of the data for meeting the needs of researchers, policymakers, program managers, health professionals, and the media.

Primary information used in calculating food supplies comes from a variety of governmental and private sources. Since 1981, data losses regarding commercial production of fresh and processed fruits and vegetables have posed a serious problem for estimating per capita disappearance of produce. Other significant data losses include estimates of stocks and commodity disposition, for example, seeds. Information on cereals and bakery products has always been sparse, the principal source being the rather limited coverage in the quinquennial Census of Manufacturers. Thus, identification of alternative data sources and improved collection of data from current sources is needed to develop food disappearance estimates.

Planned Activities

V-A-5.1

Develop and implement a strategy to increase awareness, understanding, and use of food supply data with emphasis on interpretation and documentation for policy applications.

Responsible organizations: ERS, HNIS.

Collaborating organizations: ES, FDA.

V-A-5.2

Periodically reevaluate methods for obtaining commodity disappearance

data for appropriateness and, if indicated, devise new or modified procedures to improve accuracy or fill data voids using alternative data sources.

Responsible organization: ERS.

Contributing organizations: HNIS, NMFS.

V-A-5.3

Seek industry cooperation to improve the accuracy of food supply determinations, including reinstatement of pack data for many processed fruit and vegetable products.

Responsible organization: ERS.

Contributing organizations: AMS, FDA, HNIS, NMFS.

Objective V-B. Improve the Comparability and Quality of Data Across NNMRRP

An integral part of the coordination of nutrition monitoring activities is the use of standardized or comparable methodologies for the collection, quality control, analysis, and reporting of data. Certain basic criteria for sampling designs would allow the ability to compare, link, and combine data between surveys, including those that assess dietary behavior, knowledge and attitudes about food and nutrient consumption, and nutrition-related health status. Comparability would also be enhanced by the identification and use of standardized questions or measurement methods for selected key population descriptors and indicators of nutritional and health status. For example, any NNMRRP survey used to collect information on the use of vitamin and mineral supplements should include a recommended minimum set of supplement usage questions. This minimum set could be augmented by other questions dependent upon the survey's data needs and objectives.

The IBNMRR Working Group on Survey Comparability has begun the process of documenting similarities and differences for selected key population descriptors and nutrition-related health variables across NNMRRP surveys. This activity is the first step in providing recommendations about the common usage, definitions, and reporting of key survey variables, including race, ethnicity, education, income, and self-reported height and weight.

In addition, a recent report entitled *Sampling Designs and Population Descriptors of Nationwide Food Consumption Surveys and National Health and Nutrition Examination Surveys* (6), completed under contract with the Research Triangle Institute, examined the comparability of sampling

designs and selected population descriptors in the two cornerstone surveys. The report recommended options for increasing comparability between the two surveys. These recommendations were taken into consideration in the activities planned in the following sections.

1. Nutrition and Related Health Measurements

Although many of the surveys in NNMRRP include nutrition and related health indicators, there is no standardized set of questions, assessments, and procedures that have been agreed on or used across surveys to measure nutrition and related health status. Without common definitions, the comparison of nutritional and related health findings among different surveys is limited.

Recently, an expert panel convened by LSRO/FASEB identified "Core indicators of nutritional state for difficult-to-sample populations" (24). This report developed a conceptual model but did not describe specific methods, questions, or indicators for nutritional status assessment. Further work is needed to review the applicability of this model to the general population and to identify the specific assessments that constitute a minimum set of indicators to measure nutritional status.

Planned Activities

V-B-1.1

Establish a consensus and biennially publish key standardized indicators "by nutritional issue" (e.g., overweight or iron status) to be included as a part of several types of NNMRRP surveys that collect nutrition and related health data, and implement recommendations in appropriate surveys.

Responsible organization: CDC/NCHS.

Contributing organizations: ARS, CDC/NCCDPHP, FDA, NIH.

Collaborating organizations: CDC/NCEH, FNS, HNIS, HRSA, IHS.

V-B-1.2

Identify the most appropriate laboratory methodologies for key nutritional biochemistry indicators, and publish the results as a reference document to provide comparability and quality with national data.

Responsible organization: CDC/NCEH.

Contributing organizations: ARS, CDC/NCCDPHP, FDA, NIH.

Collaborating organizations: CDC/NCHS, CSRS.

2. Food and Nutrient Consumption

Given the scope of food consumption issues that need to be addressed by NNMRRP, no one survey can provide all the necessary information to comprehensively address the Program needs while at the same time meeting agency-specific needs. An effective system for monitoring food consumption and dietary status should include information from several surveys. For example, household food use and individual food-intake data are needed by such groups as the agricultural, educational, and public health communities. Agricultural groups use these data to assess the impact of changing food intake on food production and marketing.

Educational groups use these data in developing effective nutrition education programs, and public health communities use these data to target groups for nutrition and health intervention programs.

Various methodologies for the collection of food and nutrient consumption information are used in several NNMRRP surveys. Selection of the type of dietary method is dependent on several factors, including the survey's objectives and needs, intended uses of the data, the study population, and operational procedures. An advantage of having several surveys that collect food and nutrient consumption information is the ability to link, combine, or compare data for various groups within the population by characteristics such as age, sex, income, race, ethnicity, and other sociodemographic variables. Linkage through dietary data and standardized population descriptors can facilitate studying the relationship between dietary intake, knowledge and attitudes, and related health status. This linkage will be improved as the data collection methodologies for measuring dietary intake, coding, and analysis become more comparable. Calibration between dietary methods is also needed to improve the usefulness and interpretation of the data derived from various dietary methods.

Planned Activities

V-B-2.1

Establish a consensus and periodically publish key questions related to food consumption and food assistance program participation to be included as a part of several types of NNMRRP surveys that collect data on the food and nutrient intake of individuals or household food consumption and implement

recommendations in appropriate surveys.

Responsible organizations: CDC/NCHS, HNIS.

Contributing organizations: CDC/NCCDPHP, DOD, EPA, FDA, FNS.

Collaborating organizations: Census Bureau, ERS, ES, HRSA, IHS, NIH, NMFS.

V-B-2.2

Review the recommendations in the report by the Research Triangle Institute (5) for improving the comparability of sample design and population descriptors in the next NHANES, CSFII and HFCS and develop a plan and implement appropriate recommendations in the next surveys. This includes exploration of a joint sampling design to facilitate linked analysis of data.

Responsible organizations: CDC/NCHS, HNIS.

Collaborating organizations: Federal data users.

V-B-2.3

Identify ways to increase comparability within a dietary method such as the 24-hour recall, food record, or food frequency to improve the quality and usefulness of data and implement recommended changes including food coding, probing techniques, proxy reporting, and portion size estimation in order to standardize data collection by method.

Responsible organizations: CDC/NCHS, HNIS.

Contributing organizations: CDC/NCCDPHP, FNS, NIH.

Collaborating organizations: ADAMHA, EPA, FDA, IHS.

V-B-2.4

Develop a consensus for the standardized reporting of dietary intake measures and survey response rates to set the precedent for other surveys.

Responsible organizations: CDC/NCHS, HNIS.

Collaborating organizations: ARS, CDC/NCCDPHP, CSRS, DOD, FDA, NIH, IHS.

V-B-2.5

Establish a consensus and publish key standardized dietary status indicators to be included as part of NNMRRP surveys used to collect food and nutrient consumption data and implement recommendations in appropriate surveys.

Responsible organizations: CDC/NCHS, HNIS.

Contributing organizations: ARS, CDC/NCCDPHP, FDA, FNS, NIH.

Collaborating organizations: ADAMHA, EPA.

3. Knowledge, Attitudes, and Behavior Assessments

An effective NNMRRP will be able to link surveys used to collect data on knowledge, attitudes, and behavior and surveys used to gather information on dietary intake, food consumption, and nutrition-related health status. Where appropriate, there is a definite need to standardize the questions and methods used to assess the population's dietary and related knowledge, attitudes, and behavior. Questionnaires and indicators need to be evaluated to ensure they are valid and reliable estimators of knowledge, attitudes, and behavior held by the general population and selected subgroups.

Planned Activities

V-B-3.1

Identify and incorporate key questions for comparability among NNMRRP surveys focused on assessing knowledge, attitudes, and behaviors.

Responsible organizations: FDA, HNHS.

Contributing organizations: CDC/ NCCDPHP, CDC/NCHS, CSRS, EPA, NIH.

Collaborating organizations: DOD, ERS, ES, FSIS, HRSA, IHS.

V-B-3.2

Compile information on methods used to design and evaluate questionnaires used in Federal surveys of knowledge, attitudes, and behavior and prepare a report with recommendations for improving quality of test instruments.

Responsible organizations: FDA, HNHS.

Contributing organizations: CDC/ NCCDPHP, CDC/NCHS, NIH.

Collaborating organizations: DOD, ES, HRSA, IHS.

4. Food Composition and Nutrient Data Bases

The USDA Survey Nutrient Data Base (SNDB) is used in national surveys as well as in other research studies and projects requiring nutrient analysis. Since 1982, the same nutrient data base has been used in NCHS and HNHS surveys for analysis and reporting of dietary intakes. However, differences related to how it is used may influence the comparability of the results. There is a need to identify current differences in use among users of SNDB and move toward developing comparable uses.

Planned Activities

V-B-4.1

Document uses of food codes in the Survey Nutrient Data Base used by CDC/

NCHS and HNHS and ensure comparability.

Responsible organizations: CDC/ NCHS, HNHS.

Contributing organization: FDA.

V-B-4.2

Develop and provide coding guidelines regarding such issues as default amounts, partially described foods, and incorporation of new foods and brand name food items into the Survey Nutrient Data Base to improve comparability of dietary intake data.

Responsible organizations: CDC/ NCHS, HNHS.

Collaborating organization: FDA.

Objective V-C. Improve the Research Base for Nutrition Monitoring

Research in various areas is needed before the planned activities listed under Objectives V-A and V-B can be implemented. Conducting research in the areas of survey design, questionnaire design, collection methods, laboratory methods, data processing, and data analysis is essential to supporting NNMRRP. Research efforts should focus on the identification and development of methods and the utilization of computer technology that will enhance the monitoring of the nutritional status of the U.S. population and support the timely interpretation and release of information to users.

1. Nutrition and Related Health Measurements

To effectively study the relationships among food consumption, nutritional status, and health and their determinants, our present knowledge concerning the most reliable and valid, as well as cost-effective, measures of nutritional status needs to be improved. Research needed can be categorized into three areas:

- (A) Appropriate methods (such as questionnaires, interviewing procedures, and physical measures) for subgroups at increased nutritional risk;
- (B) Practical and efficient measures of biochemical and clinical parameters; and
- (C) Applied statistical methodologies for the collection and interpretation of NNMRRP data.

Planned Activities

V-C-1.1

Conduct research on methods for survey sampling, design, and data collection and measurement procedures that permit reliable estimation of nutrition and related health indicators for high-risk subgroups.

Responsible organizations: CDC/ NCHS, HNHS.

Contributing organizations: CDC/ NCCDPHP, Census Bureau, CSRS, FDA.

Collaborating organizations: ADAMHA, ARS, FNS, HRSA, IHS.

V-C-1.2

Develop criteria for interpreting selected nutrition and related health indicators for subgroups of the population such as infants and children, adolescents, pregnant women, and the elderly.

Responsible organizations: ARS, CDC/ NCHS.

Contributing organizations: CDC/ NCCDPHP, CDC/NCEH, FDA, NIH.

Collaborating organizations: ADAMHA, FNS, IHS.

V-C-1.3

Conduct research to develop, improve, and validate laboratory measures of nutritional status and conduct studies to establish relationships between biochemical measures of nutritional status and recent and long-term dietary intake. Publish and disseminate the results of these research activities.

Responsible organizations: ARS, CDC/ NCEH.

Contributing organizations: CDC/ NCCDPHP, CDC/NCHS, FDA, NIH.

Collaborating organizations: ADAMHA, CSRS, DOD, HNHS.

2. Food and Nutrient Consumption

There is a widely recognized need for strengthening the scientific base for the collection and interpretation of food consumption and dietary status measurements. Survey methodologies need to be developed to increase the information about the relationship between dietary patterns and chronic disease or health and influential factors. Research falls into two broad categories:

- (A) Methodological research specific to the conduct of surveys and the measurement of dietary status; and
- (B) Research that will improve the interpretation and usefulness of consumption data to policymakers, health professionals, food industry, media, and others in the nutrition community.

Planned Activities

V-C-2.1

Implement the recommendations in the 1986 report of the National Academy of Sciences (25) for assessing nutrient adequacy by determining the distribution of nutrient requirements among major age-sex groups for nutrients considered to be current or potential public health problems (4).

Responsible organization: ARS.

Contributing organizations: CSRS, FDA, HNIS.

Collaborating organizations: CDC/NCHS, NIH.

V-C-2.2

Develop and evaluate procedures for determining usual intakes of foods and nutrients from surveys employing 24-hour recall measures of dietary intake.

Responsible organizations: CDC/NCHS, HNIS.

Contributing organizations: ARS, FDA.

Collaborating organizations: EPA, FNS.

V-C-2.3

Conduct research on methods for survey sampling, design, and data collection and measurement procedures that permit reliable estimation of dietary status indicators for high-risk subgroups (see Activities V-B-2.2 and V-C-1.1).

Responsible organizations: CDC/NCHS, HNIS.

Contributing organizations: CDC/NCCDPHP, Census Bureau, CSRS, FDA.

Collaborating organizations: ERS, FNS, IHS.

V-C-2.4

Recommend a standardized mechanism and instrument(s) for defining and obtaining data on the prevalence of "food insecurity" or "food insufficiency" in the United States and methodologies that can be used across NNMRRP and at State and local levels.

Responsible organizations: CDC/NCHS, FNS.

