DOCUMENT RESUME

04244 - [B3434697]

National Nutrition Issues. CED-78-7; B-164031(3). December 8, 1977. 59 pp. + 2 appendices (22 pp.).

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Issue Area: Food (1700).
Contact: Community and Economic Development Div.
Budget Function: Agriculture: Agricultural Research and Services (352).
Organization Concerned: Department of Agriculture.
Congressional Relevance: House Committee on Agriculture; Senate Committee on Agriculture and Forestry.
Authority: National Consumer Health Information and Health Promotion Act (P.L. 94-317). Food and Agriculture Act of 1977 (P.L. 95-113). Federal Food, Drug, and Cosmetic Act, as amended. National School Lunch Act.

The United States is fortunate in that most citizens have access to nutritious, safe food. Its citizens are among the best fed in the world, and it has many Government agencies and programs designed to assure food supply, to make food available to those in need, and to ensure food safety. Over the past 10 years the Nation's concern about food has increasingly turned from basic supply to adequate nutrition. Inadequate nutrition has become more and more linked with this country's leading causes of death. As these links have been better defined, it is apparent that adequate nutrition is an integral part of preventive disease protection. The United States has no formal, written nutrition policy. Rather, it has a de facto policy which is, in effect, a piecemeal series of programs instituted over the years, often because of a sense of emergency and with little thought given to its interaction or relationship with existing programs. The existing programs clearly would be part of any structured nutrition policy, albeit in different forms. Issues that should be considered include: the extent of the role nutrition considerations should play in food and health policy decisions; whether a more formal nutrition policy should be adopted with explicitly stated goals and objectives; whether a central authority or a formal coordinating group for nutrition matters should be established; and how far the Government should intercede in promoting dietary practices. (Author/SC)

STUDY BY THE STAFF
OF THE
U.S. GENERAL ACCOUNTING OFFICE

National Nutrition Issues

CED-78-7

DECEMBER 8, 1977

FOREWORD

The United States is fortunate in that most citizens have access to nutritious, safe food. Its citizens are among the best fed in the world, and it has many Government agencies and programs designed to assure food supply, to make food available to those in need, and to ensure food safety.

Over the past 10 years the Nation's concern for food has increasingly turned from more than that of basic supply to that of adequate nutrition. Inadequate nutrition has become more and more linked with this Nation's leading causes of death. As these links have been better defined, it is apparent that adequate nutrition is an integral part of preventive disease protection.

This staff study examines the issues that surround nutrition in the United States. For the purposes of this study, we have defined nutrition to include surveillance, food safety, nutrition education, nutrition research and development, and Federal feeding programs. For the most part, the discussion has evolved from our past and ongoing reviews and from existing reports of other Government and private agencies.

This study was prepared by Jack Brock of our Food Coordination and Analysis Staff and Richard Gannon, Roger Flann, and John Franklin of the Los Angeles Regional Office. Questions regarding the content of this study should be addressed to William E. Gahr, Assistant Director, Food Coordination and Analysis Staff, on (202) 275-5525.

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Contents

ABBREVIATIONS

CDC	Center for Disease Control
CSA	Community Services Administration
ECS	Education Commission of the States
FDA	Food and Drug Administration
FD&C Act	Food Drug and Cosmetics Act
FICIN	Federal Interagency Communciation in Nutrition
FNS	Food and Nutrition Services
FSP	Food Stamp Program
FSQS	Food Safety & Quality Service
GRAS	Generally recognized as safe
HANES	Health and Nutrition Examination Survey
HEW	Department of Health, Education, and Welfare
HFCS	Household Food Consumption Survey
JURIS	Justice Retrieval and Inquiry System
NFCS	Nationwide Food Consumption Survey
NIH	National Institutes of Health
NSLP	National School Lunch Program
PNS	Preschool Nutrition Survey
RDA	Recommended dietary allowance
SSI	Supplemental Security Income
USDA	United States Department of Agriculture
U.S. RDA	U.S. recommended daily allowance
WIC	Special Supplemental Feeding Program for Women, Infants, and Children

CHAPTER 1

INTRODUCTION

Food, shelter, and clothing are generally regarded as essential for human life. Man's search for food has historically been his most compelling and time-consuming endeavor. This search has been a factor in war as well as in peaceful alliances among nations; policies regarding food and agriculture have meant the difference between success and failure for many governments.

The United States is fortunate in that most citizens can get food without difficulty; although food costs, and sometimes availability, may limit our selection. For the most part the United States is the best fed nation in the world--often to excess. Our concerns for food have turned from more than basic considerations of supply to those of adequate nutrition. Nutrition, simply defined, is the business of seeing that food does the best possible job in terms of health.

SCOPE OF STUDY

The purpose of this staff study is to identify major issues relating to U.S. nutrition policy for both consideration by the Congress and future areas for study by us and other public and private institutions.

In carrying out the survey objectives, we reviewed the activities of the private, governmental, and academic sectors in the field of nutrition and obtained published articles, statements, or documents addressing the specific aspects of this topic. We also interviewed selected nutritionists and Government officials and obtained presentations of nutrition issues from selected consultants.

WHY IS NUTRITION IMPORTANT?

Inadequate nutrition--or malnutrition--directly affects the quality of human life. The results of gross shortages of nutrients resulting in pellagra, anemia, or rickets are rarely seen in the United States. Our malnourishment problems stem more from an abundance than a lack of food.

The U.S. Department of Agriculture (USDA) estimates, on the basis of the 1965-66 Household Food Consumption Survey (HFCS), that only 63 percent of the families earning over $10,000 have diets meeting all the requirements of the recommended dietary allowances (RDAs). Only 37 percent families

earning under $3,000 annually have a good diet. For the most part these estimates do not represent severe shortages, but little is known about the effects of low level nutrient deficiencies over a number of years. It is known, however, that undernourishment may affect stamina, learning ability, growth, and physical performance. While there is a strong relationship between diet and health, other controllable factors, such as exercise, stress, pollution, and general life style, also play large roles.

The more pervasive form of malnutrition in the United States is caused by overeating and poor dietary patterns which possibly lead to increased heart disease, cancer, and other killer and debilitating diseases. The effects of this sort of malnutrition are usually apparent only after years or even decades have passed.

Consumption of fats and sugar have markedly increased over this past century. This, combined with general over-consumption of salts, cholesterol, and alcohol, have all been linked with 6 of the 10 leading causes of death in the United States.

TABLE 1-1

Death Rates for the 10 Leading Causes of Death, U.S., Year Ending Feb. 1977

(Rates per 100,000 Population) (note a)

Rank and cause of death	Death rate	Percent of total deaths
All causes	887.0	100.00
Heart Diseases*	337.2	38.02
Malignant neoplasms, including neoplasms of lymphatic and hematopoietic tissues*	174.4	19.66
Cerebrovascular disease*	88.0	9.92
Accidents	45.4	5.12
Influenza and pneumonia	27.5	3.10
Diabetes mellitus*	15.9	1.79
Cirrhosis of liver*	14.6	1.65
Arteriosclerosis*	13.6	1.53
Suicide	11.6	1.31
Certain causes of mortality in early infancy	11.3	1.27
all other causes	147.0	16.57

*Nutrition a contributory factor

a/Adapted from Monthly Vital Statistics Report, June 1977.

BENEFITS FROM BETTER NUTRITION

Three benefits which can be derived from better nutrition are (1) lower death rates from diet related illnesses, (2) improved health, and (3) economic savings.

Some estimates conclude that as many as one-half of all Americans are suffering from some kind of long-term continuing illness--heart disease, high blood pressure, digestive difficulties, poor resistance to infections, and the like. Many of these disfunctions have beer directly or indirectly attributed to improper diet. According to some authorities, national health could be advanced significantly by improved nutrition. Estimates in a 1971 USDA report suggested that, through nutrition research, the following improvements in the

mortality/morbidity rate of certain diseases through nutrition research could be made and subsequent diets improved. 1/

TABLE 1-2

Potential Savings From Improved Diet

Disease	
Heart	25-percent reduction in lives lost
Respiratory	20-percent fewer incidences
Infant mortality	50-percent fewer deaths
Early aging/ lifespan	Improvement to 90 percent surviving to age 65
Obesity	80-percent reduction in incidence
Diabetes	50 percent of cases avoided or improved
Cancer	20-percent reduction in incidence
Alcoholism	33-percent reduction

Health care costs in 1976 were $139 billion, a 300 percent increase since 1965. A further increase to $230 billion is expected by 1980. A paper 2/, cited in a Committee print of the Senate Select Committee on Nutrition and Human Needs, estimated that hunger and improper eating habits could cost $30 billion yearly.

Without any attempts to measure dollar savings, Table 3 identifies areas where benefits would result from improved nutrition.

1/Reprinted in July 27 and 28, 1976, hearings before the Senate Select Committee on Nutrition and Human Needs, pp. 48 through 49.

2/Nutrition and Health II, a staff study of the Senate Select Committee on Nutrition and Human Needs, July 1976.

TABLE 1-3

Benefits From Overcoming Nutrition Deficiency Problems/Diseases

	Overcrowding reduced
Hospital admissions reduced	
	More beds available for patients with need
Would-be patients avoid loss of earnings	Productivity increased
	Cost savings enjoyed by would-be patients
Hospitalization costs cut	
	Medicare/Medicaid payments for certain illnesses decreased
	Medical insurance premiums reduced
	Life insurance rates reduced
Insurance company actuarial rates reduced	Employer's insurance costs reduced
	Price of food, etc., reduced
	Inflation slowed down
	More time per patient
Medical professionals availability increased	
	Medical care improves
	Mental retardation avoided
Life expectancy increased	
	Brain damage avoided
	Prevent an interruption of cognitive development
Student learning abliity enhanced	
	Better students
	Better physical and intellectual performance
Capacity to work increased	
	Motivation increased
	Productivity increased

The Department of Health, Education, and Welfare's (HEW's) Forward Plan for Health, Fiscal Year 1978-82, indicates that every person in the United States could add about 2 years to their working lives (through age 70) if heart disease, malignant neoplasms, cerebrovascular diseases, and cirrhosis of the liver were eliminated. Dietary inadequacies contribute to all of these diseases, and improvements in the diet could increase the number of productive years available.

FEDERAL ROLE IN NUTRITION

The remainder of this study is devoted to Federal activities in nutrition and issues of importance that arise from those activities, which include:

--Determining health status.

--National nutrition policy.

--Regulating food processing advertising and labeling.

--Disseminating information on nutrition and sponsoring nutrition education programs.

--Federal activities in nutrition research and development.

--Distributing food, or providing the means to obtain it, to the needy, malnourished, or potentially malnourished.

CHAPTER 2

NATIONAL NUTRITION STATUS

The essential element of formulating nutrition policy is to start from a base point of reference--in this case, the nutritional status of the American citizen. Once that is known, programs can be developed on the basis of need rather than hypothesis. Several surveys have been made or are in progress that are useful in providing an indication of nutritional status, but to date no report or series of reports have been issued. The following studies show nutrient intake or deficiencies in the United States.

--The Ten State Nutrition Survey.

--The Health and Nutrition Examination Surveys.

--The Nationwide Food Consumption Survey.

--The Preschool Nutritional Status Survey.

--Center for Disease Control Surveillance.

TEN STATE NUTRITION SURVEY

A series of reports in the mid-1960s of hunger and malnutrition in areas such as Appalachia shocked Americans that these conditions could exist in a land of plenty. As a result, the Congress approved legislation in 1967 requiring the Secretary of HEW to:

> "* * * make a comprehensive survey of the incidence and location of serious hunger and malnutrition and health problems incident hereto and * * * report his findings and recommendations for dealing with these conditions within 6 months."

No comprehensive nutrition survey had ever before been made in the United States.

Since HEW expected malnutrition to be most prevalent among low-income people, it sampled households in the poorest census enumeration districts in 10 States. The study's objective was to measure the extent of serious hunger and malnutrition in the United States.

Administrative problems; such as funding delays, organizational changes, personnel changes, and changes in the data processing system; plagued the study, delaying the final report to the Congress until July 1972, about 4 years after the deadline.

The Survey concluded that the evidence of malnutrition was found most common among blacks, less common among Spanish-Americans, and least frequent among white people. Malnutrition seemed to increase as income level decreased; however, other factors, such as social, cultural, and geographic differences, could also affect the nutritive level of a population group.

The statistics were combined into averages of all the States surveyed, which, according to critics, hid the problems of special groups, such as migrant workers in Texas or blacks in South Carolina. We criticized the Survey's statistical validity. Because of faulty sampling techniques

> "* * * the survey data should be considered applicable to only those individuals examined * * * should not be considered representative of the nutritional status of members of low-income households as a whole." 1/

HEALTH AND NUTRITION EXAMINATION SURVEY

While the Ten State Nutrition Survey was in process, HEW established a National Nutritional Surveillance System which would be merged with an ongoing Health and Examination Survey. The new program, called the Health and Nutrition Examination Survey (HANES), would examine, in continuing 2-year cycles, a sample of the population residing in the continental United States. In our November 1973 report we stated that:

> "The HANES sampling plan is designed to provide scientifically reliable estimates of the nutritional status of, and the prevalence of malnutrition in, the population. Although the population from which the HANES sample is taken includes more than those considered most likely to have nutritional problems, HANES should provide sufficient data to permit study of groups prone to nutritional deficiencies; that is, the poor, young children, women of childbearing age, and the elderly."

The HANES program appears to have fallen far short of its originally announced intentions, at least concerning schedule. The data gathering process was not started until April 1971 and was not concluded until 1974. Reports are still being prepared and released to this date.

1/B-164031(3), Nov. 20, 1973.

To gather data HANES interviewed each sample person to obtain information about total food and drink consumed the day preceding the examination, followed by clinical examinations by doctors and dentists who took various body measurements and made biochemical tests on samples of blood and urine.

The actual dietary intake was compared with RDA as a standard. All participants were divided into two income groups, either above or below the poverty line.

The January 1974 preliminary report on dietary intake and biochemical findings based on about one-half of the data concluded:

> "There is evidence of a deficiency with respect to the nutrient iron, based on both the dietary intake and biochemical data. This dietary deficiency occurs at all age levels and is not limited to persons in the below poverty level group. The biochemical iron deficiency is more prevalent in the younger age groups, particularly children of ages 1-5 years. In the older age groups biochemical iron deficiency appears to be much less of a problem in spite of a greater percentage of persons with low hemoglobins indicating anemia." 1/

The criticism being directed at HANES surrounds the two general themes that (1) it only averages national data and is not site specific and (2) too much time elapses from data collection to publication.

Many nutritionists believe the survey should be concentrated on special high risk groups. For example, an advisory panel to the 1969 White House Conference of Food, Nutrition, and Health recommended that priority for this kind of study be given to preschool children, expectant mothers, primary school children, and other low-income groups. These nutritionists contend that HANES will give an overall view of the state of our nutrition, but that the nutrition program needs to be able to identify specific target groups in specific areas.

1/U.S. Department of Health, Education, and Welfare, "Preliminary Findings of the First Health and Nutrition Examination Survey: Dietary Intake and Biochemical Findings," 1974.

HANES officials acknowledge the generality of the survey; but they argue that it is intended to take a snapshot of the Nation's nutritional health at a given point in time, and that problems of special groups should be handled by individual States. HEW officials said the program already focuses on certain groups and this will permit data to be reported by categories of age, sex, race, income level, ethnic group, educational level, and region.

HANES officials also acknowledge the problem of a time lag in collecting and reporting the data and say the cure is more money and personnel.

HANES II

A followup to HANES has already started--HANES II. Data collection for HANES II started in early 1976 and is expected to extend to 1979 with reports not available until the 1980s. The sample design and procedure are much the same as for HANES I on the premise that this is required to permit a valid comparison over time between the two surveys.

