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**RELEASED**

**REPORT TO THE SELECT COMMITTEE  
ON NUTRITION AND HUMAN NEEDS**

**BY THE COMPTROLLER GENERAL  
OF THE UNITED STATES**



LM100010

# Nationwide Food Consumption Survey: Need For Improvement And Expansion

Department of Agriculture

The survey's sample is too small to provide useful information in evaluating food assistance programs and in identifying nutritional problems of low-income families. Additional low-income families should be sampled to provide this information.

The methodology for obtaining this information has not been fully validated, and the survey results will be open to criticism. There are no assurances that the data obtained will actually measure the amount of food consumed.

The Secretary of Agriculture should fully validate the Nationwide Food Consumption Survey methodology either before or during the survey.

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MARCH 25, 1977



COMPTROLLER GENERAL OF THE UNITED STATES  
WASHINGTON, D.C. 20548

B-133192

The Honorable George McGovern  
Chairman, Select Committee on  
Nutrition and Human Needs  
United States Senate

SEN 05800

Dear Mr. Chairman:

Pursuant to your November 22, 1976, request, we reviewed the Nationwide Food Consumption Survey which the Department of Agriculture will conduct beginning April 1, 1977, to determine the types of analyses which can be done with the survey data and any changes which have occurred in the analysis plans since the survey was first formulated in 1974. We also examined the capacity of the survey to provide accurate accounts of the diets of low-income families and of overall food consumption in the United States.

Our review resulted in certain conclusions and recommendations:

- 1) Food consumption information to be obtained for low-income families will not be sufficient to insure statistically significant studies for certain important dietary characteristics of these families. This information would be useful in evaluating food assistance programs and in identifying nutritional problems of low-income families. We recommend that the Congress approve the Department of Agriculture's recent request for funds for an additional survey of low-income families. Funding should be provided that will allow the low-income sample to run concurrently with some portion of the Nationwide Food Consumption Survey to allow good data comparisons.

We recommend that the Secretary of Agriculture develop objectives and analysis plans for the low-income survey before the sample is drawn.

- 2) The survey methodology has not been validated, consequently, its results will be open to criticism. There are no assurances that the data obtained will actually measure the amount of food consumed.

We recommend that the Secretary of Agriculture explore opportunities to validate survey methodology either before or during the survey. The survey methodology should be fully validated before the next survey takes place.

#### BACKGROUND

The Department of Agriculture has conducted household food consumption surveys about every 10 years since the 1930s. The Consumer Food and Economic Institute of the Agriculture Research Service has responsibility for operating the survey.

The survey data is the primary source of information on the kind, amount, and monetary value of foods consumed by families and individuals in the United States. The data is widely used for a variety of analyses throughout Government and private industry. A primary use is in developing Federal food plans for families of varying income levels. The Thrifty Food Plan, for example, is the basis for determining food stamp benefits. Other uses include developing and refining economic and marketing projections for food consumption and demand, providing information on the adequacy of diets for the poor and near poor, and providing initial indications of food related health problems.

Survey uses have evolved beyond simply measuring food consumption and developing food plans. As concern with nutrition, health, and the general physical and mental well-being of our citizens increases, our need for good base-line reference data grows as well. This is particularly true for those considered to be nutritionally at risk--the elderly, children, and the poor. The periodic occurrence of the Nationwide Food Consumption Survey makes it singularly important that the information gathered is as complete as possible.

#### DEVELOPMENT OF CURRENT SURVEY

The current survey was to have begun in 1975, but the request for proposal submitted to the Office of Management and Budget was rejected. The Office was not satisfied with survey methodology used for collecting food consumption

data from households and individuals and wanted an inter-agency task force to be formed in order that the food consumption data needs of other agencies could be met in one survey.

The 1974 request for proposal made provisions for a basic sample of 15,000 households of which 2,000 were to be low-income families. Optional surveys included 4,700 households of elderly, blind, and disabled social security beneficiaries and supplementary income program participants; 3,200 aid to families with dependent children families; and 6,500 low-income households. The 1976 request for proposal made provisions for a 15,000 household sample plus 5,000 low-income households and 5,000 elderly households. Both request for proposals made provisions for surveys in the Virgin Islands, Guam, Puerto Rico, Hawaii, and Alaska.