Contributing organizations: CDC/NCCDPHP, HNIS.

Collaborating organizations: ERS, ES, HRSA, IHS.

V-C-2.5

Evaluate the effectiveness of food assistance and Federally supported food service programs on the food consumption patterns and dietary status of population groups and subgroups.

Responsible organization: FNS.

Contributing organizations: CDC/NCCDPHP, DOD, HNIS.

Collaborating organizations: ERS, IHS.

V-C-2.6

Review methodologies for assessing data on household food consumption and the money value of food and revise methodologies as appropriate.

Responsible organization: HNIS.

Contributing organizations: BLS, Census Bureau, ERS, EPA, ES, FNS.

Collaborating organization: CDC/NCHS.

V-C-2.7

Conduct research to determine the reliability, validity, and reporting biases of methods that measure food and nutrient consumption for the general population and for various cultural and ethnic groups.

Responsible organizations: CDC/NCHS, HNIS.

Contributing organizations: ARS, CSRS, FDA, NIH.

Collaborating organizations: CDC/NCCDPHP.

3. Knowledge, Attitudes, and Behavior Assessments

Knowledge, attitudes, and behavior can influence individuals' willingness and ability to put dietary recommendations into practice. These constructs are susceptible to change through appropriately targeted nutrition interventions. It is essential to understand the role that knowledge, attitudes, and behavior about dietary recommendations and diet-health relationships play in determining food choices and, ultimately, nutrient intake and health status. This will aid in the development of public health strategies at Federal, State, and local levels to improve dietary status, promote health, and prevent nutrition-related disease.

Planned Activities

V-C-3.1

Conduct research to identify the relationship of dietary and health knowledge and attitudes to food-related behavior, food and nutrient intake, health status, and cultural and self-care health practices to examine theories of behavior changes.

Responsible organizations: FDA, HNIS.

Contributing organizations: CDC/NCHS, CSRS.

Collaborating organizations: DOD, ERS, ES, HRSA, IHS, NIH.

V-C-3.2

Conduct research to determine consumer use and understanding of the nutrition information on food labels by the general population and selected subgroups of the population.

Responsible organization: FDA.

Contributing organizations: CSRS, FSIS, HNIS.

Collaborating organization: ERS, ES.

V-C-3.3

Conduct research to identify the relationship of knowledge and attitude parameters to dietary behavior and nutrient intake, which will contribute to key knowledge, attitudes, and behavior questions.

Responsible organizations: FDA, HNIS.

Contributing organizations: CDC/NCCDPHP, CSRS, NIH.

Collaborating organizations: DOD, ERS, ES.

V-C-3.4

Determine information needed on consumer knowledge, attitudes, and behavior about issues regarding food safety and labeling.

Responsible organization: FDA.

Contributing organizations: FSIS, HNIS.

Collaborating organizations: CDC/NCCDPHP, CDC/NCHS, DOD, EPA, ERS, ES, HRSA, IHS, NIH.

V-C-3.5

Determine the reliability and validity of survey instruments to measure knowledge, attitudes, and behaviors for the general population and for various cultural and ethnic groups.

Responsible organizations: FDA, HNIS.

Contributing organization: CDC/NCHS.

Collaborating organizations: CDC/NCCDPHP, ES.

4. Food Composition and Nutrient Data Bases

Sources of analytical data for NNDB include laboratories, the food industry, the scientific literature, and private laboratories under contract with USDA. Even though NNDB contains thousands of individual food composition values, gaps and deficiencies still exist for some foods, food components, and specific nutrients. This will continue for the foreseeable future because of the cost and the lack of reliable measurement systems for certain food components. Therefore, methods for developing food composition values other than analyses of large numbers of samples must be frequently used, such as using data for a limited number of samples, calculating values from other forms of a food, or using a recipe to calculate the nutrient profile of a food composed of several ingredients. These methods need to be evaluated to ensure their appropriate use, and a plan is needed to prioritize needs for the development of measurement systems and the generation of food composition data.

Planned Activities

V-C-4.1

Evaluate the different approaches (e.g., analytical values, calculations, and imputations) used to produce nutrient values for the Survey Nutrient Data Base and establish criteria for their use.

Responsible organization: HNIS.

Contributing organizations: ARS, FDA.

Collaborating organizations: CDC/NCHS, CSRS.

V-C-4.2

Using criteria established in activity V-C-4.1, evaluate the current status of food composition data and develop and implement a plan for the generation of data where deficiencies exist.

Responsible organization: HNIS.

Contributing organizations: ARS, FDA.

V-C-4.3

Develop cost-effective field measurement systems to include analytical methodology and sampling strategy as well as appropriate quality control materials for the generation of reliable, accurate, and precise food composition data. Coordinate methods development and related activities among Federal Government laboratories performing food composition analyses. Initiate a process for new methods to receive "official methods" status by such organizations as Association of Official Analytical Chemists, American Association of Cereal Chemists, or American Oil Chemists Society.

Responsible organizations: ARS, FDA.

Contributing organization: FSIS.

Collaborating organization: HNIS.

5. Food Supply Determinations

Estimates of the nutrient content of the U.S. food supply include nutrients naturally present in about 350 primary, mostly unprocessed food commodities as well as nutrients entering the food supply as additives through enrichment and fortification. Quantities of "added" nutrients have been based on six surveys of nutrient producers and importers conducted between 1946 and 1970. Many changes have occurred in the food supply since the last survey in 1970 including an increase in the number and levels of nutrients added in fortification as well as the number of foods that are enriched or fortified. New data are needed to maintain the accuracy of the food supply nutrient series. A review of potential data sources and the development of alternate methods of data collection are needed for determining nutrients added to the food supply for fortification as well as functional purposes.

Planned Activities

V-C-5.1

Evaluate potential sources of information on nutrients added to the food supply for enrichment, fortification, and functional purposes

and determine the most appropriate method to collect these data.

Responsible organization: HNIS.

Collaborating organizations: ERS, FDA.

V-C-5.2

Plan and conduct research on nutrients added for enrichment, fortification, and functional purposes based on the most appropriate method as determined by activity V-C-5.1.

Responsible organization: HNIS.

Collaborating organizations: ERS, FDA.

V-C-5.3

Plan and conduct research on how various factors affect changes in the makeup of food supplies and how changes in processing and marketing practices affect final product characteristics.

Responsible organization: ERS.

Collaborating organizations: FDA, HNIS.

VI. State and Local Objectives and Activities

In order to create an effective and comprehensive NNMRRP, it is necessary to enhance State and local capacity to monitor nutritional status and dietary practices in a way that coordinates with and complements national nutrition surveys. In 1990, 40 States participated in the Pediatric Nutrition Surveillance System (PedNSS), 18 States participated in the Pregnancy Nutrition Surveillance System (PNSS) and 43 participated in the Behavioral Risk Factor Surveillance System (BRFSS). Also in 1990, nutrition components were added to the Youth Risk Behavior Survey (YRBS) and BRFSS to enable States to begin to look at nutrition-related issues in the school-aged and adult populations, respectively. These surveys and surveillances are coordinated by the National Center for Chronic Disease Prevention and Health Promotion (CDC/DHHS).

A major program emphasis within USDA's Cooperative Extension Service is nutrition, diet, and health programs. These educational programs are conducted in 3,150 counties in all States and territories, reaching approximately 10-12 million people of all ages and income levels. The Food and Nutrition Service, USDA, also initiates a variety of State and local programs that promote the importance of good nutrition and its relationship to health.

Continued support and expansion of State-based surveillance systems are needed to track State-based nutrition objectives (26) and to enhance program

management. In addition, activities at State and local levels are needed to motivate changes in dietary practice to achieve the planned nutrition objectives.

The Survey of State Nutrition Surveillance Efforts carried out in 1988 by the Association of State and Territorial Public Health Nutrition Directors (ASTPHND) indicated that 80 percent of States rated participation in nutrition monitoring as very important or crucial. Major limitations to full participation in nutrition monitoring included insufficient professional staff, limited funding, and non-automated data collection systems (27).

Objective VI-A: Develop and Strengthen State and Local Capacity for Continuous and Coordinated Nutrition Monitoring Data Collection That Complements National Nutrition Surveys

State and local data are needed to detect emerging nutrition issues, to monitor trends in nutrition-related health problems, to plan and evaluate nutrition interventions, to measure the quality of nutrition services, and to assess the effectiveness of food assistance and other programs. As States and localities strive to implement strategies and objectives comparable to the nutrition objectives in *Healthy People 2000* (11) and *Healthy Communities 2000: Model Standards* (26), both baseline and continuing data will be necessary to monitor local progress.

A State nutrition-monitoring structure is an integral part of NNMRRP. As national key standardized indicators for population descriptors, dietary status (including food insufficiency), nutritional and related health status, and knowledge, attitudes, and behavior assessments are developed, they will be incorporated into existing (e.g., BRFSS, PedNSS, and PNSS) and planned (e.g., YRBS) surveillance systems. Staff should be trained in the collection, analysis, and application of nutrition data. State laboratories must be able to support State and local monitoring efforts that are compatible with national efforts. State and local monitoring systems should also take advantage of new technology for electronic data transfer.

Planned Activities

VI-A-1

Provide assistance for the development and maintenance of State structure, staff, and programs to support their participation in NNMRRP.

Responsible organization: CDC/NCCDPHP.

Contributing organizations: CDC/NCEH, ES, FNS, HRSA, IHS.
Collaborating organizations: CDC/NCHS, CSRS.

VI-A-2

Expand the coverage of current State and local nutrition monitoring activities in selected population groups through technical assistance and grant awards.

Responsible organization: CDC/NCCDPHP.

Contributing organizations: ES, FNS, HRSA, IHS.

Collaborating organizations: CDC/NCEH, CDC/NCHS, CSRS.

VI-A-3

Develop and implement an adult nutrition surveillance system for use in States and localities to monitor State-based nutrition objectives as well as target subgroups of the population at increased nutritional risk.

Responsible organization: CDC/NCCDPHP.

Contributing organizations: ES, FNS, HRSA, IHS.

Collaborating organizations: CDC/NCEH, CDC/NCHS, CSRS.

VI-A-4

Develop and test the feasibility of a model school-based nutrition monitoring system to assess the health and nutritional status of school-aged children.

Responsible organizations: CDC/NCCDPHP, FNS.

Contributing organizations: CDC/NCHS, DOE.

Collaborating organizations: HRSA, IHS.

VI-A-5

Develop and expand State and local laboratory capacity to support nutrition monitoring activities through technical assistance and grant awards.

Responsible organization: CDC/NCEH.

Contributing organizations: ARS, CDC/NCCDPHP.

Collaborating organizations: CDC/NCHS, IHS.

Objective VI-B: Improve Methodologies to Enhance Comparability of NNMRP Data Across Federal, State, and Local Levels

In order for States and localities to compare their nutrition and related health data, including food consumption, with that of other States and with national nutrition data, core indicators, standard methodologies, and interpretive criteria must be developed that are consistent across States and comparable to national nutrition surveys.

Planned Activities

VI-B-1

As appropriate laboratory methodologies are identified for nutritional biochemistry indicators (Activities V-B-1.2, V-C-1.3, and VI-C-3), periodically develop, publish, update, and disseminate manuals on model State laboratory programs.

Responsible organization: CDC/NCEH.

Contributing organization: ARS.

Collaborating organizations: CDC/NCCDPHP, CDC/NCHS.

VI-B-2

Evaluate the feasibility of alternate statistical methodologies for creating State and local estimates based on data from national nutrition surveys, alone or in combination with available data from State-level surveys, as appropriate. Establish, publish, and disseminate such methodologies via computer software.

Responsible organizations: CDC/NCHS, HNIS.

Collaborating organizations: CDC/NCCDPHP, ES, FNS.

VI-B-3

Develop methodologies and publish guidance materials to link and utilize existing State and local data sets such as vital records data, Medicaid program data, and nutrition program data for nutrition program management and evaluation.

Responsible organizations: CDC/NCCDPHP, CDC/NCHS, FNS.

Contributing organization: HRSA.

Collaborating organization: ES.

VI-B-4

Establish and implement practical mechanisms to utilize and link existing industry-based food purchasing data with consumption data for monitoring dietary changes at State and local levels.

Responsible organization: CDC/NCCDPHP.

Contributing organizations: FNS, HNIS.

Collaborating organizations: CDC/NCHS, FDA, NMFS.

Objective VI-C: Improve the Quality of State and Local Nutrition Monitoring Data

For continuance of data quality at the State and local levels, periodic training in the collection, analysis, and use of nutrition monitoring data will be important. Success in utilizing and disseminating State and local nutrition monitoring data will be key factors in assessing the usefulness of nutrition monitoring efforts. Periodic evaluation

of State and local monitoring systems should be performed in order to assure that State and local needs are met.

Planned Activities

VI-C-1

Provide technical assistance and training to State and local agencies on the collection, analysis, and use of nutrition monitoring data.

Responsible organization: CDC/NCCDPHP.

Contributing organizations: CDC/NCHS, CSRS, ES, FNS, HNIS, IHS.

VI-C-2

Develop, publish, and disseminate a practitioner's guide and training programs targeted to advocates, local governments, Cooperative Extension Service (CES), and public health personnel on how to access and use available State-based nutrition monitoring and surveillance data.

Responsible organization: CDC/NCCDPHP.

Contributing organizations: ES, FNS, HRSA, IHS.

Collaborating organizations: CDC/NCHS, HNIS.

VI-C-3

Develop and carry out a training program to assist States in developing and implementing the model State laboratory program for nutrition monitoring.

Responsible organization: CDC/NCEH.

Contributing organizations: CDC/NCCDPHP, CSRS, IHS.