NATIONWIDE FOOD CONSUMPTION SURVEY

The Nationwide Food Consumption Survey (NFCS) is a survey of household and individual food consumption. In various forms USDA has been conducting similar surveys since the 1930s, although the 1965-66 survey was the first to gather data on individuals.

These surveys set out to determine the kind, amount, and money value of foods consumed by households and individuals; how families purchase and use specific foods; and the nutritive content of foods consumed. The 1965-66 data was primarily to provide information in developing the family food plans used by USDA. Survey data was not made completely available until 1974 due to processing delays.

The most recent NFCS began in April 1977 and is similar to the 1965-66 survey in that some 15,000 households will be surveyed. Additionally, surveys of 5,000 elderly households will be conducted in Puerto Rico, Alaska, and Hawaii. Survey methodology is different, however, in that household data will be collected using a 7-day "aided" recall, and individual data will be gathered by a 24-hour recall plus a 48-hour diary. A special bridging survey will be conducted to allow comparisons with the 1965-66 survey data.

NFCS was 2 years late in getting underway. The Office of Management and Budget delayed the original survey because of problems in methodology and lack of inter- and intra-agency input into it.

Data obtained from NFCS can be used only to determine nutrient intake. There is no way to relate the findings from the food consumption survey directly to malnutrition and the health of Americans. Nutritional status of groups or individuals must be judged on the basis of physical, biochemical, and clinical observations.

NFCS enables researchers to judge or compare the nutrient intake of persons receiving food assistance with other groups or individuals. While this information could be quite valuable, an insufficient sample size will not allow statistically valid samples of individuals receiving some types of food assistance and allow no more than a cursory examination of any type food assistance program. (See our report CED-77-56, dated March 25, 1977, for more detail.) Recently, a 5,000-household sample of low-income families was added which should alleviate this problem.

PRESCHOOL NUTRITION SURVEY

During 1968-70 a Preschool Nutrition Survey (PNS) was conducted under a grant from the Maternal and Child Health Service of HEW. A survey of some 3,400 preschool children was conducted, obtaining both dietary and clinical data. Additional information was gathered on eating practices, food assistance received, and socioeconomic status.

PNS findings indicated that those children at "nutritional risk" were clustered among preschool children of lower socioeconomic status. This risk was evident more because of insufficient food rather than the nutritional quality of the diet.

CENTER FOR DISEASE CONTROL

The Center for Disease Control (CDC) has a program in which they work with 13 States in gathering and analyzing data on height, weight, hematocrit, and hemoglobin levels of low-income children. This work is being administered by the Bureau of Smallpox Eradication within CDC and has no specific funding.

States that participate in this system are able, to some extent (varies for each State), to plan for and evaluate nutrition programs that they administer.

ISSUES

Issues arising from the discussion in this chapter deal with what and how much the United States needs to know about its nutritional status to make appropriate decisions concerning health and feeding programs.

--Should the HANES program be accelerated to permit the establishment of more timely baseline data?

--Should the nutrition surveillance program be expanded to permit the continuous monitoring of the nutritionally at risk population?

--Should HANES and NFCS be combined to avoid duplication?

--Should the CDC system be fully funded and expanded to include all 50 States?

The issues are surrounded by questions of the adequacy of information being gathered and cost versus questions of timeliness and sample size.

CHAPTER 3

NATIONAL NUTRITION POLICY

The United States has no formal, written nutrition policy. Rather it has a de facto policy which is, in effect, a piecemeal series of programs instituted over the years, often because of a sense of emergency and with little thought given to its interaction or relationship with existing programs.

The existing programs clearly would be part of any structured nutrition policy albeit in different forms. Such nutrition activities include grading and inspecting foods, ingredient and nutrient labeling, and protecting consumers from carcinogens. Programs centering on the hungry or poorly fed include food stamps, school lunches and breakfasts, special food programs for the elderly, and many other food assistance programs designed for specific target groups. Both HEW and USDA operate a vast number of programs which, through research or program efforts, examine and attempt to improve our health status through improved nutrition. USDA, through various programs designed to improve food quality and increase land productivity, is working to meet U.S. nutritional needs.

ATTEMPTS TO COORDINATE

Informal coordination methods have been used to control or minimize unnecessary duplication of research. These methods include literature, reviews, attendance at professional meetings and social gatherings, and informal contacts.

In 1969 a USDA official formed the Federal Interagency Communication in Nutrition (FICIN) to meet and exchange (informally) information, materials, and ideas on program activities involving nutrition. The group consists of nutrition program leaders from the following agencies:

--Agricultural Research Service.

--Food and Nutrition Service.

--Food and Drug Administration.

--National Institute of Arthritis, Metabolism, and Digestive Diseases.

--National Cancer Institute.

--National Institute of Child Health and Human Development.

--National Heart and Lung Institute.

--National Center for Health Statistics.

--Administration on Aging.

--Agency for International Development.

--Federal Trade Commission.

--National Marine Fisheries Service.

FICIN is not formally recognized as an interagency committee and is not required to give advance notification in the Federal Register of scheduled meetings.

In June 1975 the National Institutes of Health (NIH) established the NIH Nutrition Coordinating Committee 1/ to (1) provide for interinstitute cooperation in nutrition-related matters, (2) develop an ongoing operating plan for nutrition research in all the institutes, and (3) evaluate nutrition research in NIH. The Committee is still evaluating current in-house and external human nutrition research supported by NIH.

REASONS FOR A MORE STRUCTURED POLICY

In spite of these efforts, many prominent nutritionists believe that the time has come for a more structured method of directing the Nation's nutrition activities.

Advocates of this position feel the Government should establish nutrition objectives, devise plans and programs to achieve them, and closely coordinate and direct the activities of the executive agencies. This type of organized activity presumes a coordinating or central force to direct the activities. Thus, the call arises for a stated national nutrition policy and coordinating agency or council--a Federal Nutrition Office or a Council for Improving the Nation's Nutrition Status, for example--to develop and implement the Federal programs.

Advocates maintain that nutritional considerations often play no part in the decisionmaking process on food policy. They contend that nutrition should be an important consideration in determining

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1/The committee is composed of a Chairman and seventeen representatives from NIH.

--what foods are grown;

--how foods are grown, harvested, and stored;

--how foods are processed and labeled; and

--how foods are marketed and advertised.

The guidelines for the National Nutrition Policy prepared by the National Nutrition Consortium (see app. II) stated that the policy

> "* * * is needed to ensure that food will be available to provide an adequate diet at a reasonable cost to every person within the United States, * * *."

The staff report of the Select Committee 1/ indicated that the policy was necessary to coordinate and monitor the varied nutrition-related programs and activities now dispersed throughout the Government.

Several organizational changes were recommended involving the coordination and administration of Federal nutrition programs. These included establishing a Federal Food and Nutrition Office, which would operate at the cabinet level, and a National Nutrition Center, which would operate at the sub-cabinet level within HEW. The office would coordinate and monitor nutrition programs throughout the Government. The concept was first proposed by the 1969 White House Conference on Food, Nutrition, and Health and later reiterated by the National Nutrition Consortium in 1974. The Center would administer nutritional programs in the Government and supervise day-to-day activities.

In February 1977 the Select Committee published "Dietary Goals for Americans" in which specific dietary objectives were set out as being desirable. Public opinion has been widely split with many food consumer groups and some food industry groups supporting the goals and other groups strongly denouncing them.

1/"Towards a National Nutrition Policy," May 1975. Report of the staff of the Select Committee on Nutrition and Human Needs, United States Senate.

TABLE 3-1

U.S. DIETARY GOALS

1. Increase carbohydrate consumption to account for 55 to 60 percent of the energy (caloric) intake.
2. Reduce overall fat consumption from approximately 40 to 30 percent of energy intake.
3. Reduce saturated fat consumption to account for about 10 percent of total energy intake; and balance that with poly-unsaturated and mono-unsaturated fats, which should account for about 10 percent of energy intake each.
4. Reduce cholesterol consumption to about 300 mg. a day.
5. Reduce sugar consumption by about 40 percent to account for about 15 percent of total energy intake.
6. Reduce salt consumption by about 50 to 85 percent to approximately 3 grams a day.

The goals are expressed graphically in Figure 1.

The Goals Suggest the Following Changes in Food Selection and Preparation

1. Increase consumption of fruits and vegetables and whole grains.
2. Decrease consumption of meat and increase consumption of poultry and fish.
3. Decrease consumption of foods high in fat and partially substitute poly-unsaturated fat for saturated fat.
4. Substitute non-fat milk for whole milk.
5. Decrease consumption of butterfat, eggs and other high cholesterol sources.
6. Decrease consumption of sugar and foods high in sugar content.
7. Decrease consumption of salt and foods high in salt content.

As might be expected, the goals have been especially critized by the meat and dairy industry. Testimony in subsequent hearings by such groups has caused the Committee to consider a redraft of the goals.

This report is important in that it has been a catalyst for indepth discussion and debate on what Americans should eat. To date no other Government body has taken such a definitive stand on dietary objectives.

a/"Dietary Goals for the United States," Senate Select Committee on Nutrition and Human Needs, February 1977, pp. 12 and 13.

CURRENT LACK OF URGENCY

The United States does not have a formalized nutrition policy because policymakers have yet to see that one is needed. In the 1960s and 1970s many were saying that millions of Americans were hungry and malnourished. President Nixon stated, in initiating the White House Conference on Food Nutrition and Health, that "Millions of Americans are simply too poor to feed their families properly * * *" and the National Council on Hunger and Malnutrition estimated that perhaps 20 million Americans suffer from malrutrition.

The Ten State Nutrition Survey, while not statistically valid for the Nation as a whole, did appear to show that there was no mass starvation in the low-income households examined. True, nutrient deficiencies were disclosed, but this did not appear to motivate many people to improve nutrition.

As long as there is no overt evidence of gross malnutrition, such as millions of starving citizens or not many cases of botulism or contaminated food, and as long as our food supply is adequate, the existing set of nutrition-related programs will seem to serve the Nation's needs. Only recently has the public realized that malnutrition is more than hunger or rickets or pellagra.

In discussions with officials in agencies having nutrition-related responsibilities in USDA and HEW, we received mixed reactions to the need for a coordinating office. Some stated that central direction would help, particularly in placing emphasis and funds in the areas considered most essential. Others felt that the central direction would not result in significant improvements, but would create additional bureaucratic layers, adding confusion rather than focus to the problem.

There is also the hybrid character of nutrition which must be dealt with. Nutrition is an integral component of health, yet the method by which nutrients are delivered to the body is by food. Here lies the problem. How, if at all, are nutrition, health, and agriculture policies integrated to maintain a safe nutritious diet for consumers while maintaining the productive viability of farmers and food processors. These objectives need not be exclusive, but they certainly require a fine balance.

The development of a national policy has become more complex, simply because the basic problem of providing an adequate diet has multiplied in face of the rising income

and availability of food, inflation, and rising prices. For example:

--Growth and urbanization of the population have made necessary a much more complex system of preparing and transporting foods. The individual consumer is seldom close to the source of the food, as was the case when America was largely a rural society.

--More American women are working and have less time available for preparing meals. Prepared foods and meals eaten outside the home have become increasingly prevalent.

--Life styles have changed. The variety of activities and mobility of most people have increased drastically. Fewer meals are (1) eaten at home, (2) served to the whole family at one time, and (3) planned in advance. Fast-food establishments have burgeoned, and snacking has become an important source of the day's nutrients and calories for many people.

Fewer consumers have the time or inclination to take an active role in determining their nutrient intake.

ISSUES

Issues that should be considered in light of the developments center around national nutrition policy.

--Should nutritional considerations play a more important part in food and health policy decisions?

--Should a more formal nutrition policy be adopted with explicitly stated goals and objectives?

--Should a central authority or a formal coordinating group for nutrition matters be established?

--How far should the Government intercede in promoting dietary practices?

CHAPTER 4

FOOD STANDARDS AND ENFORCEMENT

Americans expect, and rightly so, that the food they buy and eat is wholesome, clean, and safe; is processed under sanitary conditions; and is what it is purported or advertised to be. The Federal Government has assumed a significant responsibility in setting and enforcing standards relating to the quality, quantity, safety, and representation of foods for compliance by farmers, food processors, and food distributors.

The Food and Drug Administration (FDA) and USDA, for the most part, administer most food consumer laws.

FDA and USDA activities relating to food safety and quality are many, but specifically involve the following.

--FDA (1) controls food sanitation; (2) insures the safety of ingredients added to food; (3) prevents chemical contaminants from entering the food supply; (4) controls communicable diseases spread through interstate transportation; (5) identifies and controls myotoxins and other natural poisons in foods; (6) improves nutritional quality of foods through regulation of nutrient labeling, nutrient composition, and biological availability of nutrients; (7) improves safety and quality of shellfish; and (8) insures fair packaging and labeling and prevents adulterated and misbranded foods from reaching the public.

--USDA food safety activities include activities conducted by the Food Safety and Quality Service (FSQS). FSQS activities in meat and poultry inspection include (1) inspecting the animals and poultry (optional for poultry) before and after slaughter; (2) supervising the processing of meat and poultry to make sure the products are wholesome, produced under sanitary conditions, and not adulterated or mislabeled; (3) monitoring for harmful pesticides and other chemical and biological residues; (4) reviewing foreign inspection systems onsite and reviewing plants which export meat and poultry products to the United States; (5) certifying U.S. meat and poultry products for export; (6) supervising the destruction (for food purposes) of condemned meat and poultry products; (7) regulating related industries, including animal food manufacturers, brokers, shippers, and wholesalers,

to prevent uninspection or adulterated meat or poultry products from entering human food channels; (8) providing support services in chemistry, microbiology, pathology, parasitology, toxicology, and epidemiology; (9) approving plant and animal facilities and equipment; and (10) controlling and eradicating plant and animal diseases and pests.

SETTING FOOD STANDARDS

Standards put all interested parties on notice of what is required to meet minimal quality and safety requirements. FDA issues regulations which specifically set the standards of compliance expected for various aspects of food labeling or identification.

Section 401 of the Federal Food, Drug and Cosmestic Act states that:

> "* * * whenever in the judgment of the Secretary such action will promote honesty and fair dealings in the interests of consumers, he shall promulgate regulations fixing and establishing for any food, under its common or usual name so far as practicable, a reasonable definition and standard of identity, a reasonable standard of quality and/or reasonable standards of fill of container."

The Congress authorized food standards to make sure manufacturers would not frustrate consumer expectations regarding particular foods by exploiting consumer ignorance or indolence.

As authorized, FDA has set food standards for (1) covering the nutritional information on food labels, designed to help people identify and select nutritious food, (2) processing low-acid canned foods, (3) using common or usual food names to describe or identify a product's prime ingredients; i.e., diluted fruit juice, (4) identifying on the food label the specific source of all fats and oils, and (5) labeling the ingredients of standardized foods.

STANDARD FOOD LABELING

FDA has established standards of identity for over 280 common products under a recipe concept. The recipe identifies the minimum ingredients and the processing method that must be followed if the product is offered for sale under its commonly known name, such as peanut butter.

FDA's prolonged adherence to the recipe format is primarily based on a desire to (1) preclude any modifications of the basic food formulas that could contribute to consumer deception and (2) restrain the growing use of chemical additives whose safety has not been demonstrated.

FDA's standard food label requirements are considered by some to be contrary to the consumer's best interest. When a food product becomes standardized, the manufacturer is no longer required to list the mandatory ingredients on the label. Thus, people who are hypersensitive or allergic to certain kinds of foods do not know whether the standardized food is safe to eat.

PRODUCT EVALUATION

FDA tests and evaluates products to make sure they are safe and that suppliers' claims, if any, are true. Evaluations take place (1) when a product is new, (2) when changes are made, and (3) throughout the product's life.