The cost of the survey requested in 1976 was estimated to be \$6.6 million including all options. Booz-Allen and Hamilton Inc., who received the contract, bid \$9,373,744 for the total survey. The contract price as signed was \$6,980,627 without provision for the low-income, Virgin Islands, or Guam surveys.

#### LOW-INCOME SAMPLE

Despite provisions for a low-income sample in both the 1974 and 1976 request for proposals; the current contract for the Nationwide Food Consumption Survey does not provide for such. The low-income sample was dropped because of a lack of funding. Originally, the Department of Health, Education and Welfare wanted this data but did not obligate funding because of a lack of interest and need on their part by the time the request for proposal was released. The Office of Management and Budget insisted that the low-income sample remain as an option and some attempts were made to obtain funding from the Food and Nutrition Service. The Food and Nutrition Service refused to fund this part of the survey because it had previously requested funds for a longitudinal (over a substantial time period) study of food stamp users. The Office rejected this proposal after the Nationwide Food Consumption Survey contract was signed.

In the President's supplementary budget statement, released February 22, 1977, the Food and Nutrition Service requested an additional \$2 million to fund a 5,000

household low-income sample under the Nationwide Food Consumption Survey.

The survey could help--with a larger sample of low-income families--in determining and evaluating the dietary intake of food assistance recipients who received an estimated \$8.2 billion in direct Federal assistance in fiscal year 1976. This information could help indicate the adequacy of the diet of these households and individuals. Such information would be useful to both the executive branch and the Congress in better determining the proper level of program benefits, the interrelationship of various food assistance programs in providing multiple benefits, and to some extent the adequacy of the feeding programs in providing a better diet.

For some types of analysis the added 5,000 low-income families would be insufficient. Dietary comparisons by family size, income, and race would have to be fairly broad. Examination of the Special Supplemental Food Program for Women, Infants, and Children; the special milk program; year round day care; and the summer feeding program could not be very detailed because of the relatively few people receiving benefits from them. The interrelationship of feeding programs in providing benefits could only be broadly examined, and then only among food stamp and school lunch recipients.

Analysis plans should be fully developed before a sample is determined. A 5,000 family sample may not be sufficient for some types of analysis. For some programs, such as the Special Supplemental Feeding Program for Women, Infants, and Children, a screening procedure to secure adequate numbers of program participants may need to be developed.

Since the survey is scheduled to start on April 1, 1977, it appears to be impossible for the low income sample to run concurrently with the full length of the survey. It is also doubtful the low-income sample could run concurrently with the last three quarters of the survey if money were available now. Money should be available by May to enable the survey to run the last one-half of the survey. This would mean, however, that beneficiaries of the summer feeding program would not be picked up.

SURVEY METHODOLOGY

In the 1974 request for proposal the Agriculture Research Service included a pilot survey in the work plan to assist them in choosing a method of data collection. For the current survey a method of data collection was selected with the assistance of the methodological study ordered by the Office of Management and Budget.

In this study, nine different methods of collecting information from households and individuals were tested. Household methods ranged from a detailed 7-day diary to a 7-day recall of food consumption. For individuals methods ranged from 3-day diaries to a 24-hour recall of food consumption. The method selected for collecting household data was a 7-day aided recall in which the household is asked in advance to keep unstructured notes on food purchases and consumption during that period. For individuals a combination 24-hour recall plus 48-hour diary method was selected.

Food consumption reported by similar families varied according to the method tested. The household method finally selected showed consumption that fell near the middle of the array of results. The Agriculture Research Service reasoned that a method yielding data in the mid-range of the array of results is the most satisfactory. This procedure was not designed to select the "true" method. The contractor for the methodology study stated in his report to the Service that

"the probability values (for each method tested) do not, however, suggest the specific ways in which the methods differ from one another. Nor do they suggest anything about the validity of different methods (except, of course, that all methods cannot be equally correct or incorrect)."

We cannot say with certainty that the methodology for this study is correct or incorrect. We believe that data collection procedures in general should be validated before the survey begins. Therefore, we feel that the results of this survey will be open to criticism because the survey methodology has not been fully validated.

We also have other criticisms of the survey questionnaire. Although questionnaires similar in design to the present

one have been used in the 1965-66 Household Food Consumption Survey and on several occasions since then, we do not feel that an adequate pretest of the questionnaire has been made. The only test of the actual questionnaire was a recent dress rehearsal in which operating procedures were tested. The lack of a pretest in which respondent reactions to questions are measured has led in part to a questionnaire that is burdensome and with some problems in item construction. To some degree, the varying information needs of other agencies "piggybacked" onto the survey have created these problems.