VI-C-4

Develop a summary of the content and extent of nutrition monitoring activities at the State level and incorporate into the updates of *Nutrition Monitoring in the United States: The Directory of Federal and State Nutrition Monitoring Activities*.

Responsible organization: CDC/NCCDPHP.

Contributing organizations: CDC/NCHS, ES, FNS.

Collaborating organizations: IBNMRR Federal-State Relations and Information Dissemination and Exchange Working Group.

VII. Calendar for Planned IBNMRR, National, and State and Local Objectives and Activities

This section contains a calendar for the required and planned activities of IBNMRR (Tables VII-1 and VII-2), for planned activities for each of the five component measurement areas (Tables VII-3 through VII-7), and for planned activities for States and localities (Table

VII-8). The calendars are designed to provide an overview of when activities will be conducted and to address accountability and timeliness. A coding system was devised to indicate the stage of development for each activity:

"P" indicates that essential planning steps prior to the initiation of an activity are being conducted.
"a" indicates the activity has been initiated, such as awarding a contract or starting a research project.

"X" represents a product such as a publication, workshop, or work plan.
"→" indicates that the activity is ongoing.

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Table VII-1. Calendar of required administrative and reporting activities, as defined by Pub. L. 101-445.

Activity 1992 1993 1994 1995 1996 1997 1998 1999 2000 2001 2002

IBNMRR										
Quarterly meetings	X									
Periodic meetings		X			X	X	X	X	X	X
Annual budget report	X	X	X	X	X	X	X	X	X	X
Policy report to the President	X		X		X		X			X
NNMAC										
Periodic meetings	X	X	X	X	X	X	X	X	X	X
Annual report to the Secretaries	X	X	X	X	X	X	X	X	X	X
New or renewed appointments			X(2)	X(2)	X(1)	X(4)		X(2)	X(1)	X(4)
Scientific report										
Contract	P	X	X			P	X	X		
Report to Congress		*	X				*	X		

(): number of new or renewed appointments from the 9-member NNMAR

Table VII-2. Calendar of planned activities for the IBNMRR.

Activity	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002
Review IBNMRR membership		X		X		X		X		X	
Working groups	=> as needed ==>										
Directory	X		*	X		*	X		*	X	
Chartbook	*	X			*	X					
Clearinghouse	P	P	P	*	X						
Procedures to solicit input to update plan		*	X								
Annual review and evaluation of ten-year plan accomplishments	X	X	X	X	X	X	X	X	X	X	X
5 and 10-year assessment of comprehensive plan					*	X				*	X
Respond to the NNMAC's recommendations	=>										
Independent review and evaluation of NNMRRP surveys			P	P	*	=> X					

Table VII-3. Calendar of planned activities for the "nutrition and related health measurements" component.

Activity 1992 1993 1994 1995 1996 1997 1998 1999 2000 2001 2002

Continuous and coordinated data collection										
V-A-1.1	X ==>	X ==	* ==>	X ==>					* ==>	X
V-A-1.2		*		X ==>						>
V-A-1.3		*						*		X
V-A-1.4	*	X				*		X		
V-A-1.5	X		*	X		*		X	*	X
Comparability and quality of data										
V-B-1.1	*	X		X		X			X	X
V-B-1.2		P	*	X				P	*	X
Research										
V-C-1.1	P	*		X ==>						>
V-C-1.2	P ==	*		X ==>				X ==	X ==	X ==>
V-C-1.3	*		X ==>	X ==>				X ==	X ==	X ==>

Table VII-4. Calendar of planned activities for the "food and nutrient consumption" component.

Activity 1992 1993 1994 1995 1996 1997 1998 1999 2000 2001 2002

Continuous and coordinated data collection										
V-A-2.1	X	X	X	X	X	X	X	X	X	X
V-A-2.2		*	X							
V-A-2.3			X							
V-A-2.4	*									
Comparability and quality of data										
V-B-2.1	P	*	X							
V-B-2.2	X		X							
V-B-2.3	*		X							
V-B-2.4	X		X							
V-B-2.5	*		X							

Table VII-4 continue'

Activity 1992 1993 1994 1995 1996 1997 1998 1999 2000 2001 2002

Research										
V-C-2.1	*			X						
V-C-2.2	*			X						
V-C-2.3	P	*		X						
V-C-2.4	P	*		X						
V-C-2.5	X	X		X			X	X		
V-C-2.6	*			X						
V-C-2.7	*			X			X	X		

Table VII-5. Calendar of planned activities for the "knowledge, attitudes, and behavior assessments" component.

Activity 1992 1993 1994 1995 1996 1997 1998 1999 2000 2001 2002

Continuous and coordinated data collection										
V-A-3.1	*	X		*	X		*	X	*	X
V-A-3.2	*	X				*	X			
V-A-3.3		*	X		*	X		*	X	==>
Comparability and quality of data										
V-B-3.1					*		==> X			
V-B-3.2			*	X						
Research										
V-C-3.1	*	==> X		P	==>	*	==> X	==>		
V-C-3.2	X		X		X		X	X		X
V-C-3.3				*	==> X					==>
V-C-3.4	X		X		X		X	X		X
V-C-3.5			*	X			*	X		

Table VII-6. Calendar of planned activities for the "food composition and nutrient data bases" component.

Activity	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002
Continuous and coordinated data collection											
V-A-4.1	==> X		==> X		==> X		==> X		==> X		==> X
V-A-4.2	==> X		==> X		==> X		==> X		==> X		==> X
V-A-4.3			X		==>						
V-A-4.4					==>						
V-A-4.5	*	==> X			==>						
V-A-4.6		==> X			==> X		==> X		==> X		
V-A-4.7		P		* ==> X	==>						
V-A-4.8			*	X		X		X		X	

Table VII-6 continued.

Activity	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002
Comparability and quality of data											
V-B-4.1	*	=	=	> X	=	=					
V-B-4.2	X	=	=	X	=	=					
Research											
V-C-4.1	* =	X =	=	X =	=	=					
V-C-4.2	=	* =	X =	=	X	=	> X	=	X =	> X	
V-C-4.3	X =	=	X =	=	X	=	> X	=	X =	> X	

[illegible]

Continuous and coordinated data collection									
V-A-5.1	*	X	=>						
V-A-5.2			=>						
V-A-5.3			=>						
Research									
V-C-5.1	*	=> X							
V-C-5.2			*	=>					
V-C-5.3			=> X =>						

	Activity	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002
--	----------	------	------	------	------	------	------	------	------	------	------	------

Continuous and coordinated data collection									
VI-A-1	P = *			X ==>			X == X ==>		
VI-A-2	X == X ==>			X ==>			X == X ==> X ==>		
VI-A-3	P		P	*	X		X == X ==>		
VI-A-4	P		P	*	X ==>		X == X ==>		
VI-A-5	P == *			X ==>			X ==>		
Improved methodologies for comparability									
VI-B-1	P	*	X				P	X ==>	
VI-B-2	P	* ==>			X		*	X ==>	
VI-B-3	P	X == X ==>			X		X		
VI-B-4	P	X == X ==>			X ==>		X ==> X ==>		

Table VII-8 continued.

Activity 1992 1993 1994 1995 1996 1997 1998 1999 2000 2001 2002

Improved quality of data										
VI-C-1	*	=								
VI-C-2			P	X				X		
VI-C-3				P	*	=				
VI-C-4	X		*	X		*	X	*	X	

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Appendix 1—Joint DHHS-USDA Working Group for the Development of the Comprehensive Plan for the National Nutrition Monitoring and Related Research Program

Department of Health and Human Services
Administration on Aging
Centers for Disease Control and Prevention:
National Center for Chronic Disease Prevention and Health Promotion
National Center for Environmental Health
National Center for Health Statistics*
Food and Drug Administration
Health Resources and Services Administration
Indian Health Service
National Institutes of Health
Office of Disease Prevention and Health Promotion/Office of the Assistant Secretary for Health

U.S. Department of Agriculture
Agricultural Research Service
Cooperative State Research Service
Economic Research Service
Extension Service
Food and Nutrition Service
Human Nutrition Information Service*

Department of Defense

U.S. Army Medical Research and Development Command

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*Co-lead organizations

Appendix 2. Nutrition monitoring activities from 1892 through 1991

Date	Agency	Survey	Target U.S. population
Nutrition and related health measurements			
1915 - continuous	NCHS	Vital Statistics Program	Total U.S. population
1957 - annual	NCHS	National Health Interview Survey (NHIS)	Civilian, noninstitutionalized individuals
1965 - annual	NCHS	National Hospital Discharge Survey	Discharges from non-Federal, general and short-stay specialty hospitals
1968-70	DHEW	Ten State Nutrition Survey	Low-income families in 10 States
1971-74	NCHS	First National Health and Nutrition Examination Survey (NHANES I)	Civilian, noninstitutionalized individuals, 1-74 y
1973	NCHS	National Survey of Family Growth	Ever-married women, 15-44 y
1973-74	NCHS	National Nursing Home Survey	Nursing home residents, current or discharged in past year
Annually, 1973-81	NCHS	National Ambulatory Medical Care Survey	Office visits to non-Federal, office-based physicians
1973 - continuous	CDC/NCCDPHP	Pediatric Nutrition Surveillance System	Low-income, high-risk children, birth-17 y
1974-75	NCHS	NHANES I Augmentation Sample	Civilian, noninstitutionalized individuals, 25-74 y
1976	NCHS	National Survey of Family Growth	Ever-married women, 15-44 y
1976-80	NCHS	Second National Health and Nutrition Examination Survey (NHANES II)	Civilian, noninstitutionalized individuals, 6 mo - 74 y
1977	NCHS	National Nursing Home Survey	Nursing home residents, current or discharged in past year
1979 - continuous	CDC/NCCDPHP	Pregnancy Nutrition Surveillance System	Low-income, high-risk pregnant women
1982	NCHS	National Survey of Family Growth	Women, 15-44 y
1982-84	NCHS	NHANES I Epidemiologic Followup Study	Individuals examined in NHANES I, 25-74 y at baseline
1982-84	NCHS	Hispanic Health and Nutrition Examination Survey (HHANES)	Civilian, noninstitutionalized individuals, 6 mo-74 y Mexican-American (AZ, CA, CO, NM, TX) Cuban (FL) Puerto Rican (CT, NJ, NY)
1984	NCHS	NHIS on Aging	Civilian, noninstitutionalized individuals, 55+ y
1985	NCHS	National Nursing Home Survey	Nursing home residents, current or discharged in past year
1985	NCHS	National Ambulatory Medical Care Survey	Office visits to non-Federal, office-based physicians
1986	NCHS	NHANES I Epidemiologic Followup Study	Individuals examined in NHANES I, 55-74 y at baseline
1986-88	NCHS	National Mortality Followback Survey	Individuals, 25+ y
1987	CDC/NCHS*	NHANES I Epidemiologic Followup Survey	Individuals examined in NHANES I, 25-74 y at baseline
1987	CDC/NCHS*, NIH/NCI	NHIS on Cancer Epidemiology and Control	Civilian, noninstitutionalized individuals, 18+ y

1988	CDC/NCHS*	National Survey of Family Growth	Women, 15-44 y
1988-90	CDC/NCHS*	National Maternal and Infant Health Survey	Women associated with live births, still births, and infant deaths in 1988
1988-94	CDC/NCHS*	Third National Health and Nutrition Examination Survey (NHANES III)	Civilian, noninstitutionalized individuals, 2 mo+ Oversampling of blacks, Mexican-Americans, children, birth-5 y, and individuals, 60+ y
1988-91	CDC/NCHS*, NIH/NIA	NHANES III Supplemental Nutrition Survey of Older Americans	Individuals examined in NHANES III in households w/telephones, 50+ y
1989-90	CDC/ NCCDPHP	Surveillance of Severe Pediatric Undernutrition	Low-income, high-risk children, 6 mo - 5 y
1989 - continuous	CDC/NCHS*	National Ambulatory Medical Care Survey	Office visits to non-Federal, office-based physicians
1990	IHS	Survey of Heights and Weights of American Indian School Children	American Indian children, 5-18 y
1991-92	CDC/NCHS*	Longitudinal Followup to the National Maternal and Infant Health Survey	Women from the 1988 National Maternal and Infant Health Survey two years later
1991-92	IHS	Navajo Health and Nutrition Survey	Persons residing on or near the Navajo reservation in AZ, NM, and UT, 12+ y

Food and nutrient consumption

1917 - continuous	DOD	Nutritional Evaluation of Military Feeding Systems and Military Populations	Enlisted personnel of the Army, Navy, Marine Corps and Air Force
1935-36	BHE*, BLS	Household Food Consumption Survey - Household Food Use	Housekeeping households, with husband and wife, native born, nonrelief
1942	BHNHE*, BLS	Household Food Consumption Survey - Household Food Use	Housekeeping households
1948	HERB*	Household Food Consumption Survey - Household Food Use	Urban housekeeping households
1955	HERB*, AMS	Household Food Consumption Survey - Household Food Use	Civilian, housekeeping households
1961 - annual	FDA	Total Diet Study	Representative diets of specific age-sex groups
1965-66	CFERD*	Household Food Consumption Survey - Household Food Use	Civilian, housekeeping households
1965	CFERD*	Household Food Consumption Survey - Individual Intakes	Eligible individuals residing in eligible households (all except half of persons 20-64 y)
1969-70	NOAA/NMFS	Survey of Fish Purchases by Socio-economic Characteristics	Civilian households
1971-74	NCHS	First National Health and Nutrition Examination Survey (NHANES I)	See listing above
1973-74	NOAA/NMFS	National Seafood Consumption Survey	Individuals residing in eligible households
1974-75	NCHS	NHANES I Augmentation Sample	See listing above
1976-80	NCHS	Second National Health and Nutrition Examination Survey (NHANES II)	See listing above
1977-78	HNIS	Nationwide Food Consumption Survey - Household Food Use	Civilian households