The use of additives that are "generally recognized as safe" (GRAS) is now being evaluated. In 1958 FDA listed about 200 such substances that were judged safe by experts without being subjected to rigorous regulatory control and extensive toxicologic testing. The list has subsequently expanded to more than 1,100 items.

Evaluations also take place under the so-called Delaney Clause of the Food, Drug and Cosmetic Act which provides that any additive shown to be carcinogenic on the basis of tests with man or animals be taken off the market.

Some progress has been made to scrutinize GRAS items. In 1969 the GRAS list came under suspicion because of certain hazards identified with cyclamate. The President subsequently requested FDA to review the safety of GRAS substances. This review is still taking place.

Federal efforts, however, to protect the public from cancer-causing chemicals have not been too successful according to one of our recent reports. 1/ Although Federal agencies, including HEW, USDA, the Environmental Protection Agency, and the Consumer Product Safety Commission, generally have enough authority to regulate the chemicals, they have

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1/"Federal Efforts to Protect the Public from Cancer-Causing Chemicals are not very Effective," MWD-76-59, June 1976.

encountered scientific problems in relating the results of animal safety tests to humans.

MONITORING AND ENFORCEMENT

USDA conducts regulatory and control programs to protect the wholesomeness of meats, eggs, and poultry products for human consumption. Mandatory inspections are performed (1) in all plants which process liquid, dried, or frozen egg products and (2) of all meat, poultry, and related products processed by plants which ship in interstate and foreign commerce.

FDA inspects food at various processing stages to make sure it complies with Federal laws, policies, and standards. This includes inspecting raw materials, manufacturing operations, storage, distribution, retailing, etc. Other techniques of monitoring involve laboratory testing of foods and additives, review of the food processors' presentations, analyses of consumers' complaints, and reports from the food industry of problems.

When evaluations and monitoring reveal deficiencies, FDA must see that the food suppliers take corrective action, and in some cases FDA may find it necessary to recommend that certain foods be recalled.

In recent years FDA has taken action. The most famous case occurred in 1971 and involved the death of a New York banker who developed botulism from canned vichyssoise. FDA acted promptly and seized and destroyed more than 1.5 million cans of the company's product.

After being informed by the National Canners Association in 1973 and 1974, FDA investigated whether canned mushroom products were contaminated with clostritium botulism. The investigation involved visits to over 9,000 warehouses, examinations of more than 25,000 lots of mushrooms at about 4,000 warehouses, laboratory analyses of 2,000 samples, and ultimately the recall of mushroom products from the market. 1/

In a less dramatic atmosphere, FDA has extensively studied food additives through its own tests and the results of tests supplied by manufacturers and food processors and has terminated approval for use, or has not permitted use, of several

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1/FDA press release, dated May 11, 1976.

substances. FDA has not permitted use of cyclamates and aspartame.

Cyclamate, an artifical sweetener, was originally banned in 1970 after studies indicated it caused cancer in animals. In 1973 the manufacturing laboratory petitioned for permission to market cyclamate again because its studies showed the sweetener to be safe. FDA reviewed the petition but did not approve it. In March 1975 FDA had the National Cancer Institute, through a special committee, judge the merits of the petition and also review other studies on cyclamate. FDA concluded that cyclamate in large amounts can have harmful effects on growth and reproduction and cause testicular atrophy and elevated blood pressure in test animals. While the studies were not conclusive in showing that cyclamate caused cancer in humans, FDA decided that the permissable safe level of cyclamate use would be too low to permit its use.

In its review of the safety of aspartame for use, FDA relied on extensive studies of the manufacturer. Aspartame is an artificial sweetener which is about 180 times as sweet as sugar, but has only a fraction of the calories. The manufacturer petitioned FDA for approval in 1973 and received it the following year. The manufacturer had submitted scientific studies to show the safety of aspartame for its intended use, but the approval was restricted to use in certain foods and as a flavor enhancer in chewing gum. After an FDA task force found discrepancies in the safety data submitted by the manufacturer, the agency stayed the regulations approving its use in December 1975. The Commissioner has stated that aspartame will not be approved for use until studies are completed and its safety established. 1/

FDA appears to act too slowly in determining whether substances in foods are safe for use. For example, we reported in October 1975 2/ on the indecision of FDA in determining the safety of color additive FD&C Red No. 2. FDA revoked approval of the dye in January 1976. The dye, generically known as amaranth, met FDA's composition and purity specifications; however, FDA permitted its use for over 15 years before finally determining its safety, or lack thereof.

1/"Regulation of the Food Additive Aspartame," MWD-76-111, April 1976.

2/"Need to Establish the Safety of Color Additive FD&C Red No. 2," MWD-76-40, October 1975.

Since 1970 there had been evidence that amaranth was toxic to reproductive systems of test animals or was carcinogenic. In June 1972 FDA issued a proposal to limit human exposure to the color additive. Finally in January 1976 the FDA Commissioner terminated approval of the use of the dye. In announcing the termination, the Commissioner said:

> "* * * clearly, the burden of proof belongs not with the Government or the consumer, but with those who claim that Red No. 2 has a safe and useful place in the food supply and in our drugs and cosmetics."

In August 1976 we urged 1/ that FDA reevaluate the justification for the continued use of the artificial sweetner saccharin because its safety has not been established. Recent studies indicate that saccharin poses a carcinogenic danger to man. FDA has proposed a ban effective around October 1977. Congressional action may delay that ban for up to 18 months.

We have also reported 2/ duplication of effort between USDA and FDA in the inspection activities of firms producing meat and nonmeat products. Several food firms were identified that had been inspected by both agencies at the same time. We recommended that the agencies determine the extent of duplication and agree not to inspect the same plants if possible. USDA and FDA are working on a memorandum of understanding to correct this problem.

ISSUES

Several key issues in the food quality area need to be addressed.

--Does the recipe format for standardized foods serve the public's best interest? The lack of required disclosure on the labels of the ingredients used in the over 280 standaridized products places many who have food allergy problems at a tremendous disadvantage.

1/"Need to Resolve Safety Questions on Saccharin," HRD-76-156, August 1976.

2/Letter to the Administrator, Animal and Plant Health Inspection Service USDA, January 28, 1976.

--With the increasing number of chemicals on the market, should a greater concerted effort be made by the Federal Government in preventing cancer-causing chemicals from being used in food?

--Is the "Delaney Clause" too restrictive? (To some critics of the clause, the zero tolerance level is too restrictive. Massive quantities of additives that cause cancer in test animals may not be able to be duplicated in small quantities that humans ingest.)

--How effective are Federal efforts for insuring safe, clean, and wholesome foods? There appears to be a general lack of current independent assessments identifying the adequacy of our Nation's food quality and safety.

CHAPTER 5

AVAILABILITY AND DISSEMINATION OF INFORMATION ON NUTRITION

For most people the importance of nutrition is not understood. The general public, medical practitioners, students, and educators seem to have only a very skimpy knowledge of nutrition. There appears to be

--a lack of sufficient understandable information on its relationship to good health, normal development, and prevention of disease;

--inadequate educational and training programs; and

--only limited dissemination of available information.

If the preface in most food-related laws--the Nation is concerned about the health and well-being of every citizen--is to have meaning, then what should the Government do to improve the lot of these people?

The Government has instituted feeding programs for those in need, but has done little for the majority of Americans who select and purchase their own food. The Government should motivate its citizens to eat good foods, to have a balanced diet, and to avoid harmful foods through education programs and dissemination of simple, understandable facts about nutrition.

NUTRITION EDUCATION

The need to disseminate more information on nutrition to the people in the food and feeding programs, as well as the rest of the population, has long been a continuing recommendation of nutrition studies, panels, committees, and others. The priority given to nutrition education, both publicly and privately, has generally been low. Nutrition education is defined as

> "* * * a process whereby the significant facts of nutrition are acquired by people in such a way that nutritional behavior changes. Nutrition education may range from the level of that taught in a medical school to a simple set of nutrition facts presented to a preschooler in a Head Start Program. It includes education to influence the eating habits of individuals, nutrition education in school curricula, advertising and food

packaging - in other words, all those influences which can change nutritional behavior." 1/

Knowledge and concern about nutrition can help prevent obesity, poor health in pregnancy and early infancy, nutritional anemias, or dental caries. For example, a statement presented to the Select Committee on Nutrition and Human Needs said that effective nutrition education could reduce the incidence of obesity by as much as 80 percent, and up to 50 percent of the money spent on dental care could be saved by proper nutrition.

However, the nutrition education roles of (1) the Federal Government, (2) elementary and secondary schools, (3) medical schools, (4) industry and Government advertising, and (5) consumer awareness through labeling need to be strengthened.

FEDERAL ROLE IN NUTRITION EDUCATION

The Government has no centralized program for nutrition education. It is, instead, a subcomponent of larger programs, such as the child nutrition programs and the Food Stamp Program of USDA or the Follow Through Program and the Adult Education Program of the Office of Education, HEW. Often such subcomponents are no more than afterthoughts, tacked on because there is no central focus for nutrition education. One of the most difficult things to do is to effectively disseminate nutrition information in an understandable way to people and motivate changes in their eating habits.

Advancements in nutrition knowledge, however, were reported in three studies. One study involved the USDA Expanded Food and Nutrition Program in Missouri 2/ designed to help low-income families with children improve their diets. Nutrition aides teach program participants--primarily in rural areas--general nutrition and methods of selecting, buying, and preparing nutritious foods. Samples of program participants were drawn from urban, rural, and out-of-state areas. Comparable groups of homemakers served as control groups. Findings indicated that program families had a

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1/Definition provided by the Assistant Secretary, Health, HEW, in hearings before the Senate Select Committee on Nutrition and Human Needs, 1972.

2/"An Evaluation of the Influence of the Expanded Food and Nutrition Education Program in Missouri;" Dr. Nelda M. Nolan, Program Coordinator, and Dr. John G. Gross, University of Missouri Extension.

higher score in food buying and nutrition knowledge than did control families, but adequacy of diet did not significantly differ.

The second study, funded by USDA, shows that teachers, students, and parents of students in the program definitely improved their knowledge of nutrition as well as food intake. The project was carried out by the California State Department of Education between 1973 and 1976 to demonstrate, in part, that a statewide nutrition education program, correlated with the school food service program, could increase participation and acceptance of the school lunch program. 1/ Because of the success of this program, California has decided to continue this project.

The third study, involving low-income pregnant women of Mexican descent, was performed by the School of Public Health, University of California at Los Angeles, under a grant from the Agriculture Research Service and CDC, HEW. 2/ A comparison of the food consumed before and after the program indicated some improvements in the nutrition intake as a result of the nutrition education program.

Additionally FDA is funding the development of three teaching models designed to educate low- and middle-income food consumers, primary school children, and medical personnel.

Criticisms of the Federal role

Some criticisms and needs being voiced about nutrition education programs are:

--Some USDA nutrition material is uninteresting, too simplistic, and repetitive.

--The "whys" in addition to the "hows" of good nutrition need to be taught.

--Some materials are irrelevant: for example, RDA has no meaning to many people, particularly those with little education.

1/"Accomplishments of the Nutrition Education Projects," 1973 to 1976, California State Department of Education.

2/"Effect of Nutrition Education on the Nutritional Status of Low-Income Pregnant Women of Mexican Descent," School of Public Health, University of California at Los Angeles.

--More effective ways must be identified to show that nutrition education can make a difference in the well-being of the American people.

--The results of nutrition education efforts need to be evaluated.

--Nutrition education and training are not extensively taught in most medical schools.

The only known Federal coordinating committee for nutrition education was the Interagency Committee on Nutrition Education, abolished in 1974 because of Office of Management and Budget and Congressional directives restricting the use of funds for interagency activity. The Committee, with USDA as the head agency, provided a formal mechanism for exchange of information on program activity and progress in nutrition. Several nutrition educators felt there was a continuing need for such a committee.

In 1976 Public Law 94-317, the National Consumer Health Information and Health Promotion Act of 1976, was enacted. It authorized the Secretary, HEW, to among other things

> "* * * undertake and support necessary activities and programs to incorporate appropriate health education components into our society, especially into all aspects of education and health care."

This will be conducted from a new office, the Office of Health Information and Health Promotion. Activity within this office is just beginning, but nutrition activities will be covered. Those nutritional activities carried out by USDA will not likely be included.

ELEMENTARY AND SECONDARY SCHOOL NUTRITION EDUCATION

The status of nutrition education at the Federal, State, and local school district levels was identified in a USDA Child Nutrition Program survey completed in September 1975. The survey included information from the U.S. Office of Education; 51 State education agencies, including the District of Columbia; 1,441 local education agencies; and 1,356 private schools. It found, among other things, that nutrition education is (1) a low priority item, viewed by State and local school administrators as one of the lower health education concerns; (2) not a mandatory requirement for teacher certification or school accreditation; and (3) mainly directed at school food service personnel. In addition, they found that most States lacked a certification program for their food service personnel.

On the basis of the data in the survey, the Education Commission of the States (ECS) 1/ felt the following factors should be considered in developing any plans for expanding nutrition education.

--The education system should be viewed as consisting of four major elements--family, schools, peer and performance groups, and community. Each needs to be examined for potential use in the delivery of nutrition education services.

--Nutrition education should be incorporated as an integral part of preventive health or some broader framework.

--Nutrition education needs to be defined and communicated through the educational system.

--A national task force should be organized to determine what the nutrition education "message" should be and how best to present it. The task force should also decide on the leaders and constituency for nutritio education.

A bill, H.1139, is being considered by the Congress which would provide up to $27 million yearly to States on the basis of their participation in the School Lunch Program. This legislation, if passed, would provide money to States to further nutrition education in schools and would require a State plan of action. This legislation (currently out of conference) has the potential of greatly expanding the role of the school system in nutrition education.

ROLE OF MEDICAL SCHOOLS IN NUTRITION EDUCATION

For over 25 years the need for added nutritional educational training of medical professionals has been recommended at various nutritional conferences. Dr. Stanley Schulz, University of Pittsburgh School of Medicine, offered some insight into the reasons medical schools fail to embrace nutrition education. 2/ He stated:

1/ECS represents key educational and political leaders of each State and territory involved in determining better ways of offering educational services.

2/Statement presented in hearings before the Senate Select Committee on Nutrition and Human Needs in March 1973.

"Perhaps the most important element of education in nutrition; namely the use of nutritional counseling as an instrument of preventive medicine, has been grossly understressed * * *.

"In short, few medical school curricula adequately stress the potential preventive accruments of proper nutrition in a systematic fashion * * *.

"One of the reasons for the lack of systematic emphasis on nutrition counseling in medical education is that too little is known with respect to the way in which long-term and presumably normal nutritional habits may predispose individuals to acute as well as chronic diseases.

"Far more research is needed in these areas and it is not unreasonable to expect that teaching effectiveness will parallel the acquisition of knowledge.

"But, perhaps equally important, current curricula tend to underplay preventive medicine in general and the role of nutritional counseling as an instrument of perventive medicine in particular.

"For the most part, this subject is taught within the context of acquired diseases so that the inevitable emphasis is one of 'crisis medicine' rather than 'crisis prevention.'"

The American Medical Association's Department of Foods and Nutrition completed a survey in July 1976 of 114 medical schools' nutrition curriculums. The Association determined that only 63 percent of the responding schools offered nutrition courses and that only 23 percent of those required a nutrition course, although 75 percent said that nutrition was incorporated into other courses. The Association gave as two major reasons why medical schools fail to emphasize nutrition (1) the low priority given to nutrition education versus other education requirements and (2) the lack of qualified medical clinicians to teach nutrition.

A member of the Senate Select Committee on Nutrition and Human Needs introduced legislation in 1973 that would have provided grants of $10 million each year for 5 years to assist medical and dental schools in strengthening nutrition education in their curricula. This bill and similiar legislation has not passed the Congress.

ADVERTISING

Today, two major sectors have impact on the American consumer through food or food-related advertisements. The agriculture food industry (private), which is profit oriented; and governmental institutions or consumer advocate groups (public), which are basically humanitarian in their approach. Because of the divergent motivations of the private and public sectors, the consumer often receives fragmented nutrition information.

Dr. Jean Mayer, President of Tufts University, has stated that the advertising emphasis was in reverse order to the usefulness of the food. 1/ For example, advertising of meat, vegetables, and fruit is relatively small when compared to soft drinks, alcholic beverages, and processed foods. One reason for the imbalanced advertising is that many unprocessed foods are produced by a large number of farmers who cannot be identified individually and therefore, find little purpose in advertising. By contrast, many processed foods are produced by a very small number of manufacturers, who have well identified brand names for items such as snack foods, candy, and soft drinks. They have enormous incentives to advertise. Dr. Mayer felt food advertising, on the whole, worked against the nutritional health of American people.

Advertising directed at children

Children are a prime advertising target. The Chairman of the Council on Children, Media, and Merchandising, stated that a child who is only a moderate TV watcher sees 5,000 food commercials a year and 80,000 by the time he or she is 16 years old. What safeguards are available, especially in the breakfast foods, soft drinks, candy, and gum advertisements, to prevent the advertiser from exploiting and misleading the child? The answer is not clear.

The television industry code of standards provides, in part, that advertisers and broadcasters should avoid commercials designed to exploit children and ban commercials that mislead the products' performance and usefulness. We did not determine how closely the television industry adheres to its standards, nor did we determine how closely the Federal Trade Commission scrutinizes nutrition advertising directed at children and others. We did note in the hearings before a

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1/Statement presented in hearings before the Senate Select Committee on Nutrition and Human Needs in March 1973.

House Subcommittee of the Committee on Appropriations for 1977 that the Commission estimated costs for monitoring of food and nutrition advertising in 1976 and 1977 as 1.7 and 0.9 percent, respectively, of its total program cost estimates.

In an attempt to limit food advertising to children, the 1975-76 California State Legislature recommended in a resolution to the President, the Federal Trade Commission, the Federal Communications Commission, and the Congress that a change be made in existing laws and regulations governing television advertising of nonnutritious foods to children between the hours of 7 a.m. and 6 p.m. daily. The resolution was based, in part, on the following:

--Most children watch television during children's viewing hours, which average 940 hours annually, of which more than one-fifth is commercials.

--Advertising does influence the attitudes, values, and practices of children; and children cannot differentiate between contradictory advertising information.

--Most television food advertising directed to children involves food containing nonnutritious content.

--Federal Trade Commission and Federal Communication Commission guidelines for television advertising do not adequately regulate food advertising to children.

FOOD LABELING

The labeling on food products has, among other things, proven to be a key link for providing the consumer with information on the best selection of products for specific needs. A number of problems, however, were identified in our report 1/ on current labeling practices:

--The Food, Drug, and Cosmetic Act (FD&C Act) exempts 284 "standardized" food products from having some of their ingredients listed on the labels. These include macaroni and noodle products, bakery products, milk and cream, cheese, and fruit juices. The lack of full disclosure on the label causes problems for consumers on special diets, because of allergy or other reasons. We recommended to the Congress that consideration

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1/"Food Labeling: Goals, Shortcomings, and Proposed Changes," MWD-75-19, 1975.

be given to amending the FD&C Act to require full disclosure of all ingredients on packaged food products, including standardized products. To date this has not occurred.

--Most food labels do not provide the consumer with data on the amount of the "characterizing ingredients" in the product; that is, the amount of beef in beef stew, apples in apple pie, or pears in canned pears. Manufacturers do vary in the percentage amount of the characterizing ingredient and thus vary the value or acceptability of their product without people knowing it. We recommended to the Secretary of HEW that the appropriateness of including the percentage of the characterizing ingredients on the label be examined. This is done only for some products, such as orange drink. Most products of this type still do not meet this recommendation.

--The general absence on food labels of information on grades concerning the quality; that is, the color, size, texture, flavor, blemishes or defects, and consistency, of food products or their main ingredients means many consumers cannot compare the value of competing products without opening the containers. Even though USDA has suggested that its quality grading system be used to inform consumers, the system's nomenclature is often very technical and difficult to understand, and grade designations vary from product to product; for example, U.S. Grade A, U.S. Fancy, or U.S. Extra Fancy. We recommended to the Secretary of Agriculture that grade designations be made uniform and easier for consumers and industry to understand. In July 1976 the uniform grading system was implemented for a gradual transition to uniform standards for fruits and vegetables.

--Even though most food products are properly rotated on store shelves and sold to the public fresh, some consumers do buy spoiled or stale food without knowing it. Even when products are dated, consumers are often confused and cannot determine when a product will lose its freshness, because the date shown is not always uniform. For example, the date shown may be based on the packed date, pull date, or expiration date. We recommended to the Congress that consideration be given to amending the FD&C Act to establish a uniform open dating system for perishable and semiperishable foods. This has not been done.

--Studies have shown that consumers make inaccurate price comparison 40 percent of the time. Studies

have also shown that use of the unit pricing concept, which provides for a common denominator; such as price per ounce, pound, pint, etc.; can reduce consumer price comparison errors. We recommended to the Congress that consideration be given to amending the Fair Packaging and Labeling Act to establish a unit pricing program, including guidelines for the design and maintenance of unit pricing information and the education of consumers about its uses and benefits. This has not been done.

NUTRITIONAL LABELING

FDA established regulations in March 1973, requiring detailed nutritional information on labels on fortified foods or foods for which nutritional claims are made. Fortification is the addition of one or more nutrients that were not present or were present in small amounts in food before processing. FDA also encourages voluntary nutritional labeling for all foods. The number of food products that will have nutritional labels as a result of the FDA labeling program is not known.

The product label shows the percentages of nutrients considered adequate for maintaining good nutrition in most healthy Americans. These U.S. recommended daily allowances (U.S. RDAs) are based on the RDA. RDA amounts were established by the National Academy of Sciences-National Research Council for persons of different ages, builds, and sex. For the sake of convenience, manufacturers use averages which results in the amounts being either overstated or understated for many.

The labeling regulations required, among other things, the U.S. RDA listing of eight important nutrients--protein, vitamin A, vitamin C, thiamine, riboflavin, niacin, calcium, and iron. The benefits of the nutritional information obviously depends on properly educating the public on why the allowances are important and how they can best be used.

Even though FDA labeling requirements began in March 1973, not until May 1974 did FDA begin a multimedia consumer education program explaining the nutritional labeling form.

Does the labeling concept offer the best method of measuring good nutrition? Opinions vary on this question. One problem associated with U.S. RDA is the large number of nutrients the consumer needs to be aware of. A consumer report publication in May 1976 indicates that the human body is known to need over 50 nutrients, 20 of which are covered by RDA's and only 8 that FDA requires be shown on the label. More nutrients, however, can be listed. For example, one

cereal label lists 14 nutrients. Furthermore, if the label shows that 25 percent of certain nutrients are satisfied, where does one obtain the remaining 75 percent? This could be very confusing if a person tried to do this for each nutrient.

In an April 1975 White House speech, HEW's Special Assistant for Child Health Affairs also identified some of the weaknesses associated with the use of RDA's as a guide for maintaining a complete diet. For one, proper intake of one nutrient often depends on taking the proper RDA of another nutrient. For example, the recommended amount of calcium a day is 360 milligrams. The calcium requirement, however, is based on the amount of phosphate intake. By pushing the phosphate intake up, more calcium is required. The same is true of vitamin E, which is influenced by the intake of polyunsaturates. Iron, as taken by mouth, depends on the presence of chelating agents, and chelate is dependent on vitamin C in the diet. Protein intake determines the vitamin B6 requirement.

RDA standards are subject to change every several years. A deficiency in one set of substances at one time may not be true at another time. For example, the allowance for vitamin C is currently 45 milligrams a day, but 4 years ago it was almost twice as high. To further complicate matters, different allowances have been established by other countries--RDA for vitamin C is 30 milligrams in Canada and 20 milligrams in the United Kingdom.

ISSUES

Key issues concerning nutrition information are:

--Is there a need for clear, understandable guidelines and information on such matters as (1) the value of foods and their nutrient content, (2) the kinds of foods to eat and those to avoid, (3) the nature and functions of food additives (extenders, preservatives, freshness, coloring agents, etc.), (4) the value of fibers in diets or the harm from saturated fats, and (5) current food trends?

--Should the Government be the sponsor of nutrition education programs of State and nonprofit educational, medical, and child care institutions?

--Should more effective means of disseminating information to consumers be developed?

--Should nutrition education be included in all HEW health care and disease prevention programs?

--Should the Government support State and private medical and dental school activities in the development and teaching of nutrition courses?

CHAPTER 6

FEDERAL HUMAN NUTRITION RESEARCH

Human nutrition research traditionally has been concerned with identifying essential nutrients, defining the role of nutrients in the human organism, and preventing nutritional deficiency diseases. Effective nutrition has been taken for granted as long as the individual got the nutrients deemed essential. Little attention has been given to environmental factors influencing an individual's consumption patterns; the substances he ingests, aside from particular nutrients; or the long-term health implications of his dietary practices.

Today it is recognized that nutrition plays a vital role in health status throughout life and that good nutrition is more than simply getting those nutrients considered essential. With the disappearance of major nutritional deficiency diseases in the United States, nutrition research has turned to more elusive pursuits, such as the effects of diet on human intellect and life span. While the job of identifying and characterizing specific nutrients is an important and uncompleted task, the concept of malnutrition now includes food and nutrient excesses as well as deficiencies. As a consequence, human nutrition research has become complex and multidisciplinary, involving dietetics, biochemistry, physiology, medicine, microbiology, genetics, endocrinology, food technology, and agricultural science.

Three factors underlie and emphasize the broadening scope of human nutrition in the United States. First, it is apparent that the best hope for achieving any significant extension of life expectancy lies in the area of disease prevention. Diet and nutrition are major factors in preventing disease and other health problems. Second, the economic costs of health care and disease are a large and growing burden on the Nation's resources. Improving the American diet could help ease that burden. Finally, an American public sensitive to health and nutrition is vulnerable to unsupportable claims promoting various dietary substances and practices. As a matter of public health policy, consumers would be provided authoritative dietary guidance.

Each year the Federal Government spends about $73 million to 112 million (estimates vary) on human nutrition research, a sum representing less than 3 percent of the $3 billion it spends annually on all research in agriculture and health.

Several Federal departments and agencies support human nutrition research, although no department or agency has human nutrition as its primary mission. A recent report by the Congressional Research Service found that the planning and conduct of human nutrition research is scattered throughout complex and diversified Federal organizations, none of which provides comprehensive nutrition information. Although congressional interest in human nutrition is increasing, comprehensive information for determining the focus and direction of Federal human nutrition research is lacking.

MAJOR NUTRITION KNOWLEDGE GAPS AND RESEARCH NEEDS

We have classified the major knowledge gaps together with related research needs into four broad and interrelated areas which we believe are important for sound nutrition planning whether the target of a nutrition program is an entire population, a population subgroup, or a specific individual. These areas include (1) human nutritional requirements, (2) food composition and nutrient availability, (3) diet, disease causation, and food safety, and (4) food consumption and nutritional status.

Human nutritional requirements

Although much information is available about the essential nutrients and calories, quantitative standards of human requirements are not well established in several population groups. Additional knowledge is needed regarding the dietary nutrients required for promoting or maintaining growth, development, or well-being during pregnancy, infancy, and lactation, and during childhood and adolescence. More knowledge is also needed regarding the needs of women, the elderly, those with disease and stress, and those persons taking drugs and vitamins.

Research needs for filling the knowledge gaps include (1) long-term studies of human subjects across the full range of both health and disease, (2) comparative studies in groups of differing geographic, cultural, and genetic backgrounds, and (3) basic studies of functions and interactions of dietary components.

Food composition and nutrient availability

Some 60,000 processed food items are available to the American consumer. These foods are subject to considerable

variation in nutrient composition due to genetic and climatic factors. They are exposed to techniques of modern food processing as well as storage and cooking which can affect their composition and nutritional contribution to the diet. If standards for human requirements are to have practical applications, more current knowledge is essential on the nutrient composition of foods as consumed and the extent to which nutrients are biologically available for absorption and digestion. Research is needed to update and expand food composition data and to develop improved methods for determining composition of foods and the biological availability of nutrients.

Diet, disease causation, and food safety

Given the present state of nutrition knowledge, it is not possible to say what constitutes a fully adequate diet. Studies have found great diversity among world cultures in dietary practices and adaptations to food sources. Eskimos, for example, traditionally consumed large quantities of animal fat and protein, yet experienced little of the heart disease normally associated with such a diet. On the other hand, persons in New Guinea have been observed to consume high carbohydrate-low protein diets with no apparent problems. Compared to previous generations, Americans today consume a diet higher in protein, fat, sugar, and salt and lower in fresh fruits and vegetables, whole grains, and cereals. Most of our food comes in cans and boxes with over half the diet being composed of processed foods.

Only since the end of World War II have people been systematically exposed to diets of processed, fabricated, and fortified foods. The nutritional impact of this experience has never been adequately evaluated. Evidence is accumulating that among the consequences of modern dietary practices are several diseases and disorders arising in part from dietary excesses and imbalances. Evidence also indicates that, despite a plentiful food supply, many Americans apparently suffer from undernutrition with respect to some essential nutrients, particularly iron.

Increased knowledge of the consequences of dietary intakes and practices is important for improving the quality and safety of the food supply. Research is needed to (1) identify and describe the processes by which dietary constituents lead to the onset and development of disease,

(2) evaluate the effects of dietary modifications proposed as preventive measures, and (3) develop improved techniques of assessing toxicological risks.

Food consumption and nutritional status

While it is evident that large numbers of Americans have developed or are at risk of developing health problems related to dietary imbalances and excesses, knowledge is lacking on the current nutritional status of the Nation; the location, prevalence, and magnitude of marginal as well as acute nutritional inadequacies; and the relationship between nutritional status at one period of life on health in subsequent periods.

Knowledge of the relationships among food consumption, nutritional status, and health problems of the general population subgroups is important for effective nutrition planning at the Federal, State, and local levels. To establish priorities and utilize limited resources effectively, policymakers need to know the magnitude of nutritional problems, the identity of those persons who can best be helped by intervention, and the success of past assistance programs. Although the Federal Government in 1976 spent over $8 billion on assistance programs having a nutrition component, the long-term impact of such programs on nutritional status has rarely been evaluated.

To provide the required information, research is needed to (1) continuously monitor the food consumption, nutritional status, and health of representative sample populations, (2) develop more reliable techniques of measuring food consumption and faster, readily reproducible, and inexpensive methods of assessing nutritional status, (3) identify the determinants of nutritional status and their significance for improving health, and (4) identify through studies of the ralationship between diet and the aging process the effect of nutritional status in one period of life on subsequent periods.

NUTRITION RESEARCH PROGRAMS OF FEDERAL AGENCIES

As previously noted, several agencies of the Federal Government support human nutrition research. Much of the research addresses major gaps in nutrition knowledge.

The principal agencies supporting human nutrition research are the Agricultural Research Service, USDA, and NIH.

The Agricultural Research Service is primarily concerned with the food and nutrient needs of the normal, health population. NIH focuses on nutritional needs of certain age groups and prevention and treatment of disease through diet.

The Health Resources Administration, HEW, conducts the Health and Nutrition Examination Survey, a major research project intended to measure and monitor over time the nutritional status of the American people.