1977-78	HNIS	Nationwide Food Consumption Survey - Individual Intakes	Eligible individuals residing in eligible households (All except half of persons over 18 y in summer, fall, and winter)
1977-78	HNIS	Supplemental Nationwide Food Consumption Survey - Household Food Use	Civilian households in Puerto Rico, Alaska, Hawaii, elderly adults in 48 States
1977-78	HNIS	Supplemental Nationwide Food Consumption Survey - Individual Intakes	Individuals residing in eligible households
1977-78	HNIS	Low-Income Nationwide Food Consumption Survey - Household Food Use	Low-income civilian households in 48 States
1977-78	HNIS	Low-Income Nationwide Food Consumption Survey - Individual Intakes	Individuals residing in eligible households
1979-80	HNIS	Low-Income Nationwide Food Consumption Survey - Household Food Use	Low-income civilian households
1979-80	HNIS	Low-Income Nationwide Food Consumption Survey - Individual Intakes	Individuals residing in eligible households
1980	FDA	Vitamin and Mineral Supplement Intake Survey	Civilian, noninstitutionalized individuals, 16+ y
1980-81	FNS	National Evaluation of the School Nutrition Programs	School-aged children, grades 1-12
1980-81	NOAA/NMFS	National Seafood Consumption Survey	Individuals residing in eligible households
1980 - continuous	BLS	Consumer Expenditure Survey	Civilian, noninstitutionalized population and a portion of the institutionalized population in the U.S.
1982	FNS	Food Stamp Program (FSP) Supplemental Security Income (SSI)/Elderly Cash-Out Demonstration	Households whose members were age 65+, FSP-eligible SSI recipients
1982-84	NCHS	NHANES I Epidemiologic Followup Study	See listing above
1983	FNS	An Evaluation of the Special Supplemental Food Program for Women, Infants, and Children (WIC)	Pregnant women in their first two trimesters and their children
1983 - continuous	Census	Survey of Income and Program Participation	Civilian, noninstitutionalized population of the U.S.
1984	HNIS/FNS	Evaluation of the Nutrition Assistance Program (NAP) in Puerto Rico	Puerto Rican civilian, housekeeping households participating in NAP
1985	HNIS	Continuing Survey of Food Intakes by Individuals (CSFII) - All income households	Women and men, 19-50 y, children, 1-5 y
1985	HNIS	Continuing Survey of Food Intakes by Individuals (CSFII) - Low-Income Households	Low-income women and men, 19-50 y, children, 1-5 y
1986	HNIS	Continuing Survey of Food Intakes by Individuals (CSFII) - All income households	Women, 19-50 y, Children, 1-5 y
1986	HNIS	Continuing Survey of Food Intakes by Individuals (CSFII) - Low-Income Households	Low-income women, 19-50 y, Children, 1-5 y
1986	NCHS, FDA	NHIS on Vitamin and Mineral Supplements	Children, 2-6 y; individuals, 18+ y

1987	FNS	Feeding the Homeless: Does the Prepared Meals Provision Help?	Homeless users and non-users of soup kitchens
1987-88	HNIS	Nationwide Food Consumption Survey - Household Food Use	Civilian households in 48 States
1987-88	HNIS	Nationwide Food Consumption Survey - Individual Intakes	Individuals residing in eligible households in 48 States
1987-88	HNIS	Low-Income Nationwide Food Consumption Survey - Household Food Use	Low-income civilian households
1987-88	HNIS	Low-Income Nationwide Food Consumption Survey - Individual Intakes	Individuals residing in eligible households
1988-94	CDC/NCHS*	Third National Health and Nutrition Examination Survey (NHANES III)	See listing above
1988-91	CDC/NCHS* NIH/NIA	NHANES III Supplemental Nutrition Survey of Older Persons	See listing above
1989	HNIS	Continuing Survey of Food Intakes by Individuals (CSFII) - All income households	Individuals of all ages residing in households in 48 States
1989	HNIS	Continuing Survey of Food Intakes by Individuals (CSFII) - Low-Income Households	Individuals of all ages residing in eligible households in 48 States
1989	FNS	Evaluation of the Food Distribution Program on Indian Reservations (FDPIR)	American Indian households participating in FDPIR
1989-90	FNS	Child Nutrition Program Operations Study, Year 2	Average National School Lunch Program and School Breakfast Program meals of school-aged children
1990	HNIS	Continuing Survey of Food Intakes by Individuals (CSFII) - All income households	Individuals of all ages residing in households in 48 States
1990	HNIS	Continuing Survey of Food Intakes by Individuals (CSFII) - Low-Income Households	Individuals of all ages residing in eligible households in 48 States
1990	FNS	Food Stamp Program (FSP) Cash-out Evaluation in San Diego, Alabama and Washington	FSP households
1991	FNS	WIC Child Impact Field Test	Infants, < 10 mo.
1991	HNIS	Continuing Survey of Food Intakes by Individuals (CSFII) - All income households	Individuals of all ages residing in households in 48 States
1991	HNIS	Continuing Survey of Food Intakes by Individuals (CSFII) - Low-Income Households	Individuals of all ages residing in eligible households in 48 States

Knowledge, attitudes and behavior assessments

1981 - continuous	CDC/NCCDPHP	Behavioral Risk Factor Surveillance System	Individuals, 18+ y, residing in participating States in households with telephones
1982	FDA	Health and Diet Survey	Civilian, noninstitutionalized individuals in households with telephones, 18+ y
1982-84	FDA	Point of Purchase Labeling Studies	Grocery store shoppers
1983	NIH/NCI	Cancer Prevention Awareness Survey	Civilian, noninstitutionalized individuals, 18+ y
1983	NIH/NHLBI	Cholesterol Awareness Survey -- Physicians' Survey	Physicians practicing in the conterminous U.S. w/specialties in general & family practice, internal medicine & cardiology

1983-84	FDA, NIH/NHLBI	Health and Diet Survey/Cholesterol Awareness Survey -- Public Survey	Civilian, noninstitutionalized individuals, 18+ y
1984 - continuous	CDC/ NCCDPHP	Behavioral Risk Factor Surveillance System	Individuals, 18+ y, residing in participating States in households with telephones
1985	NCHS	NHIS on Health Promotion/Disease Prevention	Civilian, noninstitutionalized individuals, 18+ y
1985	NIH/NCI	Cancer Prevention Awareness Survey	Civilian, noninstitutionalized individuals, 18+ y
1985-90	FDA	Point of Purchase Labeling Studies	Grocery store shoppers
1986	FDA, NIH/NHLBI	Health and Diet Survey/Cholesterol Awareness Survey -- Public Survey	Civilian, noninstitutionalized individuals in households with telephones, 18+ y
1986	NIH/NHLBI	Cholesterol Awareness Survey -- Physicians' Survey	Physicians practicing in the conterminous U.S. w/specialties in general & family practice, internal medicine & cardiology
1987	ODPHP, CDC/ NCCDPHP, ADAMHA/ NIDA	National Adolescent Student Health Survey	Eighth and tenth grade students
1988	FDA	Health and Diet Survey	Civilian, noninstitutionalized individuals in households with telephones, 18+ y
1989-90	NIH/NCI	National Knowledge, Attitudes, and Behavior Survey	Civilian, noninstitutionalized individuals, 18+ y
1989	HNIS	Diet and Health Knowledge Survey	Main meal-planner/preparers in households participating in the 1989 CSFII
1990	CDC/NCHS*	NHIS on Health Promotion/Disease Prevention	Civilian, noninstitutionalized individuals, 18+ y
1990	HNIS	Diet and Health Knowledge Survey	Main meal-planner/preparers in households participating in the 1990 CSFII
1990	FDA	Health and Diet Survey	Civilian, noninstitutionalized individuals in households with telephones, 18+ y
1990	NIH/NHLBI	Cholesterol Awareness Survey -- Physicians' Survey	Physicians practicing in the conterminous U.S. w/specialties in general & family practice, internal medicine & cardiology
1990-91	NIH/NHLBI	Nationwide Survey of Nurses' and Dietitians' Knowledge, Attitudes, and Behavior Regarding Cardiovascular Risk Factors	Registered nurses and registered dietitians currently active in their profession
1990-91	FDA	Nutrition Label Format Studies	Primary food shoppers, 18+ y
1990 - biennial	CDC/ NCCDPHP	Youth Risk Behavior Survey	Youths attending school in grades 9- 12 in the 50 States, D.C., Puerto Rico, and the Virgin Islands
1991	CDC/NCHS*	1991 NHIS on Health Promotion/Disease Prevention	Civilian, noninstitutionalized individuals, 18+ y
1991	HNIS	Diet and Health Knowledge Survey	Main meal-planner/preparers in households participating in the 1991 CSFII
1991	FDA, NIH/NHLBI	Survey of Weight-Loss Practices	Individuals currently trying to lose weight, in households w/telephones, 18+ y
1991	NIH/NCI	5 A Day Baseline Survey	Individuals with telephones, 18+ y

Food composition and nutrient data bases			
1892 - continuous	ARS	Nutrient Composition Laboratory	NA
1892 - continuous	HNIS	National Nutrient Data Bank	NA
1961 - annual	FDA	Total Diet Study	See listing above
1973 - continuous	FDA	Langual	NA
1977 - biennial	FDA	Food Label and Package Survey	NA
1977 - continuous	HNIS	Survey Nutrient Data Base	NA
Food supply determinations			
1909 - annual	ERS HNIS	U.S. Food and Nutrition Supply Series Estimates of Food Available Estimates of Nutrients	NA
1909 - annual	NOAA/NMFS	Fisheries of the United States	NA
Monthly, 1985 - continuous	ERS, FNS/USDA	A.C. Nielsen Scantrack	NA

- * NCHS became part of CDC in 1987
 + Currently HNIS

Appendix 3. Current and planned nutrition monitoring activities from 1992-2002

Date		Dept.	Agency	Survey	Target U.S. population
Nutrition and related health measurements					
1988-94		DHHS	CDC/NCHS	Third National Health and Nutrition Examination Survey (NHANES III)	U.S. noninstitutionalized, civilian population, 2+ mo; Oversampling of blacks and Mexican-Americans, children, 0-5 y, and individuals, 60+ y
1988-91		DHHS	CDC/NCHS, NIH/NIA	NHANES III Supplemental Nutrition Survey of Older Persons	Individuals examined in NHANES III, in households w/ telephones, 50+ y
1991-92		DHHS	IHS	Navajo Health and Nutrition Survey	Persons residing on or near the Navajo reservation in AZ, NM, and UT, 12+ y
1992		DHHS	CDC/NCHS	National Home and Hospice Care Survey	A sample of home health agencies and hospices along with a subsample of patients
1992		DHHS	CDC/NCHS	NHANES I Epidemiologic Followup Survey	Individuals examined in NHANES I, 25-74 y at baseline
1992		DHHS	CDC/NCHS, NIH/NCI	NHIS on Cancer Epidemiology and Cancer Control	Individuals, 18+ y
Annual		DHHS	CDC/NCHS	National Health Interview Survey (NHIS)	Civilian, noninstitutionalized individuals
Annual		DHHS	CDC/NCHS	National Hospital Discharge Survey	Discharges from non-federal general and short-stay specialty hospitals
Continuous		DHHS	CDC/NCHS	Vital Statistics Program	Total U.S. population
Continuous		DHHS	CDC/NCCDPHP	Pregnancy Nutrition Surveillance System	Low-income, high-risk pregnant women
Continuous		DHHS	CDC/NCCDPHP	Pediatric Nutrition Surveillance System	Low-income, high-risk children, birth-17 y
Annual		DHHS	CDC/NCHS	National Ambulatory Medical Care Survey	Office visits to non-federal, office-based physicians
1992 - continuous		DHHS	CDC/NCHS	NHANES II Mortality Followup Survey	Individuals examined in NHANES II, 35-75 y at baseline
1992 - continuous		DHHS	CDC/NCHS	Hispanic HANES (NHANES) Mortality Followup Survey	Individuals interviewed in HANES, 20-74 y at baseline
1992 - annual		DHHS	CDC/NCHS	National Hospital Ambulatory Medical Care Survey	Visits to hospital emergency and outpatients departments of non-federal, short-stay, general and specialty hospitals

1992 - continuous	DHHS	CDC/NCHS	NHANES III Longitudinal Followup Survey	Individuals interviewed and examined in NHANES III, 20+ y at baseline
1992 - continuous	DHHS	CDC/NCHS	Research on statistical methods: Model-based estimates of NHIS items for States	NA
1993	DHHS	CDC/NCHS	National Mortality Followback Survey	Individuals, 25+ y
1994	DHHS	NCHS	National Survey of Family Growth	Women, 15-44 y
1994 - continuous	DHHS	CDC/NCCDPHP	Adult Nutrition Surveillance System	Adults, 18+ y participating in local public health programs
1995	DHHS	CDC/NCHS	NHIS on Health Promotion/Disease Prevention	Individuals, 18+ y
1995	DHHS	CDC/NCHS	NHANES I Epidemiologic Followup Study	Individuals examined in NHANES I, 55-74 y at baseline
(1997 +)	DHHS	CDC/NCHS	National Health and Nutrition Examination Survey (NHANES '97+)	U.S. noninstitutionalized population
Continuous	USDA	ARS	Determination of Nutrient Requirements	U.S. population
Continuous	USDA	ARS	Methods of Assessing Nutritional Status	NA
Continuous	DHHS	CDC/NCEH	Methods of Assessing Nutritional Status	NA or varies
Continuous	USDA	CSRS	Nutrition Research in Support of Nutrition Monitoring	NA or varies
Continuous	DHHS	NIH	Nutrition Research in Support of Nutrition Monitoring	NA or varies
Periodic	DHHS, USDA	TBA	User conferences	NA
Food and nutrient consumption				
1988-94	DHHS	CDC/NCHS, NIH/NIH	NHANES III and NHANES III Supplemental Nutrition Survey of Older Persons	See listings above
1991-92	DOC	NMFS/NOAA	Development of a National Seafood Consumption Survey Model	Individuals residing in eligible households and recreational/subsistence fishermen
1992	USDA	FNS	School Nutrition Dietary Assessment Study	School-aged children, grades 1-12
1992	USDA	FNS	School Food Authority (SFA) Menu Modification Demonstration Projects	Students in elementary schools
1992	USDA	FNS	Adult Day Care Program Study	Adult day care centers and adults participating and not participating in the Child and Adult Care Food Program (CACFP)