In addition, human nutrition research is conducted or sponsored by the

--Food and Drug Administration (HEW);

--Center for Disease Control (HEW);

--Health Services Administration (HEW);

--Alcohol, Drug Abuse, and Mental Health Administration (HEW);

--Department of Defense;

--Agency for International Development;

--National Science Foundation;

--Cooperative State Research Service (USDA);

--National Aeronautics and Space Administration; and

--Veterans Administration.

BARRIERS TO PROGRESS IN HUMAN NUTRITION RESEARCH

On the basis of the written comments of persons active in the nutrition field, nutrition manpower studies; and discussions with nutrition researchers, university nutrition department heads, representatives of nutrition professional societies, and Federal officials; we identified three principal barriers to progress in human nutrition research. These barriers are (1) lack of central focus and coordination, (2) shortage of nutrition scientists, and (3) instability of federally funded extramural research.

Lack of central focus and coordination

Human nutrition research is not a well-defined discipline. Instead, it is a multidisciplinary field related to both food and health which has broadened substantially as the importance of diet in disease has gained recognition.

While NIH and the Agricultural Research Service provide the bulk of research funds, neither of these agencies has human nutrition research as its primary mission.

NIH is concerned with biomedical nutrition research as part of its overall mission of fostering, supporting, and conducting laboratory and clinical research to increase understanding of the life processes and the causation, treatment, and prevention of disease. Nutrition research programs are disseminated throughout individual Institutes which are categorically organized to include disease entities. Only the National Institute of Child Health and Human Development and the National Institute on Aging have a life-cycle perspective on research.

In seeking to insure an abundant and economical food supply, the Agricultural Research Service is concerned with human nutrition apart from disease entities. However, the Service has not given human nutrition research high priority.

Several persons we contacted cited fragmentation of human nutrition research among Federal agencies as a barrier to progress and called for greater focus on human nutrition and improved coordination of research programs. Fragmentation and lack of focus and coordination are perceived to result in (1) the likelihood that important areas are not receiving adequate emphasis and (2) the support of overlapping and possible redundant research.

For example, the division between USDA and HEW of national food consumption and nutritional status surveys is seen to result in information that is inadequate for sound nutrition planning. Neither department provides the comprehensive nutritional surveillance of the Nation relating diet to health on a continuous, long-term basis. Examples of overlapping research include studies of obesity and food fortification. Obesity research is supported by NIH; the National Science Foundation; and the Alcohol, Drug Abuse, and Mental Health Administration. Research on food fortification is supported by USDA, the Food and Drug Administration, and the Agency for International Development.

Shortage of nutrition scientists

Many members of the scientific community believe that there is a shortage of scientists capable of operating effectively in nutrition. Thus, manpower could be a barrier to substantial progress in human nutrition research. Existing manpower information is inadequate for delineating nutrition manpower shortages by specialty areas. Forecasting manpower needs is extremely difficult because little accurate information exists on the number of nutrition researchers, nutritionists, food technologists, and dietitians employed in the United States, their jobs, their degree of training, and their scientific specialty. However, during our review we noted that certain manpower areas are perceived as being of particular concern.

One area is in clinical nutrition research, in which individuals trained in health-related areas of nutrition are needed. More clinical researchers are believed to be needed in defining the roles of various nutrients, investigating nutritional causes of and contributions to diseases, and exploring appropriate nutrition treatment methods.

Nutritionists who have the background and experience in nutrition to teach at universities and medical schools also are cited as a shortage area. In the broad medical area, the demand for clinical faculty in medical schools has been increasing and is expected to increase at an annual rate of between 5 and 8 percent to 1980. There are presently far more openings for academic nutritionists than candidates to fill them, and several university department heads and professors said they are having difficulty finding qualified candidates.

Another area of concern to some nutrition administrators is that the number of graduate students enrolled in nutrition programs is low compared to the need. As an academic discipline, nutrition may be found among departments of biological science, animal science, home economics, public health medical science, and food science. Only during the past 10 or 15 years have universities consolidated nutrition-related areas in comprehensive departments and programs.

The Federal Government, through the National Academy of Sciences/National Research Council, has begun to focus on determining manpower in specialty areas and on improving abilities to forecast manpower requirements. These efforts could be important in determining the personnel shortages which have an impact on the Nation's nutrition research capabilities and the types of Federal manpower development actions which may be needed.

Instability of federally funded extramural research

Several of the persons providing written comments to us on nutrition knowledge gaps expressed concern over the instability of federally funded extramural research. This issue is not unique to nutrition. The President's Biomedical Research Panel reported that the necessity of achieving funding stability was a recurring theme among the 160 witnesses it consulted. The Panel noted that stable funding involved stability within a given year, stability from year to year, and sufficient stability of program content to permit effective planning and performance.

Funding stability appears especially pertinent to nutrition, however, because filling gaps in knowledge may require long-term research. For example, epidemiological studies and clinical trials often require several years before results are obtained. Similarly, development and utilization of animal models for long-term studies may involve substantial space requirements, environmental controls, and measures to protect against infectious disease.

POTENTIAL SOLUTIONS TO RESEARCH BARRIERS

Several potential solutions exist for overcoming the barriers to progress in human nutrition research. A national nutrition institute has been proposed by some, under which all nutrition-related activities of the Government would be centralized, and research grants would be provided. An alternative would be to create a central planning and coordinating office which would oversee all nutrition-related activities of Federal agencies and provide guidance on research funding. Several persons we contacted commented on establishing regional nutrition research centers or research laboratories, possibly in conjunction with selected universities and colleges.

A study now underway by the Office of Science and Technology Policy, the Food and Agriculture Act of 1977 (Public Law 95-113), and other congressional proposals addresses the issues of research focus, direction, emphasis, and organization.

Establishing a central focus and improving coordination

Federal support of varied interests in human nutrition research is a reflection of our decentralized or pluralistic system which encourages each agency to support research

essential to its primary mission without directions from one central authority. While the pluralistic system generally is believed to have enabled the United States to maintain a strong scientific leadership, it can result in unwarranted overlap or duplication in some areas and insufficient coverage in others. Some agencies support overlapping and possible redundant research, while no agency conducts the comprehensive nutritional surveillance of the Nation, relating diet to health on a continuous, long-term basis.

The overlapping areas of interest of the various agencies involved in human nutrition make a central focus and coordination essential to insure mutually compatible and coherent research programs. The Food and Agriculture Act of 1977, by establishing interagency coordinating groups and vesting responsibility for a human nutrition research program in USDA, could result in improved coordination among Federal agencies and greater focus on human nutrition research. The proposal also would provide mechanisms for identifying overall nutrition research priorities and centralizing comprehensive research information. In addition, it would provide for competitive extramural nutrition research through USDA. The proposal does not fully address the nutrition research roles of Federal agencies outside USDA.

Defining research areas and responsibilities of the agencies

One complicating aspect of human nutrition research is that it is not a well-defined discipline. Instead, it is a multidisciplinary field related to both food and health that traverses the missions of several agencies. Under the pluralistic system, some research overlap among the agencies is inevitable. For example, with the Agricultural Research Service seeking to promote health through diet and NIH seeking to prevent disease through diet, human nutritional requirements will continue to be an area of mutual interest. This is not necessarily an inefficient arrangement provided that coordination exists assuring that duplicate or unnecessary research is limited and areas needing greater emphasis are identified and supported. To facilitate productive coordination, the roles of the various Federal agencies involved in food and health research should be clearly defined.

The Food and Agriculture Act of 1977 established USDA as the lead agency in human nutrition research. However, in specifying research areas to be addressed by USDA, the proposal does not fully address biomedical nutrition research. Thus, the proposal might not assure that important biomedical nutrition research areas receive adequate emphasis.

To assure that duplicate or unnecessary research is reduced and that areas identified as needing additional emphasis will be addressed, we believe the subject areas comprising human nutrition research should be defined and, where practicable, each area should be assigned to a lead Federal agency. We also believe that by identifying key subject areas of human nutrition research, the potential for meaningful analysis of the Nation's nutrition manpower shortages and needs would be enhanced.

Establishing regional research centers

The Food and Agriculture Act of 1977 requires the Secretary, USDA, to assess the potential value and costs of establishing regional food and nutrition research centers.

If established in conjunction with universities and colleges having comprehensive nutrition departments and programs, regional food and nutrition research centers may afford several advantages. First, such centers could help increase participation by the extramural research community, enable investigators trained in various disciplines to collaborate on research projects, and provide research training and development to help meet the Nation's nutrition manpower needs. Second, the centers could be utilized to promote long-term research including comprehensive nutrition surveillance of representative population groups.

Research centers also could serve to identify unique regional food and nutrition problems and evaluate the effectiveness of dietary modifications for preventing and treating those problems. In addition, the centers could serve as vehicles for cooperatively funded projects among Federal agencies having common nutrition interests.

We believe that in any assessment of the feasibility of establishing regional food and nutrition research centers, accessibility by colleges and universities having comprehensive nutrition departments and programs should be an evaluation criteria.

CONCLUSIONS

In summary, we believe that human nutrition research has entered a new era. This era is marked by (1) the growing evidence which credits diet for helping to stem many of the Nation's health problems, (2) the rise in health care costs, and (3) the increasing public concern with nutrition.

Nutrition research faces complex challenges needing long-term and interdisciplinary investigation. These challenges are to

--define human nutritional requirements for specific groups and conditions;

--determine the nutrient composition of the current food supply and the biological availability of the nutrients in foods,

--evaluate the health consequences of the modern diet; and

--monitor on a continuous basis the Nation's nutritional status, and determine the relationship between nutritional status at one period of life on health in subsequent periods.

To help meet these challenges, action is needed to (1) establish a central focus for human nutrition research and provide Government-wide coordination of research programs, (2) define the subject areas comprising human nutrition research and the responsibilities of Federal agencies involved in such research, and (3) assess the need for establishing regional nutrition research centers in conjunction with colleges and universities having comprehensive nutrition departments and programs.

To accomplish these objectives, we believe that the Director, Office of Science and Technology Policy, should work with the Federal agencies to define the subject areas comprising human nutrition research and make recommendations to the Director, Office of Management and Budget, for

--assigning, where practicable, each area to a lead Federal agency;

--eliminating unnecessary research that may exist among Federal agencies; and

--promoting Government-wide human nutrition research planning, coordination, and reporting.

The Congress, in its deliberations on the need for legislation promoting the central focus and coordination of Federal human nutrition research, should make sure that

--responsibility for reporting of Federal human nutrition research is vested in a single Federal department;

--a means is established for maintaining a current inventory of all nutrition research projects funded by the Federal Government;

--all Federal departments and agencies supporting human nutrition research are represented in Government coordinating groups established to identify nutrition research priorities; and

--the Secretary, USDA, in assessing the value and costs of establishing regional food and nutrition research centers in the United States, considers establishing such centers in conjunction with universities and colleges having comprehensive nutrition departments and programs.

Note: The information in this chapter is contained in a statement we presented for the record on July 21, 1977, for the Subcommittee on Domestic and International Scientific Planning, Analysis and Cooperation of the House Committee on Science and Technology. It is also to be included in our soon to be released report entitled "Federal Human Nutrition Research--Need for Coordinated Approach to Advance our Knowledge."

CHAPTER 7

PROBLEMS ASSOCIATED WITH FEDERAL FOOD ASSISTANCE PROGRAMS

The Government operates 13 major food assistance programs, administered by three different agencies--USDA, HEW, and Community Services Administration (CSA). The programs are designed to provide eligible households or individuals with meals, food and/or vouchers for food, or food stamps to buy food. In fiscal year 1976 Federal outlays for these programs are estimated to be at least $8.4 billion with the Food Stamp Program (FSP), National School Lunch Program (NSLP), and the Special Supplemental Food Program for Women, Infants, and Children (WIC) accounting for about 86 percent of the total. These programs have received a great deal of criticism, aimed mainly at the programs' fragmentation and lack of common goals.

The programs have been criticized by groups within and outside the Government because

--their benefits overlap,

--their regulations are inconsistent,

--they are difficult to administer, and

--their nutritional benefits have not been assessed.

The remainder of this chapter is based primarily on our past and ongoing reviews of various Federal food assistance programs. Of particular interest is our ongoing review of the interrelationship of feeding programs.

FSP

The stated purpose of FSP is to raise the level of nutrition among low-income households and to increase the demand for farm commodities. Participants are eligible for a certain amount of coupons each month depending on family size. Recent changes to the food stamp program have

--eliminated the purchase requirement (whereby most recipients were required to purchase some portion of their food stamps);

--created a standard deduction, rather than itemized deductions, from gross income; and

--changed various other administrative aspects of the program.

Although participation in FSP has leveled off, it has grown rapidly since it started in 1964. At that time about 370,000 recipients were served at a cost of over $30 million. As of May 1977, 16.7 million recipients were participating in the program, and costs for fiscal year 1976 were estimated to be over $5.6 billion. Rapid price inflation, increasing unemployment, and decreasing real income caused the program's expansion. It is believed, however, that the elimination of the purchase requirement will increase the participation rate.

In a staff paper on food stamp issues 1/, we felt the real FSP issue was the ability of the low-income consumers to receive adequate food supplies under the program.

Five major issues--chosen because of meaningful public debate, identification as a topic having a major effect on the program or on the program's effect on society, or likely congressional or executive interest--continue to follow the food stamp program:

--Target population. Who should get food stamps, and how should the benefits be determined?

--Administration. Is the program effectively administered? If not, what areas need change and what changes should be considered?

--Food stamp program as nutrition program. Should food stamps be part of nutrition program? If so, are current levels adequate and are benefits equitably determined?

--Food stamps and other income security programs. How is the program affected by other program benefits? What should the balance be between program benefits?

--Food stamps and overall demand. What are the effects of FSP on food demand and food price inflation?

1/"Identification of Food Stamp Issues," OSP-76-10, January 28, 1976.

FSP as a nutrition program

The only issue discussed here is that of the program's impact on nutrition status. Over the years the goal of increasing farm income has largely been dropped; but food stamps are still considered to be a nutrition program, although even this goal has become secondary to its role as an income security program.

Food stamp allotments are now based on the thrifty food plan as developed by USDA. The foods which make up the plan reflect the general eating patterns of low-income households, as determined through household food consumption surveys, modified to provide a nutritionally adequate diet. USDA data shows that this plan will provide a nutritionally adequate diet, if followed. Some disagree about the adequacy of the diet, and many feel that most food stamp users do not have a nutritionally adequate diet, although this statement can be made for most income groups, including those not eligible for food stamps.

Nutritional inadequacies

The failure to achieve the full nutritional objective can be linked to one or both of two reasons: (1) the participant lacks the knowledge to acquire a nutritionally adequate diet, spending his additional purchasing power on foods that contribute little to a quality diet or (2) food stamps may not provide the participant with the means to purchase a nutritional diet.

Participants probably do not know the proper foods to purchase. Again, Americans in all income groups have little knowledge about what constitutes an adequate diet. Often adequacy is achieved because the consumer has the means to purchase a wide variety (and large quantity) of foods. For those with little to spend, there is no margin for error. This concern is particularly pertinent, because only modest nutrition education efforts accompany the program. A USDA official said the extent of the program's nutrition education is a notice inside the coupon booklets informing the recipient where nutrition information is available.

A private research group 1/ found that adequate food can be purchased with even fewer stamps, although the food

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1/K.S. Clarkson, "Food Stamps and Nutrition," American Enterprise Institute for Public Policy Research, 1975.

might be unpalatable. The group also found, on the basis of other studies, that food stamps have not raised the nutritional level of participants' diets over prefood-stamp levels and, in some instances, have actually worsened the diet because people bought more foods such as candy and soft drinks.

A Senate Select Committee on Nutrition and Human Needs staff paper states that an adequate diet cannot be obtained without outstanding nutritional skills due to the strict budgetary limitations of the subsidy. The Committee further states that, in areas of high prices, in families with teenage children or a pregnant woman, a nutritious diet cannot be obtained. 1/

The recent elimination of the purchase requirements will also raise questions about the adequacy of nutrition received. Unquestionably, participation in the program will increase, including those who could not previously purchase stamps because of other financial commitments. It remains to be seen if that money not spent on food stamps will, in fact, be spent on food.

A corollary issue to nutrition is equity in dietary allowance, both among recipients within the program and between recipients and certain low- to mid-income nonrecipients. Some recipients could end up with inadequate diets because they have differing dietary requirements. Lactating mothers, teenage children, workers having strenous jobs, and so on have a need for more food or foods heavy in particular nutrients. The dietary level established by USDA is based on a standard set for a typical family. A question remains as to a recipient's income flexibility to purchase other than a typical diet.

Another problem is food costs, which vary from region to region. In large urban areas, food prices are typically higher within the inner city. Often the elderly or poor, because of economic and physical restraints, are tied to a particular area where food prices are much higher than neighboring areas. Because food prices vary among rather narrow geographic boundaries, regional variations in food stamp values would be only partially effective and difficult to determine.

1/Report on Nutrition and Special Groups: Part 1--Food Stamps, Senate Select Committee on Nutrition and Human Needs, March 1975, ch. 8.

Some food stamp participants can purchase more food than the average amount purchased by people earning only slightly more than the level allowed for food stamp eligibility. One proposed solution is to make the food income allotment equivalent to that of persons at some specified income level.

NSLP

The National School Lunch Act has two major objectives: (1) to safeguard health through a program of nutrition intervention and (2) to supplement farm income by increasing demand. Over the ensuing years, national priorities have changed; NSLP has become primarily focused on safeguarding the health of schoolchildren.

To help meet this objective, the Secretary of Agriculture requires that meals served under NSLP be designed according to a specified food pattern (meal) which should provide, on the average, one-third of each child's RDA. This lunch--as designed, served, and eaten--is, in our opinion, a most crucial factor affecting NSLP. The quantity and type of food included in the lunch largely determines its cost and the amount of agricultural commodities consumed. The price and presentation of the lunch determines how well NSLP reaches the Nation's schoolchildren. The nutritional qualities of the lunch, in conjunction with how much of the meal the child eats, determine how well NSLP safeguards health.

Our report on NSLP 1/ concluded that basic questions affecting its effectiveness remain unresolved. For example:

--What is NSLP's influence on the health of its participants?

--How does NSLP affect the consumption of agricultural commodities?

--Is NSLP reaching the defined target populations? Who participates in it?

--Are the services of NSLP provided in the most cost-effective manner?

1/"The National School Lunch Program--Is It Working?" PAD-77-6, July 26, 1977.

Health of participants

Presently, no adequate evaluation exists regarding NSLP's ability to safeguard health, even though several studies have been done. As a consequence, we could not ascertain whether NSLP is having a favorable, neutral, or adverse impact on children's health.

Our report stresses the need for further evaluation of the NSLP lunch. The meal, while a valuable source of nutrition for some children, may promote overeating in others. There might be other undesired side effects. This requires a comparison of beneficial and adverse effects of the program, something not currently provided.

Program participation

Even though the need to improve NSLP's participation is generally agreed on (in fiscal year 1975 the program was available to 44.8 out of 50.9 million students, but only 25.4 million, 56.7 percent, participated), the question remains as to how this can best be accomplished. One method would be to lower the price of the lunch, but price is not the sole factor influencing participation. Participation levels are also affected by noneconomic factors such as

--the presence of competitive food sources,

--attitudes of school administrators, and

--menu choice and food preparation.

Available studies, though beneficial in identifying some of the factors affecting participation, provide very little measureable support to NSLP administrators and policymakers for use in estimating how participation affects policy alternatives.

Cost-effectiveness

Even though the cost of producing an NSLP lunch has declined (discounting the effects of inflation) over the 1973-75 period, some doubt exists about whether its services provide the most benefits for the least money. According to our report, NSLP food costs might be greatly reduced each year without sacrificing nutrition if Federal and/or State governments act to:

--Revise NSLP regulations to emphasize a nutritional standard rather than a particular meal pattern.

--Review and, if practical, lower the protein requirements for the school lunch.

--Improve the food procurement economies of small- and medium-sized school systems.

WIC

WIC provides cash grants to State health agencies to be used for supplemental foods for low-income pregnant and lactating women, infants, and children up to 5 years old judged nutritionally at risk by competent professionals.

As of June 1977 the monthly WIC caseload was only 911,000 participants. In June 1976 a U.S. District Court ordered USDA to spend $687.5 million on WIC by October 1978. The court ruled that USDA had acted contrary to congressional mandate in refusing to spend money on the program.

A USDA-funded study by the Urban Institute of Washington, D.C., revealed a great deal of information on the WIC program. The study was based on an April 1975 survey of 96 program clinics and some 3,600 participants. The following is a brief summary of the study findings:

--WIC is very popular with the clients it serves. About 95 percent of its participants were satisfied with the food they received and how they received it.

--WIC has a major impact in increasing the use of medical services by its participants and their families.

--Ten percent of all WIC households had incomes over 200 percent of the poverty line (or over $10,076 for a family of four in April 1975). Three percent were over 250 percent of the poverty line. Enrollment is now limited, and households with incomes over 200 percent of the poverty line are occupying slots that could be filled by more needy persons.

--Many clinics were operating below capacity while a larger number (54 percent) of the clinics surveyed had waiting lists averaging 94 persons.

--A number of nonparticipants have declined to enter WIC because of specific obstacles, including (1) a lack of transportation or available transportation that took too much time, effort, or expenses, (2) absence or expense of child care, and (3) inconvenient clinic office hours. The study concluded that

" * * * these impediments to participation hit hardest and most frequently among the poorest, and therefore, presumably the most needy, potential WIC recipients."

--WIC participants were receiving extensive nutrition education, but most thought the information was worthless.

Earlier 1/ we questioned some aspects of WIC, including the usefulness of conclusions reached from medical evaluations used to determine its effectiveness. The doubt is due to problems inherent in human nutrition evaluations and the reliability of data collected in the evaluations.

The inherent problems which limit attempts to evaluate the benefits of nutritional assistance to people include

--the lack of universally accepted health and nutrition standards,

--the lack of a precise determination of the nutrients required to maintain or improve nutritional status,

--difficulties and limitations in finding and using control groups, and

--the lack of an adequate indicator of mental development of infants.

We concluded that despite these problems, medical evaluation could be useful in deciding whether to continue the programs if reliable data could be collected.

INTERRELATIONSHIP OF FOOD ASSISTANCE PROGRAMS

With the increase in participation and cost of the food assistance programs, their interrelationship has become a serious concern, particularly due to the extent of the lack of coordination or potential for duplication among the programs.

1/"Observations on Evaluations of the Special Supplemental Food Program," RED-75-310, December 1974.

Individuals in certain groups may participate in several food assistance programs and possibly receive well over 100 percent of their recommended dietary allowance. For example, a school age child could potentially participate in five programs--school lunch, school breakfast, special milk, food stamps, and aid to families with dependent children.

These situations raise a number of questions that would help identify the extent of program coordination and duplication:

--How many persons and households actually receive benefits from several Federal food programs?

--Are there program combinations in which some persons frequently participate?

--Do program participants receive benefits exceeding the typical food expenditures of moderate-income families not qualifying for any feeding program?

--Should benefits from one program be considered when determining eligibility and benefit levels for other programs?

--In general, does the Government monitor the current extent of food benefit overlaps (or gaps) and evaluate the nutritional impact of Federal food programs?

--What, if any, inconsistencies, lack of coordination, or other problems exist at the Federal, State, and local levels in the administration of the Federal feeding programs?

ISSUES

While the Government has increased its efforts to provide food assistance programs, it has been criticized by public and private groups and individuals. Several issues and problems surrounding the food assistance programs involve questions of

--continuity among food program legislation that has been targeted at different program groups,

--clear and common nutrition goals among the various programs,

--information about the nutritional impact the program has on participants, and

--program availability and participation by persons intended to be served.

COMPILATION OF FEDERAL LAWS AFFECTING NUTRITION IN THE UNITED STATES

The Federal Government provides a multitude of programs that have impact on the nutritional status of society. These programs include the (1) establishment of dietary guidelines, (2) research and development work, (3) determination of food safety standards, (4) surveillance and inspection to assure compliance with standards, (5) dissemination of nutritional information to the public, and, in some cases, (6) actual feeding of various population target groups such as the aged or the indigent. What follows is a compendium of the major Federal laws that, in one way or another, have an impact on nutrition in the United States.

As in any summary of this kind which devotes only a brief sentence to the description of the major substantive provisions of Federal laws, there is always the risk that summarization might leave out significant points. Because the purpose of this compendium is only to collect in one document major Federal laws which have an impact on nutrition, acquisition of detailed information is left to the reader by consultation of the appropriate title and section of the U.S. Code. Similarly, because the scope of the subject matter is broad and, indeed, subject to different definitions, the possibility of omission is always present. Hence, this compendium must not be understood as an attempt at exhaustiveness.

The collection of statutes that follows is the product of an automated search of the U.S. Code, conducted through the use of the Justice Retrieval and Inquiry System (JURIS) system. JURIS can be described as a computerized legal research system that allows a researcher to retrieve a statutory section containing a specified word, such as "nutrition," or a combination of words, such as "nutrition research." With the use of this research tool, a large collection of statutory legal material is assembled. Once assembled, the collection is evaluated with the view of retaining only the major relevant substantive sections of the Code affecting nutrition in the United States.

JURIS contained the relevant statutory materials current through 1975. This material was supplemented by relevant legislation enacted by the 94th Congress in 1976.

FEEDING PROVISIONS

(1) 7 U.S.C. 612c--authorizes the Secretary of Agriculture to use of 30 percent of the gross customs receipts to procure perishable nonbasic agricultural commodities which may be distributed among persons in low-income groups.

APPENDIX I

Agricultural Act of 1949, as amended.

(2) 7 U.S.C. 1431--authorizes the Commodity Credit Corporation, under regulations promulgated by the Secretary of Agriculture, to donate food commodities, including dairy products, acquired through price support operations, to the Bureau of Indian Affairs and to approved State, Federal, or private agencies for use in nonprofit school lunch programs, nonprofit summer camps for children, the assistance of needy persons, and charitable institutions, including hospitals, to the extent needy persons are served.

Food and Agriculture Act of 1965, as amended.

(3) 7 U.S.C. 1446a-1--authorizes the Secretary of Agriculture to use Commodity Credit Corporation funds to purchase dairy products, when insufficient stocks of dairy products exist in the hands of the Commodity Credit Corporation, to meet the requirements of school programs and such other programs authorized by law.

Agricultural Act of 1956, as amended.

(4) 7 U.S.C. 1859--authorizes the Commodity Credit Corporation, upon application, to donate food commodities acquired through price support operations to Federal penal institutions and to State correctional institutions for minors.

Food Stamp Act of 1964, as amended.

(5) 7 U.S.C. 2011--declares as the policy of the Congress that the Nation's abundance of food should be used to raise levels of nutrition among low-income households, and authorizes a food stamp program which will allow low-income households to acquire a nutritionally adequate diet.

(6) 7 U.S.C. 2013--authorizes the Secretary of Agriculture to develop a food stamp program under which, at the request of a State agency, coupons will be available to eligible families to obtain a nutritionally adequate diet. Where a food stamp program is in effect, no food distribution program authorized under any other law may be maintained except in certain limited situations.

(7) 7 U.S.C. 2014--directs that, except in the case of victims of disasters, participation in the food stamp program shall be limited to households whose income and other financial resources do not enable them to obtain a nutritionally adequate diet. Section 2014(b) directs the Secretary of Agriculture, in consultation with the Secretary of HEW, to establish national uniform minimum eligibility requirements.

(8) 7 U.S.C. 2016(a)--directs that the value of the coupon allotment issued to eligible households shall be the cost, as determined by the Secretary of Agriculture, of a nutritionally adequate diet.

(9) 7 U.S.C. 2016(b)--the charge imposed on households for food coupons may not exceed the charge that would have been imposed for the coupon allotment under rules and regulations in effect January 1, 1975.

(10) 7 U.S.C. 2016(d)--requires that the Secretary of Agriculture establish regulations governing the deposit of funds received by food coupon vendors for allotments of such coupons, and the accounting for such funds.

(11) 7 U.S.C. 2019(a)--directs that "all practicable efforts" be used to insure that increased purchasing power of households participating in the food stamp program be used to obtain staple foods most needed in their diets.

(12) 7 U.S.C. 2019(h)--provides that, under certain conditions, members of an eligible household, 60 years or older, and their spouses, may use coupons to purchase meals prepared, among others, by a political subdivision, a private nonprofit organization, a senior citizen's center, or apartment buildings occupied primarily by elderly persons.

(13) 42 U.S.C. 1382(e)--permits a State, which no longer qualifies for the hold harmless limitation on its liability for optional additional supplementary security income (SSI) payments under the Social Security Act, to elect to include the bonus value of food stamps in its supplementation payments under condition that it pass through a part of the 1976 cost-of-living increase in SSI benefits and all of any subsequent increases in such benefits.

Elementary and Secondary Education Act of 1965, as amended.

(14) 20 U.S.C. 887a--authorizes a program of grants to local educational agencies and, "where appropriate," to nonprofit private educational organizations for demonstration projects to improve health and nutrition services in public and private schools serving areas of concentration of low-income children.

Grant funds are available to pay the following costs:

> "Funds appropriated pursuant to subsection (d) of this section shall be available for grants pursuant to applications approved under this section to pay the cost of (1) coordinating

> nutrition and health service resources in the areas to be served by a demonstration project supported under this section. (2) providing supplemental health, nutritional, mental health, and food services to children from low-income families when the resources for such services available to the applicant from other sources are inadequate to meet the needs of such children, (3) nutrition and health education programs designed to train professional and other school personnel to provide nutrition and health services in a manner which meets the needs of children from low-income families for such services, and (4) the evaluation of projects assisted under this section with respect to their effectiveness in improving school nutrition and health services for such children."
> 20 U.S.C. 887a(b)

(15) 20 U.S.C. 887c--authorizes a grants program of federally supported elementary and secondary schools for Indians to support demonstration projects designed to test program effectiveness in increasing educational opportunities for Indian children, including health and nutrition services.

Comprehensive Employment and Training Act of 1973, as amended.

(16) 29 U.S.C. 811--describes, as one facet of a program to provide comprehensive manpower services to the Nation, the provision of supportive services to permit individuals to secure employment activities, including necessary health care. Section 981 defines "health care" as including nutrition services to the extent that such services are necessary for an individual receiving manpower services to obtain and hold employment.

National School Lunch Act, as amended.

(17) 42 U.S.C. 1751 et seq.--establishes NSLP, designed to provide adequate school lunches by providing commodity and cash grants to State educational agencies. 42 U.S.C. 1751 declares in this regard the policy of the Congress as follows:

> "It is declared to be the policy of Congress, as a measure of national security, to safeguard the health and well-being of the Nation's children and to encourage the domestic consumption of nutritious agricultural commodities and other food, by assisting the States, through grants-in-aid and other means, in providing an adequate supply of foods and other facilities for the establishment,

maintenance, operation, and expansion of nonprofit school-lunch programs."

(18) 42 U.S.C. 1758--directs that NSLP lunches shall meet minimum nutritional requirements as established by the Secretary of Agriculture on the basis of tested nutritional research.

(19) 42 U.S.C. 1759a--provides for special assistance payments to qualifying schools for lunches served free or at reduced prices to children from poor or needy families.