1994-96 - annual	USDA	HNIS	Continuing Survey of Food Intakes by Individuals (CSFII)	Individuals of all ages residing in eligible households nationwide. Oversampling of individuals in low-income households.
1996	USDA	HNIS	Household Food Consumption Survey	Civilian households, oversampling of low-income households.
(1997 +)	DHHS	CDC/NCHS	NHANES '97+	See NHANES listing above
Annual	DHHS	FDA	Total Diet Study	Representative diets of specific age-sex groups
Continuous	DOD	USARIEM	Nutritional Evaluation of Military Feeding Systems and Military Populations	Enlisted personnel of the Army, Navy, Marine Corps, and Air Force
Continuous	DOL	BLS	Consumer Expenditure Survey	Civilian, noninstitutionalized population and a portion of the institutionalized population in the U.S.
Continuous	DOC	Census	Survey of Income and Program Participation	Civilian, noninstitutionalized population of the U.S.
Continuous	USDA	ERS	Research Program on Food Demand	NA
Periodic	DHHS, USDA	TBA	User conferences	NA
Knowledge, attitudes and behavior assessments				
Biennial	DHHS	CDC/NCCDPHP	Youth Risk Behavior Survey	Civilian, noninstitutionalized adolescents, 12-18 y
1992	DHHS	FDA	Infant Feeding Practices Survey	New mothers and healthy, full-term infants, birth-1 y
1992	DHHS	FDA	Consumer Food Handling Practices and Awareness of Microbiological Hazards Screener	Individuals in households w/telephones, 18+ y
1992	DHHS	CDC/NCHS, CDC/NCCDPHP	NHIS on Youth Risk Behavior	Civilian, noninstitutionalized adolescents, 12-21 y
1994-96	USDA	HNIS	Diet and Health Knowledge Survey	Selected adults, 20+ y in households and noninstitutionalized group quarters participating in the CSFII
Continuous	DHHS	CDC/NCCDPHP	Behavioral Risk Factor Surveillance System	Individuals, 18+ y, residing in participating States in households with telephones
Biennial	DHHS	FDA	Health and Diet Survey	Civilian, noninstitutionalized individuals in households w/telephones, 18+ y
Periodic	DHHS, USDA	TBA	User conference	NA

Food composition and nutrient data bases

Annual*	DHHS	FDA	Total Diet Study	See listing above
Biennial*	DHHS	FDA	Food Label and Package Survey	NA
Continuous*	DHHS	FDA	Langual	NA
Continuous*	USDA	HMIS	National Nutrient Data Bank	NA
Continuous*	USDA	HMIS	Survey Nutrient Data Base	NA
Continuous*	USDA	ARS	Nutrient Composition Laboratory	NA
Continuous	DHHS	NIH	Measurement of Nutrients in Foods	NA
Periodic	USDA	TBA	User conferences	NA

Food supply determinations

Annual*	DOC	NOAA/NMFS	Fisheries of the United States	NA
Annual*	USDA USDA	ERS HMIS	U.S. Food and Nutrition Supply Series Estimate of Food Available Estimate of Nutrients	NA
Periodic	USDA	TBA	User conferences	NA

Abbreviations: (Date) - tentative date; NA - not applicable; TBA - to be announced

Initiated prior to 1992. See Appendix 2.

Appendix 4—Overview of Current NNMRRP Surveys and Surveillance Activities

Nutrition monitoring surveys, surveillance activities, and related nutrition research and program activities (Appendix 3) are described below in alphabetical order within each of the five measurement component areas:

- A. Nutrition and related health measurements;
- B. Food and nutrient consumption;
- C. Knowledge, attitudes, and behavior assessments;
- D. Food composition and nutrient data bases; and
- E. Food supply determinations.

A. Nutrition and Related Health Measurements

1. **Adult Nutrition Surveillance System:** The Adult Nutrition Surveillance System will be designed by CDC/NCCDPHP to monitor the prevalence of nutrition-related problems and behavioral risk factors related to the development of chronic diseases among the adult population 18 years of age and over. This system will address State and local needs to have data to measure the Year 2000 nutrition objectives as well as provide information for various Federal program requirements such as those required by the Prevention Block Grant. Personal computer software will be developed to enable States to independently collect, analyze, and report data from the system. This system will consist of two coordinated components. The first component will collect information to describe the prevalence of State and local population-based nutrition and behavioral risk factors in adults. This could be administered as a component of the existing Behavioral Risk Factor Surveillance System or as a stand alone survey or surveillance. The second component, using the same indicators, will be based on data collected from health, nutrition, and such food assistance programs for adults as worksite wellness programs, chronic disease screening, treatment, and education programs and health maintenance organizations. The Adult Nutrition Surveillance System will include nutrition-related problems such as underweight, overweight, high blood pressure, anemia, and hypercholesterolemia, dietary behaviors, and other risk behaviors, such as smoking.

2. **Hispanic HANES Mortality Followup Survey:** The Hispanic HANES Mortality Followup Survey, conducted by CDC/NCHS, is an ongoing mortality followup of the Hispanic HANES adult cohort ages 20–74 years at baseline interview (1982–84).

All adults interviewed in HHANES will be followed for vital status and linked to the National Death Index (NDI). The NDI results will be matched to multiple cause-of-death data. It is anticipated that several years of followup will be necessary before enough events have accrued for each of the three Hispanic subgroups studied in HHANES.

3. **National Ambulatory Medical Care Survey (NAMCS):** NAMCS, conducted by CDC/NCHS, provides data on the utilization of medical care in physicians' offices such as reasons for visits, diagnoses, and counseling services. Information is collected on

physician-reported hypertension, hypercholesterolemia, and obesity; screening services such as blood pressure checks, oral glucose tolerance tests, and cholesterol measures; and counseling services recommended or provided for diet, exercise, cholesterol reduction, and weight reduction.

4. **National Health and Nutrition Examination Surveys (HANES):** NHANES, conducted periodically by CDC/NCHS, is the cornerstone of Federal efforts to monitor the overall nutritional status of the American people. NHANES consists of a series of surveys of probability samples of the U.S. population comprising over 20,000 persons each. Two national surveys have been completed—NHANES I (1971–74, ages 1–74 years) and NHANES II (1976–80, ages 6 months–74 years). A survey of Hispanic Americans, HHANES, was conducted from 1982 through 1984. The HHANES had three separate components: Mexican Americans in the five Southwestern States; Cuban Americans in the Miami (Dade County), Florida, area; and Puerto Ricans in the New York City metropolitan area.

The surveys include a physical examination, anthropometry, blood cell assessments, biochemical analyses of blood and urine, x-rays, functional assessment, health histories, and dietary intake interviews. They provide national estimates of diseases and health and nutritional characteristics including dietary intake of the U.S. population and selected subgroups and the relationship of diet to nutritional status and health. For example, through NHANES, physical and biochemical measurements are made that provide information about a number of nutrition-related conditions, including growth retardation; anemia; obesity; heart disease; hypertension; cerebral vascular disease; diabetes mellitus; osteoporosis; vitamin, mineral, and trace element deficiency or toxicity; and heavy metal and pesticide exposures.

The third NHANES, NHANES III (1988–94), will include 40,000 interviewed and 30,000 examined persons ages 2 months and over. This survey is oversampling infants, children, older persons, and minorities such as black persons and Mexican-Americans to permit reliable estimates of the health and nutritional status of these groups. The nutrition and related health measures in the NHANES III are supported by a number of Federal agencies that use information for policymaking, including FDA and EPA, and NHLBI, NICHD, NIAID, NIA, NIAMS, NIDR, and NIDDK at NIH. The next NHANES is tentatively planned to begin in 1997.

The NHANES III Supplemental Nutrition Survey (SNS) of Older Americans is a special dietary study funded by the National Institute on Aging (NIA/NIH). In addition to the 1-day baseline dietary recall obtained during NHANES III examination, SNS participants are contacted by telephone interviewers to provide two additional 1-day dietary recalls approximately 8 and 16 months after the initial recall. The expanded dietary recall data for older persons will be used to estimate the variability and reliability of nutrient intakes (and usual intake of older persons) to explore methodologic issues with respect to dietary data collection and to

determine behaviors and other factors that should be considered in the analysis and interpretation of dietary data for older persons.

5. **NHANES I Epidemiologic Followup Study (NHEFS):** NHEFS is a CDC/NCHS nationwide followup interview survey conducted in 1982–84 of approximately 14,000 persons ages 25–74 years at the time of their participation in NHANES I. Respondents were asked about their food intake and health history and hospitalization history. Measurements of weight and blood pressure were taken, and household data were augmented by data from hospital records and death certificates. Continued followup of the study's elderly cohort (persons ages 55–74 years at the time of NHANES I) was conducted by telephone in 1986. In 1987, contact was made with the full sample by telephone.

6. **NHANES II Mortality Followup Survey:** This survey was initiated in 1987 by CDC/NCHS. This study is an ongoing, passive followup of the vital status and cause of death of NHANES II (1976–80) examinees ages 35–75 years at baseline. In 1989, collateral information about the vital status of persons examined during the period 1976–78 or prior to the introduction of the NDI was obtained. In 1991 an NDI search was conducted for the years 1979–88. Followup through the NDI, receipt of death certificates, and preparation of cause of death data files are ongoing.

7. **NHANES III Longitudinal Followup Study:** Plans for this survey are currently under development by CDC/NCHS. Starting in 1991, records for all sample persons interviewed in NHANES III will be matched with the NDI files to assess vital status. In addition, for those 65 years of age and over, files will be matched against the Health Care Financing Administration's (HCFA) Medicare statistical files. Plans are also being developed for an in-home interview and examination or for a telephone interview. However, the form of the followup contact with the sample persons will depend on the interest and support for such a study by DHHS agencies and organizations.

8. **National Health Interview Survey (NHIS):** NHIS, conducted by CDC/NCHS, provides data on the incidence of illness and injuries; prevalence of chronic diseases and impairments, disability, physician and dental visits, hospitalizations; and other health topics, as well as on the relationships between demographic and socioeconomic characteristics and health status. The survey is conducted annually, and the data are obtained from household interviews with a sample of the Nation's civilian noninstitutionalized population. In addition, each year, special health topics (supplements) are included. Recent and planned supplements relevant to nutrition monitoring include alcohol (1983 and 1988), aging (1984), health promotion and disease prevention (1985, 1990, 1991, and 1995), vitamin and mineral supplement use (1986), cancer epidemiology and control (1987 and 1992), and youth risk behavior (1992).

9. **National Home and Hospice Care Survey (NHHCS):** A new survey planned by CDC/NCHS, NHHCS will begin in 1992.

Information on visits and diagnoses will be collected from institutions that provide home and hospice care. The NHHCS will provide information on the agencies, their patients, and their staff. For the current patients and discharges, admitting and current (or discharge) diagnoses will be provided.

10. National Hospital Ambulatory Medical Care Survey (NHAMCS): NHAMCS began in January 1992. NHAMCS provides data on the utilization of medical services in non-Federal, short-stay hospital emergency and outpatient departments, such as reasons for visits, diagnoses, and services. For outpatient department visits, information is collected on counseling services ordered or provided for diet, exercise, cholesterol reduction, and weight reduction.

11. National Hospital Discharge Survey (NHDS): NHDS, conducted by CDC/NCHS, provides data on the nature and treatment of illnesses of patients discharged from non-Federal, short-stay hospitals.

12. National Mortality Followback Survey: This survey, conducted by CDC/NCHS, is designed to provide data on socioeconomic characteristics of deceased persons, use and payment for hospital and institutional care during the patient's last year of life, and factors associated with health status, such as smoking habits. The data are collected with the use of questionnaires sent to the decedent's next of kin and to the institutions that provided health care, including hospitals, nursing homes, hospices, and other facilities. The survey, conducted during 1986-88, was based on 1986 deaths and is planned again for 1993.

13. National Survey of Family Growth (NSFG): The NSFG is conducted by CDC/NCHS and provides national estimates of data on childbearing; factors that affect childbearing, such as infertility and contraception; and related aspects of maternal and child health, including prenatal care, birthweight, and duration of breastfeeding. Interviews were conducted in 1973 and 1976, with national samples of ever-married women ages 15-44 years. For the 1982 and 1988 surveys, coverage was expanded to include women of all marital status ages 15-44 years. The sample size is about 8,000 women for each survey. The next NSFG is planned for 1994.

14. Navajo Health and Nutrition Survey: This survey was planned by the Indian Health Service to establish prevalence data on nutrition-related chronic diseases and to generate a valid description of nutritional status and dietary behaviors of the Navajo people in general as well as for selected subgroups within that population. The sample size goal was 1,700, and data collection took place over a 5-month period during 1991-92. Information was collected on dietary intake, food frequency, anthropometric measurements, lipid profiles, blood pressure, and full blood chemistry, including glucose tolerance tests.