(20) 42 U.S.C. 1759a(e)--directs that each State, as a prerequisite to receiving Federal funds under the National School Lunch Act of the Child Nutrition Act of 1966, prepare a plan of child nutrition operations showing the use of funds provided under these acts.

(21) 42 U.S.C. 1761--authorizes the Secretary of Agriculture to assist States, through grants-in-aid and other means, in developing and maintaining special summer programs to provide food service similar to that available to children under the National School Lunch Act or the Child Nutrition Act of 1966 in either nonresidential private or nonprofit summer camps. Eligible service institutions are those which maintain a regularly scheduled program for children from areas of poor economic conditions, 42 U.S.C. 1761(a)(3), and which serve meals meeting nutritional standards established by the Secretary of Agriculture, 42 U.S.C. 1761(e).

(22) 42 U.S.C. 1763--establishes a National Advisory Council on Child Nutrition.

(23) 42 U.S.C. 1765--authorizes States to receive cost payments in lieu of donated foods.

(24) 42 U.S.C. 1766--authorizes the Secretary of Agriculture to assist States, through grants-in-aid and other means, in developing and maintaining nonprofit food service programs for children in day-care centers, settlement houses, recreation centers, head start and home start centers, and institutions providing day-care services for handicapped children. Meals served by such institutions shall meet minimum nutritional standards established by the Secretary of Agriculture, 42 U.S.C. 1766(c).

(25) 42 U.S.C. 1767--authorizes the Secretary of Agriculture to examine how States are using Federal funds to provide for the administration of the school breakfast and school lunch programs and to examine the degree and cause of plate waste in these programs.

(26) 42 U.S.C. 1768--authorizes the Secretary of Agriculture to assist the Trust Territory of the Pacific Islands carry out various experimental projects relating to the school lunch and the school breakfast programs to, among other things, establish school food services responsive to the needs of the children and consistent with child nutrition programs available elsewhere.

Additional sections of the National School Lunch Act, including 42 U.S.C. 1755 and 1763, are referred to under sections dealing with education and research, respectively.

Child Nutrition Act of 1966, as amended.

(27) 42 U.S.C. 1771 et seq.--contains the Child Nutrition Act of 1966. 42 U.S.C. 1771 expresses the policy of the Congress:

> "In recognition of the demonstrated relationship between food and good nutrition and the capacity of children to develop and learn, based on the years of cumulative successful experience under the national school lunch program with is [sic] significant contributions in the field of applied nutrition research, it is hereby declared to be the policy of Congress that these efforts shall be extended, expanded, and strengthened under the authority of the Secretary of Agriculture as a measure to safeguard the health and well-being of the Nation's children, and to encourage the domestic consumption of agricultural and other foods, by assisting States, through grants-in-aid and other means, to meet more effectively the nutritional needs of our children."

(28) 42 U.S.C. 1772--authorizes the Secretary of Agriculture to encourage the consumption of fluid milk by children in nonprofit schools, high school and under, and in nonprofit nursery schools, day-care centers, settlement houses, summer camps, and similar nonprofit institutions, by providing reimbursement payments for milk consumed.

(29) 42 U.S.C. 1773--authorizes the Secretary of Agriculture to assist States, through grants-in-aid and other means, in developing and expanding a nonprofit school breakfast program with primary emphasis given to schools serving areas that contain poor economic conditions, schools serving children who must travel long distances daily, and schools serving children who have a special need for improving dietary and nutritional practices. Breakfasts served under this program must meet minimum nutritional standards as prescribed by the Secretary of Agriculture. 42 U.S.C. 1773(e).

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(30) 42 U.S.C. 1774--authorizes the Secretary of Agriculture to assist States, through grants-in-aid and other means, in supplying schools which have serving areas that contain poor economic conditions with equipment for storing, preparing, transporting, and serving food to children.

(31) 42 U.S.C. 1777--directs the use in school breakfast programs of food designated as being in abundance or foods available under 7 U.S.C. 1431 or purchased under 7 U.S.C. 612c or 7 U.S.C. 1446a-1 for donation by the Secretary of Agriculture.

(32) 42 U.S.C. 1781--authorizes the Secretary of Agriculture to extend the benefits of all school feeding programs under his supervision to preschool programs operated as part of a school system.

(33) 42 U.S.C. 1786--directs the Secretary of Agriculture to award cash grants which would make funds available to carry out health and nutrition programs under which supplemental foods will be available to pregnant or lactating mothers or infants determined to be nutritional risks because of inadequate nutrition and inadequate income. "Supplemental foods" means, "in particular, those foods and food products containing high-quality protein, iron, calcium, vitamin A and vitamin C," 42 U.S.C. 1786(g)(3).

Additional sections of the Child Nutrition Act of 1966, including 42 U.S.C. 1786(f and h) and 1787, are referred to in sections dealing with research and education, respectively.

Economic Opportunity Amendments of 1967, as amended.

(34) 42 U.S.C. 2808--authorizes the Director of the Community Services Administration to financially assist community action agencies in conducting community action programs designed, among other things, to obtain emergency assistance through loans or grants to meet urgent individual and family needs, including the need for health services or nutritious food.

(35) 42 U.S.C. 2809(a)(5)--authorizes the Director of the Community Services Administration to develop and carry on a program, known as "Emergency Food and Medical Services," designed to provide on an emergency basis financial assistance for the provision of nutritional foodstuffs and related services to the poor. See also 42 U.S.C. 2814.

Headstart-Follow Through Act, as amended.

(36) 42 U.S.C. 2928--authorizes the Secretary of HEW to financially assist qualified Headstart agencies in conducting

a Headstart program for preschool children from low-income families which, among other things, will provide nutritional services such as will aid the children to attain their full potential.

(37) 42 U.S.C. 2929--authorizes the Secretary of HEW to provide financial assistance to local educational agencies to "follow-through" on gains that low-income families made in Headstart, including special programs of instruction as well as health, nutrition, and other education related services.

Older Americans Act of 1965, as amended.

(38) 42 U.S.C. 3012--directs that one of the duties of the Administration on Aging shall be the development of programs designed to meet the needs of older persons for social services, including nutrition needs.

(39) 42 U.S.C. 3029--authorizes the Commissioner of the Administration on Aging to award grants to States having approved State plans that would pay up to 75 percent of the costs of meeting the transportation needs of the elderly, with special emphasis on providing supportive transportation in connection with nutrition projects for the elderly.

(40) 42 U.S.C. 3041--to provide a community focal point for the delivery of social and nutritional services, the Commissioner of the Administration on Aging is authorized to make grants or enter into contracts with any agency or organization to pay up to 75 percent of the cost of acquiring and renovating existing facilities to serve as multipurpose senior centers.

(41) 42 U.S.C. 3045 et seq.--establishes a nutrition program for the elderly by authorizing the Commissioner of the Administration on Aging to allot to States, submitting approved State plans, funds to be disbursed by the State to recipients of grants or contracts who agree, among other things, to establish nutrition projects which will provide one or more hot meals, 5 days a week, to eligible elderly persons; each meal will contain a minimum of one-third of the daily recommended dietary allowances.

Domestic Volunteer Service Act, as amended.

(42) 42 U.S.C. 5011(b)--authorizes the Director of ACTION Agency to award grants or contracts to public and nonprofit agencies to pay part or all of the cost of operating projects designed to provide opportunities for persons 60 years or older and to serve as "senior health aides" to

persons having exceptional needs, including persons receiving nutritional services.

Developmentally Disabled Assistance and Bill of Rights Act.

(43) 42 U.S.C. 6010--declares that both the Federal and State governments have an obligation to assure that public funds are not used in any institutional programs for the developmentally disabled which, among other things, do not at a minimum provide a nourishing, well-balanced daily diet.

RESEARCH PROVISIONS

(1) 7 U.S.C. 427--directs the Secretary of Agriculture to conduct research into the basic problems of agriculture "in its broadest aspects," including:

> " * * * research into the problems of human nutrition and the nutritive value of agricultural commodities, with particular reference to their content of vitamins, minerals, amino and fatty acids, and all other constituents that may be found necessary for the health of the consumer and to the gains or losses in nutritive value that may take place at any stage in their production, distribution, processing and preparation for use by the consumer; * * *."

(2) 7 U.S.C. 450i--authorizes the Secretary of Agriculture to award grants to State agricultural experiment stations, colleges, universities, and other research institutions and Federal and private organizations and individuals for research to further the programs of the Department of Agriculture.

Agricultural Marketing Act of 1946, as amended.

(3) 7 U.S.C. 1622--authorizes the Secretary of Agriculture to foster research and experimentation to determine the best methods of processing, preparation for market, packaging, handling, storing, and marketing agricultural products; developing and improving standards of quality, condition, quantity, grade, and packaging; and conducting consumer education for more effective utilization and greater consumption of agricultural products.

Agricultural Trade Development and Assistance Act of 1954, as amended.

(4) 7 U.S.C. 1704(b)(3)--authorizes the President to enter agreements with foreign countries to use foreign currencies accruing to the United States pursuant to sales of

agricultural commodities for purposes of, among other things, collecting research and supporting scientific activities overseas; including programs of medical and scientific research, cultural and educational development, health, nutrition, and sanitation; for purposes of financing, where requested, maternal welfare, child health, and nutrition programs related to the problems of population control.

International Health Research Act of 1960, as amended.

(5) 22 U.S.C. 2103--authorizes the President to promote research investigations and studies in the United States and in participating foreign countries relating to the causes, diagnosis, and control of diseases, including nutritional deficiencies.

* * * * *

(6) 38 U.S.C. 4101--authorizes the Department of Medicine and Surgery of the Veterans Administration to engage in general medical research which includes, presumably, nutrition research.

Public Health Service Act, as amended.

(7) 42 U.S.C. 241--directs the Surgeon General to conduct, encourage, and render assistance to other public authorities, scientific institutions, and scientists, in the conduct of research relating to the causes, diagnosis, treatment, control, and prevention of physical and mental diseases and impairments of man.

(8) 42 U.S.C. 242b--directs the Secretary of HEW to undertake and support health statistics activities and health services research, evaluation, and demonstrations giving appropriate emphasis to, among other things, the determinants of an individual's health and the impact of the environment on individual health.

(9) 42 U.S.C. 242k--establishes in HEW the National Center for Health Statistics which is directed to collect statistics on, among other things, the determinants of an individual's health and the impact of the environment on individual health.

(10) 42 U.S.C. 242m--directs the Secretary of HEW to submit to the President and the Congress reports on the health of the Nation's people, the health resources, the utilization of health resources, and the cost and financing of health care and to publish and disseminate the same.

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Other sections of the Public Health Service Act, including 42 U.S.C. 242o, 244-1, 245a, 254c, 295, 295f-2, appear in the section dealing with education provisions.

National Cancer Act of 1971, as amended.

(11) 42 U.S.C. 286a--directs the Director of the National Cancer Institute in his duties under the national cancer program to, among other things, collect, analyze, and disseminate information, including information respecting nutrition programs for cancer patients and the relationship between nutrition and cancer, considered useful in the prevention, diagnosis, or treatment of cancer.

National Heart, Blood Vessel, Lung and Blood Act of 1972, as amended.

(12) 42 U.S.C. 287b--directs that the Director of the National Heart, Lung and Blood Institute develop a program to expand and coordinate the activities of the Institute, providing, as one part of such a program, for the

> " * * * investigation into the epidemiology, etiology, and prevention of all forms and aspects of heart, blood vessel, lung, and blood diseases, including investigations into the social, environmental, behavioral, nutritional, biological, and genetic determinants and influences involved in the epidemiology, etiology, and prevention of such diseases. * * *"
> 42 U.S.C. 287(a)(1) (Supp. V, 1975).

National Health Planning and Resources Development Act of 1974.

(13) 42 U.S.C. 300k-2--directs the Secretary of HEW to give priority consideration in developing national health planning goals pursuant to section 300k-1 to the promotion of activities for the prevention of diseases, including studies of nutritional and environmental factors, which have an impact on health and the provision of health care services.

* * * * *

(14) 42 U.S.C. 1763--establishes the National Advisory Council on Child Nutrition whose function shall be to study those statutory programs under which meals are provided for children, such as the school breakfast or the school lunch programs.

(15) 42 U.S.C. 1768(3)--authorizes the Secretary of Agriculture to assist the Trust Territory of the Pacific Islands to carry out experimental projects relating to the school lunch and the school breakfast programs and to, among other things, conduct a study of the children's food and dietary habits on which special nutritional requirements can be developed.

* * * * *

(16) 42 U.S.C. 1786(f)--directs that State and local agencies carrying out supplemental food programs for pregnant or lactating mothers or infants maintain adequate medical records on the participants to permit the Secretary of Agriculture to evaluate the benefits derived from the nutritional assistance provided under this program.

(17) 42 U.S.C. 1786(h)--establishes the National Advisory Council on Maternal, Infant, and Fetal Nutrition whose function is to make a continuing study of the operation of the special supplemental food program and any other related program for women, infants, and children.

* * * * *

(18) 42 U.S.C. 3012--directs that one function of the Administration on Aging is the development and implementation of programs designed to meet the needs of older persons for social services, including nutrition.

EDUCATION PROVISION

Elementary and Secondary Education Act of 1965, as amended.

(1) 20 U.S.C. 887a--authorizes the use of funds to pay the costs of nutrition and health education programs designed to train school personnel to provide nutrition and health services which meet the needs of lower-income children. (See also 20 U.S.C. 1831.)

Vocational Education Amendments of 1968.

(2) 20 U.S.C. 1341--authorizes use of funds allotted a State under this section for an educational program which, among other things, includes consumer education programs promoting nutritional knowledge and food use.

(3) 20 U.S.C. 1831--directs the Commissioner of Education to award grants to the States for, among other things:

> " * * * the support of demonstration projects by local educational agencies or private educational organizations designed to improve nutrition and health services in public and private elementary and secondary schools serving areas with high concentration of children from low-income families and such projects may include payment of the cost of (A) coordinating nutrition and health service resources in the areas to be served by a project, (B) providing supplemental health, mental health, nutritional, and food services to children from low-income families when the resources for such services available to the applicant from other sources are inadequate to meet the needs of such children, (C) nutrition and health programs designed to train professional and other school personnel to provide nutrition and health services in a manner which meets the needs of children from low-income families for such services, and (D) the evaluation of projects assisted with respect to their effectiveness in improving school nutrition and health services for such children; * * *" 20 U.S.C. 1831(a)(2) (Supp. V, 1975).

Appalachian Regional Development Act of 1965, as amended.

(4) 40 U.S.C. Appendix 202--authorizes the Secretary of HEW to award grants for the development of multicounty demonstration health, nutrition, and child care projects for the Appalachian region.

(5) 42 U.S.C. 242o--authorizes the Secretary of HEW to disseminate information related to public health, in the form of publications or otherwise, for public use.

(6) 42 U.S.C. 244-1--authorizes the Secretary of HEW to provide graduate or specialized traineeships in public health for physicians, engineers, nurses, and other professional health personnel.

(7) 42 U.S.C. 245a--authorizes the Secretary of HEW to award project grants to support specialized public health training in schools of public health or other public or nonprofit private institutions which provide graduate or specialized training.

Migrant Health Act, as amended.

(8) 42 U.S.C. 247d--authorizes the Secretary of HEW to award grants to public health and nonprofit private entities for planning and developing migrant health centers which would provide primary health services and, where appropriate, supplemental health services, including nutrition education and social services.

* * * * *

(9) 42 U.S.C. 254c--authorizes the Secretary of HEW to award grants to public and nonprofit private entities for planning and developing community health centers which would provide primary health services for medically underserved populations and, where appropriate, supplemental health services, including nutrition education and social services.

(10) 42 U.S.C. 295f--authorizes the Secretary of HEW to award capitation grants to health profession schools to help support various projects including, in the case of schools of medicine and osteopathy, projects designed to increase emphasis in the science of nutrition.

(11) 42 U.S.C. 295f-2--authorizes the Secretary of HEW to award grants to defer the costs of establishing and operating programs at schools of osteopathy and medicine which provide increased emphasis on, and training and research in, the science of human nutrition.

Allied Health Professions Personnel Training Act of 1965, as amended.

(12) 42 U.S.C. 295h-1--authorizes the Secretary of HEW to award basic improvement grants to assist training centers for allied health professions, which appears to include the field of nutrition and dietetics, in projects relating to the provision, maintenance, or improvement of the centers' specialized functions.

(13) 42 U.S.C. 295h-2--authorizes grants for public or nonprofit private agencies, organizations, and institutions to cover the costs of traineeships for allied health professions personnel, which appear to include nutritionists and dieticians among other types of personnel.

National Consumer Health Information and Health Promotion Act of 1976.

(14) 42 U.S.C. 300u-3--authorizes the Secretary of HEW to conduct and support activities to make information respecting health promotion, preventive health services, and

education in the use of health care available to medical care consumers, medical care providers, and others who should be informed of such matters. This includes the publication of information, pamphlets, and other reports specially suited to instruct the health care consumer, along with material on, among other things, child care, disease prevention, environmental health, nutrition, drug abuse and alcoholism, and venereal diseases.

* * * * *

(15) 42 U.S.C. 1755--provides that the Secretary of Agriculture may use 1 per centum of the funds provided for programs authorized under the National School Lunch Act and the Child Nutrition Act of 1966, other than 42 U.S.C. 1772, for the nutrition training and education for workers, cooperators, and participants in these programs and for necessary surveys and studies of food program requirements.

* * * * *

(16) 42 U.S.C. 1787--directs the Secretary of Agriculture to award cash grants to State education agencies for conducting "experimental or demonstration projects to teach school children the nutritional value of foods and the relationship of nutrition to human health." The Secretary is also directed to withhold a portion of funds appropriated under this section for research and development projects relevant to the purposes of this section.

* * * * *

(17) 42 U.S.C. 2814--states that the Director of the Community Services Administration, to provide to disadvantaged youth recreation and physical fitness instructions, including instructions concerning such things as study practices, career opportunities, and health and nutrition, shall award grants or enter contracts for an annual recreation and sports program.

Regional Action Planning Commission Improvement Act of 1975.

(18) 42 U.S.C. 3195--authorizes the Secretary of HEW to award grants for the planning , construction, equipment, and operation of multicounty demonstration health and nutrition projects, including hospitals, regional health diagnostic and treatment centers, and other services and facilities.

STANDARD SETTING AND QUALITY CONTROL

United States Grain Standards Act, as amended.

(1) 7 U.S.C. 71 et seq.--authorizes the Secretary of Agriculture to establish standards for grains as well as to provide for the inspection of grain shipped in foreign commerce.

Agricultural Adjustment Act, as amended.

(2) 7 U.S.C. 602(3)--states as a policy of the Congress that the Secretary of Agriculture establish and maintain minimum standards of quality and maturity and grading and inspection for specified agricultural commodities in interstate commerce.

(3) 7 U.S.C. 1431c--directs that, to insure nutritional value, when cornmeal, grits, rice, and white flour are distributed under such programs as the school lunch program, such foods shall be enriched to meet the standards set for enriched cornmeal, enriched grits, enriched rice, or enriched flour.

Fair Packaging and Labeling Act, as amended.

(4) 15 U.S.C. 1451 et seq.--provides the authority to insure that the labels of packaged consumer commodities, including food, inform consumers of such information as the quantity and identity of their contents.

* * * * *

(5) 21 U.S.C. 41-50--makes unlawful U.S. importation of any tea which is inferior in purity, quality, and fitness for consumption to the standards established by the Secretary of HEW upon recommendation of the board of experts in teas.

(6) 21 U.S.C. 141-149--prohibits U.S. importation of any milk or cream unless the shipper holds a valid permit from the Secretary of HEW.

* * * * *

Federal Food, Drug and Cosmetic Act, as amended.

(7) 21 U.S.C. 341--authorizes the Secretary of HEW to promulgate regulations fixing for any food under its usual name a reasonable definition and standard of identity, a reasonable standard of quality, and/or reasonable fill standards of a container.

(8) 21 U.S.C. 342--establishes guidelines for adulterated foods, including a confectionery which has imbedded, with certain exceptions, any "nonnutritive object."

(9) 21 U.S.C. 343--sets forth instances when food shall be deemed misbranded, including food purporting to be a special dietary food unless the label contains required dietary information.

(10) 21 U.S.C. 346--authorizes the Secretary of HEW to establish tolerances for safe levels of poisonous ingredients in foods which are required or which cannot be avoided by good manufacturing practices in food production.

(11) 21 U.S.C. 346a--authorizes the Administrator of the Environmental Protection Agency to establish safe tolerance levels for pesticides in or on raw agricultural commodities.

(12) 21 U.S.C. 348--provides that a food additive is unsafe unless its use or intended use conforms to a regulation or an exemption issued under this section prescribing the conditions of safe use.

(13) 21 U.S.C. 372--authorizes the Secretary of HEW to conduct examinations and investigations under the Federal Food, Drug and Cosmetic Act.

(14) 21 U.S.C. 372a--provides for voluntary inspection of seafood upon request of any seafood packer.

(15) 21 U.S.C. 374--authorizes the Secretary of HEW to inspect establishments that manufacture, process, pack, or hold for introduction into interstate commerce any food products.

(16) 21 U.S.C. 376--provides that a color additive is unsafe unless it conforms to a regulation or an exemption issued under this section prescribing the conditions of safe use.

(17) 21 U.S.C. 381--authorizes the Secretary of HEW to inspect samples of imported food to determine whether it has been manufactured under unsanitary conditions, it is forbidden for sale in the country of production, or it is misbranded.

Poultry Products Inspection Act, as amended.

(18) 21 U.S.C. 451 et seq.--provides for the inspection and regulation of poultry and poultry products and the processing and distribution thereof to prevent the movement of adulterated or misbranded poultry products in interstate or foreign commerce.

(19) 21 U.S.C. 455--authorizes the Secretary of Agriculture, where and to the extent considered necessary by him, to make ante mortem and post mortem inspections of poultry and poultry products in each official establishment that processes such products.

(20) 21 U.S.C. 457--authorizes the Secretary of Agriculture to establish definitions and standards of identity or composition of articles subject to the Poultry Products Inspection Act and fill standards of containers of poultry and poultry products.

(21) 21 U.S.C. 466--prohibits the importation of slaughtered poultry or poultry products unless they are

> "* * * healthful, wholesome, fit for human consumption, not adulterated, and contain no dye, chemical, preservative or ingredient which renders them unhealthful, unwholesome, adulterated, or unfit for human food * * *"

and unless they comply with regulations promulgated by the Secretary of Agriculture to insure compliance with the standard.

(22) 21 U.S.C. 467--permits the Secretary of Agriculture to refuse to conduct inspections of any establishment slaughtering poultry or processing poultry products if the Secretary, after hearing, determines that the applicant or recipient of inspection services is unfit to engage in business where, among other things, the applicant or recipient has in the past 10 years been convicted of certain felonies or misdemeanors relating to the processing, handling, or distributing of adulterated food.

(23) 21 U.S.C. 467a--authorizes the Secretary of Agriculture to detain any poultry or poultry product of dead, dying, disabled, or diseased poultry which is believed to be adulterated or misbranded.

Federal Meat Inspection Act and the Wholesome Meat Act, as amended.

(24) 21 U.S.C. 601 et seq.--provides for the inspection and regulation of meat and meat-food products.

(25) 21 U.S.C. 603--authorizes the Secretary of Agriculture, through inspectors, to inspect all cattle, sheep, swine, goats, horses, mules, and other equines before they shall be allowed to enter any slaughtering, packaging, meat-canning, or similar establishment.

(26) 21 U.S.C. 604--authorizes the Secretary of Agriculture, through inspectors, to conduct post mortem inspections of all cattle, sheep, swine, goats, horses, mules, and other equines and to destroy any condemned carcasses and parts thereof found to be adulterated.

(27) 21 U.S.C. 607--provides for the labeling, marking, and container requirements for meat or meat-food products inspected and passed under the Federal Meat Inspection Act and authorizes the Secretary of Agriculture to establish definitions and fill standards of containers of meat and meat-food products.

(28) 21 U.S.C. 608--directs the Secretary of Agriculture, through experts in sanitation or other competent inspectors, to inspect all establishments which slaughter, can, salt, render, or pack meat or meat-food products to determine that sanitary conditions exist and to prescribe regulations to insure the maintenance of sanitary conditions.

(29) 21 U.S.C. 615--authorizes the Secretary of Agriculture to inspect the carcasses and parts of all cattle, sheep, swine, goats, horses, mules, and other equines intended for export.

(30) 21 U.S.C. 620--prohibits the importation of meat or meat-food products which are adulterated or misbranded and which do not comply with all provisions applicable to meat and meat-food products in domestic commerce.

(31) 21 U.S.C. 623--exempts from inspection requirements personal slaughtering and custom slaughtering for personal, household, guest, and employee uses.

(32) 21 U.S.C. 661--authorizes the Secretary of Agriculture to cooperate with the appropriate State agencies in the development and administration of a State meat inspection program.

(33) 21 U.S.C. 671--permits the Secretary of Agriculture to refuse to conduct inspections of any establishment slaughtering or processing carcasses, parts thereof, meat or meat-food products if the Secretary, after hearing, determines that the applicant or recipient of inspection services is unfit to engage in business; for example, where the applicant or recipient has been convicted of any felony or other violation of law relating to the processing, handling, or distributing of adulterated foods.

(34) 21 U.S.C. 672--authorizes the Secretary of Agriculture to detain any carcass, part of a carcass, meat or

meat-food product which, among other things, is adulterated or misbranded or which has not been inspected.

(35) 21 U.S.C. 692--authorizes the extension of the meat inspection law to reindeer.

(36) 21 U.S.C. 693--authorizes the Secretary of Agriculture to inspect dairy products intended for export to ascertain purity and quality of such products.

Egg Products Inspection Act

(37) 21 U.S.C. 1031 et seq.--provides for the inspection and regulation of eggs and egg products in foreign and interstate commerce.

(38) 21 U.S.C. 1034--directs the Secretary of Agriculture to maintain continuous inspection of the processing of egg products in each plant and to inspect business premises, facilities, and operations of egg handlers to determine that only eggs fit for human food are used for such purposes.

(39) 21 U.S.C. 1046--prohibits the importation of any restricted eggs unless otherwise provided by regulation and any egg products unless processed under an approved continuous inspection system by the government of the country of origin.

(40) 21 U.S.C. 1047--permits the Secretary of Agriculture to refuse inspection of any egg processing plant if he determines, after hearing, that the applicant or recipient of inspection services is unfit to engage in business; for example, where the applicant or recipient has been convicted of any felony or more than one misdemeanor relating to the processing, handling, or distributing of adulterated food.

(41) 21 U.S.C. 1048--authorizes the Secretary of Agriculture to detain any egg or egg products which, among other things, are or have been processed, bought, or sold in violation of the Egg Products Inspection Act.

Internal Revenue Code of 1954, as amended.

(42) 26 U.S.C. 4817--directs the Secretary of Agriculture to inspect (1) all milk, butter, and other ingredients intended for use in the manufacture of processed or renovated butter, (2) all processed or renovated butter to insure that it is clean, wholesome, and healthful, and (3) all factories wherein processed or renovated butter is manufactured.

APPENDIX II

FEDERALLY FINANCED FOOD ASSISTANCE PROGRAMS

Agency/program	Estimated FY 1976 expenditures (millions)	Authorizing act	Purpose of program	Objectives of program	Eligibility (based on family of four)	Administering agencies
Community Services Administration: Community Food and Nutrition	$ 26.2	Community Services Act, 1974 (42 U.S.C. 2809)	To reduce the incidence of hunger and malnutrition and improve the nutritional status of the poor.	Improve participation in Federal food programs; provide food directly to target population; supplement and fill gaps in existing food programs; mobilize other resources toward local feeding problems.	Economically disadvantaged individuals and families	Community Services Administration, Office of Operations, and local sponsoring organizations.
Title VII Nutrition Program	232.7	Title VII of the 1965 Older American Act (42 U.S.C. 3045)	Provide low cost nutrition meals to the elderly who cannot afford to eat adequately, lack meal preparation skills, have limited mobility, or are lonely.	Provide at least one hot meal per day for 5 days a week and social contact for elderly.	Persons over 60.	HEW's Office of Human Development for aging, and State agencies on aging.
Department of Agriculture: FSP	5,633.1	Food Stamp Act of 1964 (7 U.S.C. 2011-2025)	To assist families in providing nutritious meals.	Eligible households can buy food stamps at less than face value for purchase of food at authorized retail stores.	No age limit, but participant must earn less than $6,635. All aid to families with dependent children recipients qualify.	USDA, FNS, and State welfare agencies.
WIC	153.4	Section 17, Child Nutrition Act of 1966, as amended (42 U.S.C. 1786)	To assist mothers in obtaining specified nutritious foods.	Provide vouchers to purchase foods to qualifying pregnant and lactating women, new mothers up to 1 year past partum, and children up to 5 years old.	Household income below $9,336; eligible for free or reduced price health care and certified as a nutritional risk.	FNS and State health agencies
Food Donation/ Commodity Distribution Programs	45.4		Encourage and maintain the domestic consumption of commodities; prevent the waste of commodities.	Use foods donated by USDA to needy persons and institutions.		
Child Care Food Program	95.4	Section 16, National School Lunch and Child Nutrition Act of 1966 Amendment of 1975 (42 U.S.C. 1766)	Initiate, maintain, or expand food service programs to children in child care centers.	Provide free meals or supplemental snacks to children in participating institutions.	Children under 18 from families with income limits set under NSLP.	FNS, State educational agencies, and public or private nonprofit day care centers.
Summer Food Program	118.8	Section 13, National School Lunch and Child Nutrition Act of 1966 Amendment of 1975 (42 U.S.C. 1761)	Initiate, maintain, or expand food service programs to children in summer camps.	Provides meals or snacks to children at participating institutions.	Children under 18 from areas where one-third of households are eligible for free meals under NSLP.	FNS, State educational agencies, and public or private nonprofit summer camps.
Special Milk Program	145.4	Section 3, Child Nutrition Act (42 U.S.C. 1772)	Encourage the consumption of fluid whole milk by children.	Provide subsidy for milk served to children in participating schools, childcare centers, and summer camps; free milk to needy.	Children from households with income of $6,260 or less receive free milk.	FNS, State educational agencies, and public or private nonprofit day care centers and summer camps.
School Breakfast Program	123.3	Section 4, Child Nutrition Act (42 U.S.C. 1773)	Serve nutritious breakfasts to needy children or those who travel distances.	Provider free meals at reduced prices to children attending a participating school (high school grade or under).	Children from households with income of $6,260 per year or less receive free meals; those with incomes $6,260 to $9,770 per year receive meals at reduced prices.	FNS and State educational agencies.
NSLP	1,874.5	Sections 4 and 11, National School Lunch Act, as amended (42 U.S.C. 1753)	To safeguard the health and well-being of the Nation's children and to educate children about proper food habits.	do.	do.	do.
Total Federal expenditures FY 1976 (est.) (note a)	$8,448.2					

a/Total does not include Headstart, Community Services for Elderly, or portion of Aid to Families with Dependent Children and SSI because information does not allow for identifying money spent toward nutrition in these programs.

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