15. Nutrition Research Programs Related to Health and Nutritional Status Assessment:

—USDA's Agricultural Research Service (ARS) is a major Federal contributor to research on nutritional status and epidemiological nutrition research. ARS contributes principally to research on

nutritional requirements and nutritional status through its five Human Nutrition Research Centers. In particular, the Western Human Nutrition Research Center at Letterman Army Institute of Research, San Francisco, California, conducts research on human nutrition requirements and on nutritional status, surveillance, intervention, and monitoring. The Center focuses on (1) identification of factors, forces, and trends resulting in malnutrition; (2) development of reliable, efficient, and inexpensive methods for defining nutritional status; (3) studies of nutritional requirements; and (4) development of nutritional criteria and methodologies to assist in design and evaluation of action programs.

Two of the Centers focus on specific age groups of the population. The Children's Nutrition Research Center in Houston, Texas, is dedicated to the study of nutritional needs of pregnant and lactating women and of infants and children, with particular attention to the quantification of nutritional allowances and the attainment of optimal nutritional status. The Human Nutrition Research Center on Aging at Tufts University in Boston focuses on the nutritional requirements of the elderly, the role of nutrition in the aging process, and the prevention of the diet-related disorders.

The remaining two Centers have established research programs in nutritional requirements and status. The Beltsville Human Nutrition Research Center is seeking a more complete definition of human requirements for essential nutrients. The Grand Forks Human Nutrition Center develops recommendations for nutrient intakes and is attempting to identify useful nutrient forms, particularly of minerals.

—The Centers for Disease Control and Prevention: The Nutritional Biochemistry Branch, National Center for Environmental Health, provides central nutrition laboratory support to the NCHS-sponsored National Health and Nutrition Examination Surveys, currently NHANES III. Methods are developed, validated, and applied for the measurement of vitamins, essential and toxic elements, and metabolic indicators of nutritional status, under conditions of rigorous quality control. The laboratory's emphasis on quality control is especially important in monitoring trends in the population's nutritional status. The laboratory collaborates with other Public Health Service agencies and academic research centers for studies of the relationships of nutrition to infant and maternal health, birth defects, osteoporosis, age-related eye diseases, cardiovascular disease, diabetes, cancer, and health problems of certain high-risk groups such as minorities and women. Laboratory efforts are also focused on problems related to environmental health and the role that nutrition plays in human exposure to certain environmental toxicants (e.g., lead poisoning in children). This laboratory expertise will provide the technological base for developing and validating laboratory procedures to be transferred to State and local nutrition monitoring programs.

—The human nutrition research program of the Cooperative State Research Service is carried out by academic departments of nutrition under formula, special, and competitive funding. Departments of nutrition within land grant Universities encompass both the State agriculture experiment station and extension systems. Thus, the dissemination of research-based nutrition information is fostered. The research topics are defined by the Federal priority setting process, but the projects are investigator-initiated and approved by a peer review process. Matching funds, often in excess of the amount of Federal funds, are provided by the States. Research activities usually comprise the following major categories: nutrient requirements and health maintenance; nutritional status and food intake; nutrient composition and bioavailability; and food choices.

—Model-based estimates of NHIS items for States: The statistical methodology to produce State estimates and their error has been developed and applied to NHIS by CDC/NCHS. Research will continue to evaluate model-based State estimates with synthetic estimates for four large States. Other cross-validation techniques will also be applied in the evaluation of the State estimates.

—NIH Research: NIH supports the country's largest program in human nutrition research, including research on the assessment of nutritional status, nutritional epidemiology, and clinical nutrition. Investigator-initiated projects comprise the majority of the NIH Program of Biomedical and Behavioral Nutrition Research.

The Clinical Nutrition Research Units (CNRU) and centers supported by NIDDK and NCI have contributed especially to understanding the effects of disease states on nutritional status. Nutritional status has been examined in healthy and clinical populations as well as in high-risk groups in NIH-supported investigations. Studies have included methodologic development, validation, measurement, and interpretation of biochemical, anthropometric, maturational, and functional indexes of nutritional status. The Strong Heart Study is an example of an NIH-supported research project that is conducted under cooperative agreements with the IHS supported by the NHLBI. The Strong Heart Study was initiated to estimate the morbidity and mortality rates for cardiovascular disease in three geographically diverse groups of American Indians and to estimate the levels of cardiovascular disease risk factors through an examination of 1,500 adult men and women ages 45-74 years in each of the three centers.

Long-term prospective studies of specific high-risk populations are also underway. With their unique perspective, such studies provide insight into potential vulnerable groups (such as minorities and women), indicators, and standards that are useful for NNMRRP's endeavors. For example, insight into nutrition and the aging process have been and continue to be gained from NIA's Gerontology Research Center in Baltimore. Additionally, various institutes at NIH support nutrition monitoring surveys (such as the NHANES and the NHIS) that are sponsored by other agencies.

16. **Pediatric Nutrition Surveillance System (PedNSS):** PedNSS, conducted by CDC/NCCDPHP, is designed to continuously monitor the prevalence of major nutritional problems among high-risk, low-income infants and children from birth to 17 years of age. The system is based on information routinely collected by health, nutrition, and food assistance programs such as the Special Supplemental Food Program for Women, Infants, and Children (WIC); Early and Periodic Screening, Diagnosis, and Treatment (EPSDT); Head Start; and child health clinics operating under the Maternal and Child Health Block Grant.

Initiated in 1973, PedNSS was designed to improve the management of State child health programs and to allow States to develop and monitor State-based nutrition objectives. Program managers use this information to target high-risk subgroups of the population for interventions and to evaluate the effectiveness of interventions designed to reduce nutrition problems in infants and children.

17. **Pregnancy Nutrition Surveillance System (PNSS):** PNSS, also conducted by CDC/NCCDPHP, is designed to monitor the prevalence of nutrition-related problems and behavioral risk factors among high-risk prenatal populations that are related to infant mortality and low birth weight. PNSS is based on data collected from health, nutrition, and food assistance programs for pregnant women such as WIC and prenatal clinics funded by the Maternal and Child Health grant and State monies.

Nutrition-related problems currently monitored include gravid underweight and overweight and anemia (low hemoglobin/hematocrit). With the enhancement of PNSS in 1989, additional nutritional and behavioral risk factors are being reported to the system. The emphasis is to quantify preventable risk behaviors among low-income pregnant women such as smoking and alcohol consumption as well as to look more closely at the relationship of nutritional status to weight gain during pregnancy and birth outcome.

Trends in the prevalence of these nutrition-related and behavioral risk factors are monitored. Pilot projects have been funded to link PNSS data to birth certificates to assess program coverage and to target and evaluate program impact. Future growth for this program includes the expansion of linkage efforts in all States that wish to develop this capacity.

18. **Vital Statistics Program:** This program of CDC/NCHS is responsible for the Nation's official vital statistics. Based on records filed in State vital statistics offices, the national program coordinates reporting, coding, and transmission of data on births, deaths, fetal deaths, induced terminations of pregnancy, marriages, and divorces. The vital statistics program produces annual data for the United States and for States, counties, and other local areas and produces monthly provisional data for the United States and each State.

The U.S. Standard Certificate of Live Birth and Report of Fetal Death underwent a major revision for the data year 1989. The revised certificate will be in use for 10 years. Questions on weight gain during pregnancy,

alcohol and tobacco use, anemia and diabetes as medical risk factors for pregnancy, anemia as an abnormal condition of the newborn, and clinical estimate of gestation were added.

B. Food and Nutrient Consumption

19. **Adult Day Care Program Study:** This study, to be conducted by USDA/FNS in 1992, will collect in-person survey and interview observations of the food and beverages eaten during a 24-hour period from a nationally representative sample of 752 adults attending day care centers participating in the Child and Adult Care Food Program (CACFP). The study will also describe the characteristics of adults and adult day care centers participating and not participating in CACFP and provide estimates on the contribution of USDA meals to total dietary intake.

20. **Consumer Expenditure Survey:** This survey, conducted continuously by the Department of Labor, Bureau of Labor Statistics since 1980, has three major objectives: (1) To provide information on consumer expenditures, (2) to provide data for social and economic analysis, and (3) to provide detailed expenditures and income data for research purposes. Information is collected on average annual food expenditures in the Diary Survey and on Food Stamp participation in the Interview Survey.

21. **Continuing Survey of Food Intakes by Individuals (CSFII):** USDA/HNIS initiated this survey in 1985 to monitor the dietary status of relatively small national samples in the general and low-income populations in the years between the larger decennial NFCS. The CSFII has now replaced the NFCS as the cornerstone of Federal efforts to monitor overall dietary status of the American people.

The CSFII 1994-96 is the third in the CSFII series. It is responsive to NNMRRP requirements for the continuous collection, processing, and analysis of dietary status data from the U.S. population, including the low-income population. The objectives of the survey are to (1) measure the kinds and amounts of foods eaten by Americans and (2) together with the Diet and Health Knowledge Survey (see item 32) determine how people's attitudes and knowledge about healthy eating affect their food and nutrient intakes.

In each of three survey years, a nationally representative sample of individuals is asked to provide, through personal interviews, food intakes on 2 non-consecutive days and socioeconomic and health-related information. The total number of respondents for the three years is about 15,000. The CSFII 1994-96 differs from earlier CSFII surveys in several ways. Compared with earlier surveys, the 1994-96 surveys include a target population of non-institutionalized individuals in all 50 states rather than 48 conterminous states; the collection of 2 non-consecutive days of food intakes rather than 3 consecutive days; an oversampling of the low-income population rather than a separate low-income survey; a larger sample in selected sex-age categories, specifically young children and elderly; and a subsampling within households rather than the collection of information from all members of a household.

The first CSFII, conducted in 1985 and 1986, included women 19 to 50 years of age and their children 1 to 5 years of age from both general and low-income populations. Individuals were asked to provide 6 days of dietary data over a 1-year period. Day 1 data were collected in a personal interview using a 1-day recall format; subsequent days of data were collected by telephone also using a 1-day recall. The 1985 collection included men ages 19 to 50 as well. In 1985, about 1,500 women, 550 children, and 750 men provided information in the all-income sample. In 1986, about 1,500 women and 550 children provided information in the all-income sample.

The 1989-91 CSFII included the collection of dietary data from all members of sample households for 3 consecutive days. Day 1 data were collected in a personal interview using a 1-day recall and days 2 and 3 were collected with a food record. For each year, the total sample is about 2,250 households including both all-income and low-income households. Data for several years can be combined to provide data for a much larger group.

National Health and Nutrition Examination Surveys: See above.

22. **National Seafood Consumption Survey Model Development:** This study was conducted in 1991-92 by NMFS/NOAA/DOC. The purpose of this study is (1) to conduct a comprehensive review and scientific analysis of seafood consumption survey models to ascertain their strengths and weaknesses in providing scientifically valid data for use in contaminant risk assessment, and (2) after developing and testing model instruments, to propose seafood consumption model(s) that will allow both national and/or localized consumption surveys to be conducted so as to accrue a data base that can be used for state-of-the-art science risk assessment. A working panel of risk assessment and food consumption experts and industry representatives will provide guidance on the development and testing of the seafood consumption survey instruments.

23. **Nationwide Food Consumption Survey (NFCS):** USDA's periodic NFCS, conducted by the Human Nutrition Information Service (HNIS), has been the cornerstone of Federal efforts to monitor overall dietary status of the American people. The 1987-88 NFCS is the most recent of many nationwide surveys of food consumption. It included the collection of two types of information: (1) Household use of food—the quantities of foods households used during a 7-day period and the cost of those foods; and (2) Individual food intake—the kinds and amounts of foods actually eaten at home and away from home by individual household members. The NFCS has been discontinued; the collection of two types of information in one survey contributed to a heavy respondent burden and low response rates. The NFCS has been replaced by two separate surveys—the Continuing Survey of Food Intakes by Individuals (see item 21) and the Household Food Consumption Survey (see item 24). The CSFII and the HFCS have the same objectives as the NFCS: To describe food consumption behavior and assess the nutritional content of

diets. The data are used for policies relating to food production and marketing, food safety, food assistance, and nutrition education.

The NFCS, 1987-88, marks the seventh time that nationwide information on household use of food has been collected by USDA. Previous surveys were conducted in 1935-6, 1942, 1948, 1955, 1965-66, and 1977-78. In a supplement to the 1965-66 survey, certain members of households sampled in the spring quarter were asked to recall their dietary intakes for the day prior to the interview. During the 1977-78 and 1987-88 NFCS, dietary intakes were collected for 3 consecutive days using a 1-day recall followed by a 2-day record.

The 1987-88 NFCS consisted of two area probability samples of the 48 conterminous States—one for the general population (basic survey) and one for the low-income population. The basic survey provided information from about 4,500 households and 10,000 individuals; the low income survey was somewhat smaller. Eligibility for the low-income survey was based on household income. Households having income before taxes for the previous month at or below 130 percent of the poverty guidelines were eligible for participation. This income level was selected because nonelderly households that have incomes at this level meet one of the income criteria for participating in the Food Stamp Program.

24. Household Food Consumption Survey (HFCS): The HFCS will be conducted in 1996 for HNIS by the U.S. Bureau of the Census. The HFCS replaces the household food consumption component of the Nationwide Food Consumption Survey. The purpose and general methodology will be similar to that for the NFCS: to collect information on the quantity and money value of food used by households during a 7-day period. However, cognitive testing is being conducted by the Census Bureau to improve the quality of food information collected. The planned target sample is 15,000 completed questionnaires with an oversampling of 5,000 low-income households.

25. Nutritional Evaluation of Military Feeding Systems and Military Populations: Beginning in 1917, the military has conducted periodic nutritional surveys and assessments to monitor the nutritional adequacy of the diet consumed by military personnel in peace-time garrison situations during sustained physically demanding military training exercises at all climactic extremes and, on occasion, during combat operations. The dietary status data are used to monitor and evaluate the effectiveness of nutritional initiatives for military feeding systems and health promotion programs. Since 1985, the U.S. Army Research Institute of Environmental Medicine at Natick, Massachusetts, has been designated as the responsible agency to conduct these studies for the Department of Defense.

26. Research Program on Food Demand: A variety of USDA's Economic Research Service (ERS) activities contribute information about the nature of the national food supply and patterns of consumption. Of particular importance are economic and marketing information studies that permit

evaluation of aggregate shifts in food consumption and price-consumption relationships. Efforts of this kind are important in assessing changing food consumption patterns and may presage nutritional problems. HNIS and ERS use the NFCS data to predict the demands for foods by households of given characteristics (income, race, sex-age composition, food assistance program participation, etc.).

27. School Food Authority (SFA) Menu Modification Demonstration Projects: These projects will enable the Food and Nutrition Service, USDA, to learn more about the processes and effects of reducing the fat and sodium content of foods that are within current school meal patterns to better meet the Dietary Guidelines for Americans. Five elementary schools have been competitively awarded grants to participate in the demonstration project, and each was evaluated before the dietary modifications in the winter of 1990 and were again evaluated after the dietary modifications in the winter of 1992. Results from this study provided information about the nutritional content of menus offered and plate-waste measures in all five SFA's and 24-hour recalls of fifth graders in four of the five sites.

28. Survey of Income and Program Participation (SIPP): SIPP has been conducted continuously by the U.S. Bureau of Census as a household-based survey since 1983. The content of SIPP is developed around a "core" of labor force, program participation, and income questions designed to measure the economic situation of persons in the United States. These core questions are repeated every 4 months for 2 1/2 years. The survey also has "topical modules" containing questions on a variety of topics not covered in the core section. Previous health-related modules have included health status and utilization of health care services, long-term care, and disability status of children. Variables of interest from the topical modules include estimates of: the proportion of children with physical, mental, or emotional disabilities; the number of persons in the population who have a work disability; and the number of persons who need personal assistance to perform the activities of daily living.

29. School Nutrition Dietary Assessment Study (SNDA): In 1992 this study conducted by USDA/FNS, will obtain national estimates of the nutrient composition of USDA meals, the impact of USDA meals on dietary intakes, and the types of food selected by students. The study will also determine which meal preparation factors are significantly affecting the nutrient content of USDA meals and plate waste under offer-vs.-serve (OVS) and non-OVS food systems. The study will collect 24-hour recalls from a nationally representative sample of 3,200 school-age children.

30. Total Diet Study (TDS): This survey is an annual FDA monitoring program which provides national estimates of average dietary intakes for 11 nutritional elements, four toxic metals, and various pesticide residues, industrial chemicals, and radionuclides for selected age-sex groups. The program provides a data base for the levels of the various nutrients and food components in individual foods, and it assesses trends in the

levels of these substances in the food supply and in daily diets over time. The foods are purchased four or more times per year in grocery stores of selected cities in four geographic areas of the U.S. The foods are shipped to the Total Diet Laboratory in Kansas City, MO where they are prepared for consumption and analyzed individually for nutrients and other food components. The Total Diet Study foods are identified as core foods of the U.S. food supply, based on consumption data from national food consumption surveys. The foods include fruits, vegetables, grain products, dairy products, meats, mixed dishes, desserts, beverages, fats, and sweeteners. The composition data for the Total Diet Study foods are merged with national food consumption data to assess daily intakes of the substances for selected age-sex groups. The Total Diet Study began in 1961 using consumption data from the 1955 USDA HFCS. The study was subsequently revised to reflect food consumption data from the 1965 HFCS. The Total Diet Studies conducted from 1982 until 1991 were based on food consumption data of the 1977-78 NFCS and the NHANES II. These studies included 234 foods for 8 age-sex groups. Beginning in 1991, the Total Diet Studies will reflect updated food consumption data for 265 foods for 14 age-sex groups.

C. Knowledge, Attitudes, and Behavior Assessments

31. Behavioral Risk Factor Surveillance System (BRFSS): BRFSS is designed to permit States to collect information regarding the prevalence of self-reported health behaviors using relatively low-cost telephone survey methodology. The behaviors surveyed relate to the 10 leading causes of death and include height, weight, smoking, alcohol use, weight control practices, diabetes, mammography, pregnancy, and cholesterol screening practices, awareness, and treatment.

Participating States conduct monthly interviews for a year or longer using a core questionnaire developed by CDC/NCCDPHP. States typically add questions at the end of the questionnaire to provide more detailed information on issues of special interest. The interviews are short, taking about 10 minutes, and administered to adults 18 years of age and over.

32. Consumer Food Handling Practices and Awareness of Microbiological Hazards Screener: This 1993 FDA telephone survey of 1,500 adults will include information about eating habits (whether respondent eats breakfast, lunch, dinner; number of meals eaten away from home), food handling practices (items measure adequate cooking, handling of leftovers including adequate reheating, cross contamination, room temperature holding of perishable foods), eating dangerous raw foods, sources of food handling information, knowledge of ways to prevent food poisoning, reasons for not following food safety recommendations, label reading, knowledge of specific microorganisms, perceived sources of food contamination, and foodborne illness experience. The sample will be split in half, with one group asked food handling

questions related to meat and poultry and the other group asked the same questions related to fish and shellfish.

33. Diet and Health Knowledge Survey (DHKS): In 1989, USDA/HNIS initiated the DHKS, which is conducted annually during CSFII years. The DHKS is the first survey designed to provide nationally representative data with which to determine directly how attitudes and knowledge about healthy eating affect dietary status. This capability comes from a survey design that links the CSFII with the DHKS. In each of the approximately 2,250 CSFII households, one member is identified as the main meal planner or preparer. This individual is the respondent for the DHKS. About 6 weeks after the CSFII, this person is recontacted in a telephone followup, and the DHKS interview is conducted. Individuals without telephones are interviewed at home.

The DHKS provides data on knowledge and attitudes about dietary guidance, food preparation practices, use of nutrition information on food labels, and food safety concerns. Knowledge and attitude parameters covered include the accuracy of perceptions about how one's own diet rates relative to current dietary guidance, attitudes toward the importance of dietary guidance, and potential barriers to following the types of dietary guidance supported by Federal nutrition policy. The CSFII provides information on food and nutrient intakes in the conterminous United States, health-related behaviors (e.g., salt use, dieting behavior, physical activity, weight status), and demographic and socioeconomic information.

Together these data sets can be used to show relationships between knowledge and attitude parameters and dietary status of main meal planners and preparers in U.S. households.

34. Health and Diet Survey (HDS): The FDA Health and Diet Study consists of biennial telephone surveys of nationally representative samples of American households. Surveys were conducted in 1982, 1983-84, 1986, 1988, and 1990. Some comparable data are also available from studies done in the 1970s. HDS contains a core set of topics and items on health and nutrition that are repeated from survey to survey and additional topics and items that provide timely information on current health and diet issues or special topics. Key topics covered by the surveys include perceptions of specific dietary components such as cholesterol, sodium, and fats; knowledge of fats and cholesterol; self-reported health-related behaviors such as dieting, sodium avoidance, and efforts to lower blood cholesterol; perceptions and use of food labels; and beliefs about diet-health relationships including the relationships between diet and cancer, high blood pressure, and heart disease. HDS data have been used to evaluate progress and identify needed improvements in the public education initiatives of various Federal agencies within the Public Health Service, such as, NHLBI/NIH.

35. Infant Feeding Practices Survey: This FDA study will provide detailed time-specific information about feeding practices

during the first 12 months of life. Pregnant women will be identified from a large commercial consumer mail panel, and approximately 1,200 participants will receive a series of mail questionnaires (1 prenatal, 9 postnatal). The prenatal questionnaire will cover prenatal health care, WIC participation, employment, and prenatal plans for feeding the new baby. A neonatal questionnaire will cover birth experience, hospital practices, feeding practices, living arrangements, and WIC participation. The postnatal series will cover feeding practices, including foods fed to the infant; mothers' reasons for stopping breast feeding; variables related to allergy development; breast feeding characteristics; formula feeding characteristics; reasons for choosing and switching formula brands; sources of feeding information; information about handling formula, baby foods, and expressed milk; and employment and day care arrangements. As a panel study, it will provide detailed feeding and health data not feasible in a retrospective survey and will permit analysis of relationships between feeding patterns over time and other variables such as demographics, mothers' characteristics, market factors, infant health, and child care arrangements.

36. NHIS on Youth Risk Behavior: This survey is part of a CDC/NCHS surveillance system that monitors the behaviors of adolescents. It focuses on activities that result in the greatest morbidity and mortality for that age group. National and State samples of schools are administering the same questions that will be used in the NHIS component of the survey. The school-based surveys are administered to students in grades 9-12 in both public and private systems. The NHIS supplement is for ages 12-21 years and includes an oversample of out-of-school youth. The school-based surveys began in 1990. The NHIS Youth Risk Behavior Survey will begin in 1992. The six broad areas of study are: tobacco use, alcohol and drug use, physical activity, nutrition, unintentional injuries, and sexual behavior. The NHIS version includes questions on runaway experience and homelessness. The surveillance system is supported by CDC/NCCDPHP. The questions on homelessness are for the Administration on Children, Youth, and Families.

37. Youth Risk Behavior Survey (YRBS): YRBS is designed to permit State and local departments of education to collect information regarding the prevalence of self-reported health behaviors such as fruit and vegetable consumption, fat intake, exercise, body-image perception, and smoking and alcohol use. These behaviors relate to the overall assessment of healthy adolescent lifestyles and enable departments of education to target programs at those problems most prevalent in their school.

A systematic random sample of schools with probability proportional to enrollment size for State and local YRBS are drawn using a computer program. This program generates individualized sampling instructions for the random selection of classes or students from each sampled school. The final sample of students is self-weighting.

The Division of Adolescent and School Health, CDC/NCCDPHP, conducted the first

YRBS in the spring of 1990, with a second survey completed in the spring of 1991. It is anticipated that this survey will continue to be conducted in the spring of odd numbered years.

D. Food Composition and Nutrient Data Bases

38. Food Label and Package Survey (FLAPS): This biennial FDA survey, initiated in 1977, monitors the labeling practices of U.S. food manufacturers. FLAPS provides label and package information recorded from the packages of a scientifically derived sample of food products representative of the U.S. processed packaged food industry. The sample is based on sales data provided by the A.C. Nielsen Company, initially through its syndicated national data base of grocery store warehouse withdrawals and, since 1985, through a more comprehensive Universal Product Codes (UPC) scanner-based system (SCANTRACK). FLAPS has been used to quantify the prevalence of sodium and nutrition labeling, determine the extent of quantitative labeling for cholesterol and fatty acid content, examine the use of and contents of product ingredient lists, and detail the extent and types of nutrition claims on food products. The on-line data base (1977-88) has been useful both for planned tracking and special requests. It will provide a mechanism for tracking market response to food label changes promulgated under the Nutrition Labeling and Education Act (e.g., mandatory nutrition labeling; definitions for cholesterol and fatty acid levels; revised nutrition label formats; and quantitative labeling of fresh fruits, vegetables, and seafood).

39. Languel: Languel is a standardized vocabulary for food product description initiated by FDA. It is composed of 14 different viewpoints or factors: product type; food source; part of plant or animal; physical state, shape or form; extent of heat treatment; cooking method; treatment applied; preservation method; packing medium; container or wrapping; food contact surface; consumer group dietary use; geographic places and regions; and adjunct characteristics of food. A food product is described by one or more terms from each of these factors. That information is stored in the food monitoring data base. Each stored descriptor may be used as a retrieval term for food product names. The bibliographic, nutritional, or toxicological data associated with those food names may then be accessed. Languel provides definitions to explain what a term is or how it is used and synonyms for scientific nomenclature or vernacular usage. Retrieval terms are arranged in a hierarchy that arrays terms conceptually from broader to narrower. Nine diverse food data bases are indexed using Languel. Six of these files are from sources outside the FDA. They are the USDA Nutrient Database for Standardized Reference (Handbook No. 8), the 1987-88 Nationwide Food Consumption Survey, food names from the Codex Alimentarius, a carotenoid food file, a French food file, and a Greek food file. The three remaining food files are FDA-based. They are the Total Diet Study (TDS), the Food Labeling and Product Survey (FLAPS), and the Scientific

Information Retrieval and Exchange Network (SIREN). More than 24,000 food products are indexed by Languel and searchable in the Food Monitoring Database.

40. Measurement of Nutrients in Foods: NIH has supported food composition data acquisition and research on improved methodology through interagency agreements with the HNIS Nutrient Data Research Branch, which maintains the National Nutrient Data Bank and the ARS Nutrient Composition Laboratory. This support has increased the availability of data on nutrients associated with chronic diseases, including heart disease and cancer. In addition, NIH has supported extramural research to develop methods of analysis for various food components as well as to conduct the analysis.

41. National Nutrient Data Bank (NNDB): The USDA/HNIS National Nutrient Data Bank is the major mechanism for collection, evaluating, storing, and collating nutrient composition data for individual foods. The task is substantial because of the large number of food items in the U.S. food supply, the rapidly changing nature of the food supply, and the many nutrients and other food components (over 100 different components when available) for which data are collected for the data bank. Data are being collected and entered into the NNDB on a continual basis, but the availability of data is limited for some nutrients because suitable or affordable methods of analysis are lacking. Sources of data include Federal Government laboratories such as USDA's Nutrient Composition Laboratory (NCL) and DHHS' FDA; university research and commercial laboratories under government sponsorship; and analyses of nutrients in foods conducted

by industry, primarily in support of the nutrition labeling program. The ongoing maintenance of the NNDB is keyed to the process of continually updating Agriculture Handbook No. 8, Composition of Foods . . . Raw, Processed, Prepared, which is the standard reference table of nutrient composition, and its companion computer data set, the USDA Nutrient Data Base for Standard Reference. The handbook consists of 21 sections, each covering 1 to 3 food groups. Annual supplements are issued to replace those data that need updating and to add data for new food items.

42. Survey Nutrient Data Base: A nutrient data base especially designed for use with nationwide dietary intake surveys is maintained in conjunction with the NNDB operations. Updated versions of the Survey Nutrient Data Base are generated as needed to accommodate surveys at HNIS and NCHS. They include data for foods in the forms in which they are generally consumed, and foods are organized to facilitate summarization of dietary intake data by food groups. Revisions in this data base reflect changes that occur in food usage as well as changes resulting from improved food composition data. It contains information for food energy and 28 nutrients or food components.

Additional components can be added as needs are identified and data become available.

Total Diet Study: See above.

E. Food Supply Determinations

43. Fisheries of the United States: The Bureau of Census NMFS estimates annually the quantities of various finfish and shellfish foods that "disappear" into domestic

consumption. These estimates are derived from fisheries statistics on domestic landings of seafood, adjusted for imports, exports, cold storage holdings, and producers' canned inventories for certain species. The U.S. edible supply time series extends back to 1909 and is used to express consumption in pounds per capita for fresh, frozen, canned, and cured commodities, with limited detail at the species level.

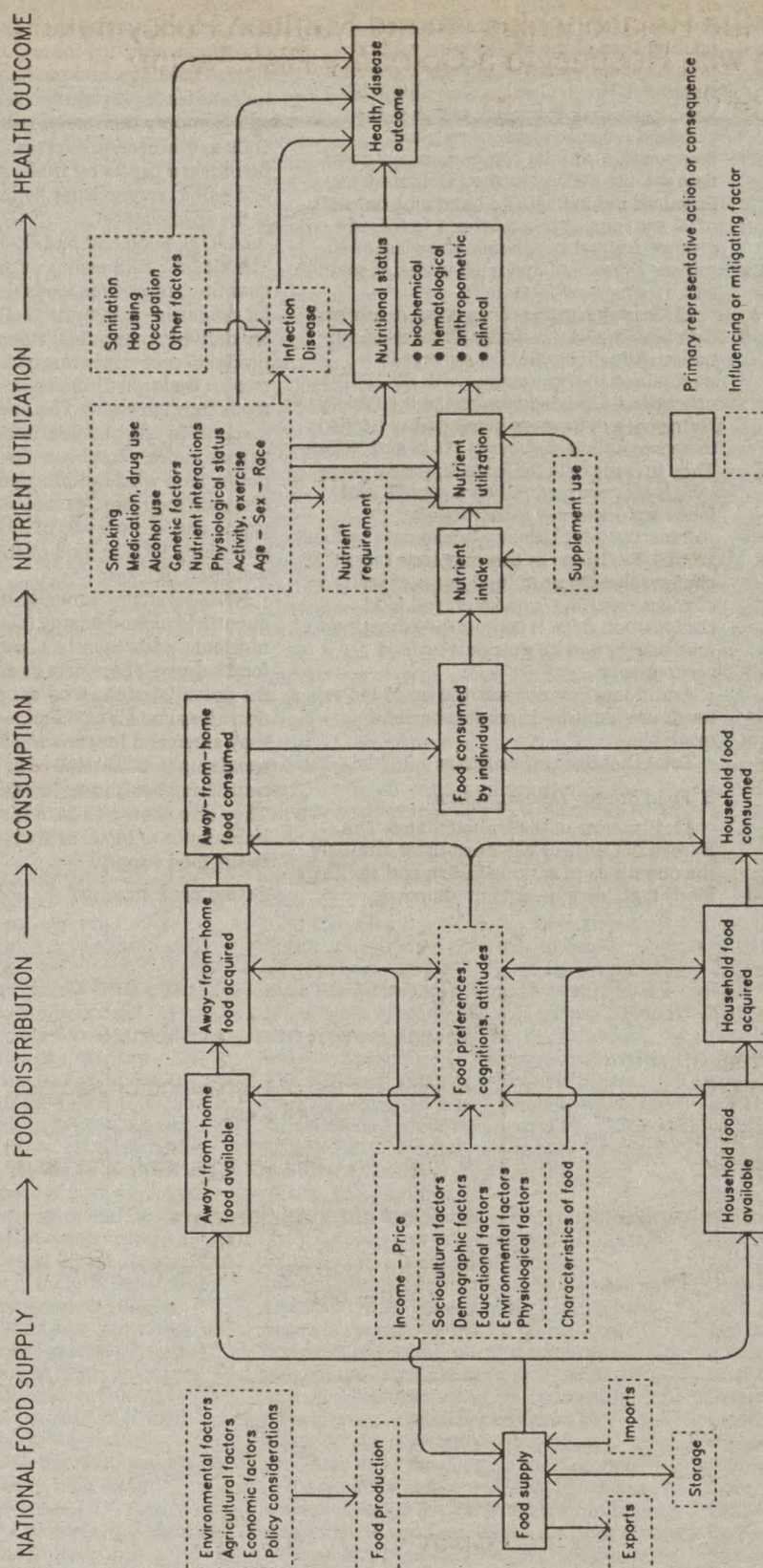
44. U.S. Food and Nutrition Supply Series: The USDA's ERS estimates annually the quantities of various foods that are available for domestic consumption. These estimates are derived from public statistics on the production or marketing of farm products, foreign trade, stock changes, and the flow of foods through warehouse and/or retail markets. In recent years, information from private sources has been used to augment public data where public data gaps exist. They are expressed as national averages per capita and show levels of food supplies each year since 1909 in food quantities and price-weighted indexes.

HNIS estimates annually the per capita quantities of food energy (calories), 23 nutrients, and cholesterol provided by the food supply. These data can be used to assess the potential of the food supply to satisfy the nutritional needs of the population. Also they are useful for showing food and nutrient trends since 1909 relative to statistics on nutritional health and incidence of disease. They also show trends in the relative importance of foods as sources of nutrients in the food supply.

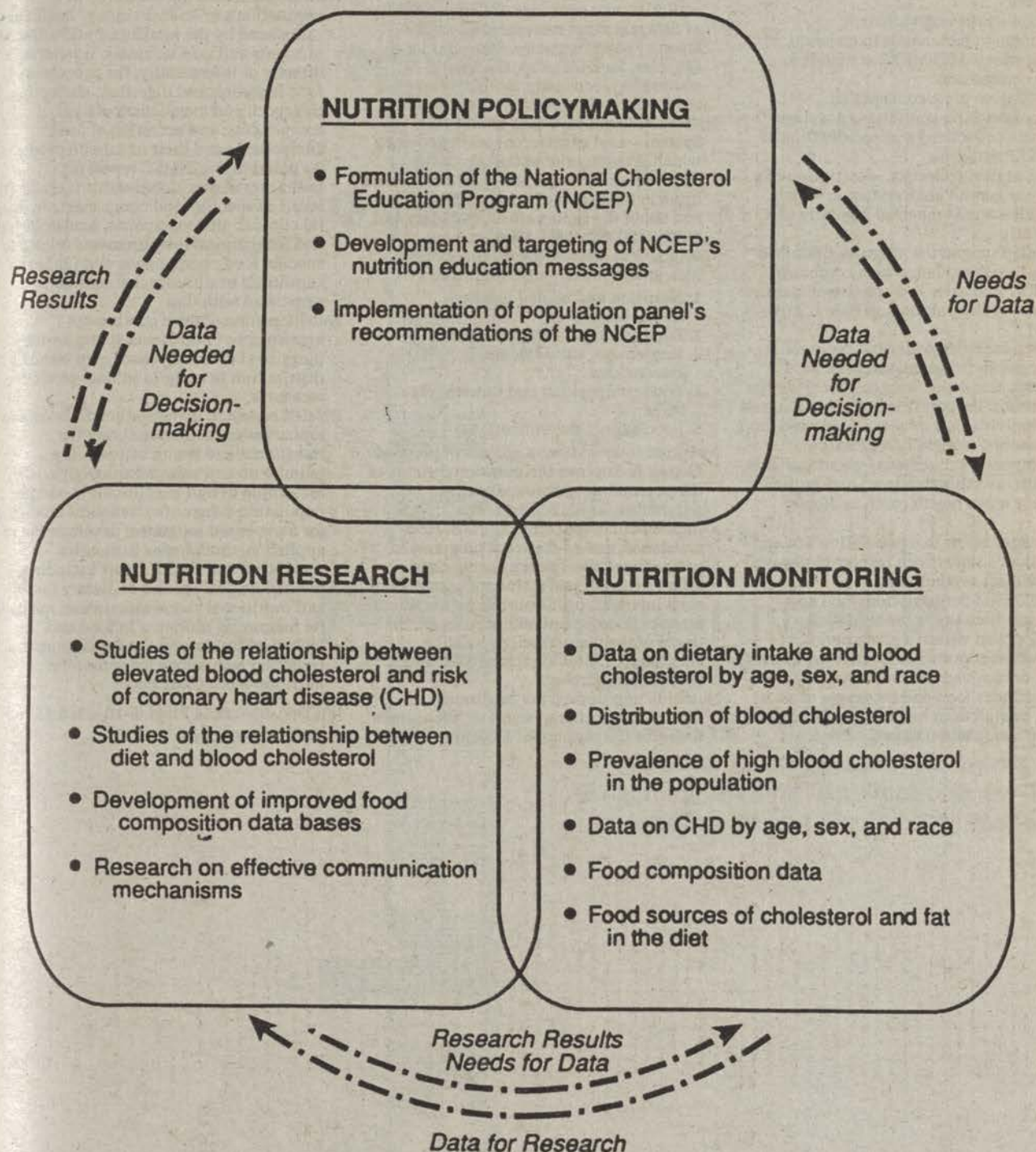
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Appendix 5

Detailed conceptual model of food to health



Appendix 6. Illustration of the Relationships among Nutrition Policymaking, Research, and Monitoring with Respect to a Coronary Risk Factor, Biomedical Education Program



X. Glossary

Chartbook: a publication that provides graphical and tabular display of data and information with minimal text

Clearinghouse: a central institution designed to promote the cooperative exchange of publications and information about Federal and non-Federal nutrition monitoring activities

Comparability: having sufficient measurement parameters in common among selected NNMRRP activities to afford comparison

Comprehensive plan: concept that incorporates both continuous coverage (i.e., data collection) and coordination of NNMRRP activities

Continuous data collection: description of a survey or surveillance system in which data collection is repeated regularly and frequently

Coordinated program: a program, described by the Ten-Year Plan, which combines NNMRRP activities in a consistent manner to carry out the purposes of Pub. L. 101-445 (1)

Data users: includes policymakers, public health and nutrition researchers, food industry, academia, State and local groups

Dietary status: the condition of a population's or an individual's intake of foods and food components, especially nutrients (3)

Food components: nutrients (macronutrients, vitamins, and minerals) and non-nutrients that may affect health (such as dietary fiber)

Health status: refers to a population's or an individual's status with respect to physical state or disease condition

Household food consumption: food and beverages from the household food supplies used within a given period of time, whether purchased, provided in the home, or received without direct expense. This includes food and beverages eaten at home, carried from home in packed meals, thrown away, or fed to pets

NNMRRP: National Nutrition Monitoring and Related Research Program defined by Pub. L. 101-445, means the set of activities necessary to provide timely information about the role and status of factors that bear on the contributions that nutrition makes to the health of the U.S. population; the Program includes the five measurement component areas, related research activities, and exchange and dissemination of data and other relevant information among Federal agencies, State and local agencies, food industry, the health community, consumer industry groups, academia, and professional organizations

NNMS: National Nutrition Monitoring System—a set of interconnected activities which provide information about the contribution that diet and nutritional status make to the health of the U.S. population and about the factors affecting dietary and nutritional status (6). Measurement component areas in the comprehensive plan and NNMRRP are categorized by:

1. Nutrition and related health measurements
2. Food and nutrient consumption
3. Knowledge, attitudes, and behavior assessments
4. Food composition and nutrient data bases
5. Food supply determinations

Nutrition intervention: a process of planned change to improve the nutritional status of the population, subgroups of the population, or individuals. The implementation of clinical trials, food assistance, and educational programs to promote positive dietary changes and improve nutritional status are examples of such intervention. Strategies for nutrition intervention depend on the problem, the needs of the population, population subgroup, or individual involved, and available resources

Nutrition monitoring: the assessment of dietary or nutritional status at intermittent times for the purpose of detecting changes

in the dietary or nutritional status of the population

Nutritional risk: an increased probability of an existing nutritional imbalance arising from insufficient or excessive intake of one or more nutrients or food components that could lead to adverse health consequences; or arising from an existing health condition

Nutritional status: the condition of a population's or an individual's health as influenced by the intake and utilization of nutrients and non-nutrients. It reflects, directly or inferentially, the processes of food ingestion and digestion; absorption, transport, and metabolism of food components; and excretion of food components and their metabolic products. As noted in the JNMEC report (2), indicators of nutritional status include: (1) levels of specific food components in diets; (2) clinical, anthropometric, hematological, and biochemical measurements related to specific food components; and (3) health conditions or diseases that may be associated with diet

Nutrition surveillance: continuous assessment of nutritional status for the purpose of detecting changes in trend or distribution in order to initiate corrective measures

Related research: investigation of issues and topics pertinent to monitoring the nutritional and health status of the population and selected subgroups, such as: sample design for difficult-to-sample population subgroups; statistical modeling for State-based estimates; development of applied methodologies to monitor nutritional and health status including methodological studies of dietary intake and nutritional status assessment; methods for measuring nutrients in food and biological fluids; and the development of computer technology for compiling nutrition monitoring data

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