The information obtained in this review was discussed with your Office on February 15, 1977. As you requested we did not seek formal agency comments on this report. We did, however, get informal comments from the Consumer Food and Economic Institute. Officials from the Institute felt that adequate pretesting of the survey had taken place throughout the methodology study and the dress rehearsal. Additionally, many questions were taken directly from other acceptable surveys. We do not feel that the methodology study, the dress rehearsal or the use of previously used questions constitute a systematic pretest of this survey in which respondents and survey personnel go over each question to test for understanding, clarity, and response accuracy.

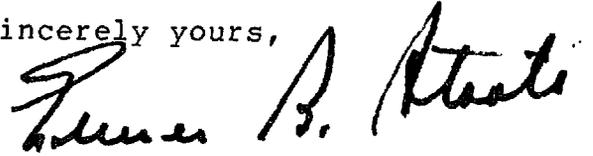
The Institute feels that the selected methodology cannot be precisely validated, but did feel that on the basis of the methodology study and expert opinion that their choice of data collection methodology was the correct one. We believe that this is not adequate and that validation procedures should be conducted, especially for a survey having such potential importance in national food policy.

As you know, section 236 of the Legislative Reorganization Act of 1970 requires the head of a Federal agency to submit a written statement on actions taken on our recommendations to the House Committee on Government Operations and the Senate Committee on Government Affairs not later than 60 days after the date of this report and to the House and Senate Committees on Appropriations with the agency's first request for appropriations made more than 60 days after

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the release date of this report. We will soon be in touch with your office to set in motion the requirement of section 236.

Sincerely yours,

A handwritten signature in black ink, appearing to read "Luther B. Streat". The signature is written in a cursive style with a large, prominent initial "L".

Comptroller General  
of the United States

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#### ABBREVIATIONS

AFDC	aid to families with dependent children
AOA	Administration on Aging
ARS	Agriculture Research Service
CFEI	Consumer Food and Economic Institute
CONUS	continental United States
FDA	Food and Drug Administration
FNS	Food and Nutrition Service
HEW	Department of Health, Education, and Welfare
HFCS	Household Food Consumption Survey
NFCS	Nationwide Food Consumption Survey
OMB	Office of Management and Budget
RFP	request for proposal
SSA	Social Security Administration
USDA	Department of Agriculture

NATIONWIDE FOOD CONSUMPTIONSURVEY BACKGROUNDBACKGROUND

The Department of Agriculture (USDA) conducted national food consumption surveys in 1935-36, 1942, 1948 (urban only), 1955, and 1965-66. Initially, the surveys concentrated only on food used in the home. In 1965-66, for the first time, data was collected on individuals' food consumption away from home as well as from the home food supply. These surveys are now conducted by the Agriculture Research Service (ARS) under the direct guidance of the Consumer Food and Economics Institute (CFEI).

According to the USDA, survey objectives include determining the kind, amount, and money value of foods consumed by different population groups, the practices of families in the purchase and use of specific foods, and the nutritive content of foods consumed. USDA maintains that such studies provide the primary statistical linkage between consumers and the foods they eat.

USES OF DATA

While these food consumption surveys are not required by law, the results are used in setting guidelines for mandated programs. Data from the 1977-78 Nationwide Food Consumption Survey (NFCS) will be published in a series of reports similar to those published in the 1965-66 Household Food Consumption Survey (HFCS). <sup>1/</sup> These include food consumption of households by region and season, food and nutrient intake of individuals, and money value of food and quality of diet for households. The current survey will include additional reports on food intake by individuals, away from home eating, and consumption of nonpurchased foods.

One of the primary uses of the data is to update the four USDA food plans--Thrifty, low cost, moderate, and liberal. By law, the Thrifty food plan determines the amount of

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<sup>1/</sup>The name Household Food Consumption Survey was recently changed to the Nationwide Food Consumption Survey.

food stamps issued to low-income households. ARS and other Government agencies plan additional uses including:

- Provide information to evaluate the levels of diets of participants in feeding programs. (See app. IV)
- Provide information to evaluate levels of diets of poor and near poor households. (See app. IV)
- Develop economic measures based on current consumption patterns which will facilitate forecasting of demand for and prices of foods.
- Provide initial indications of potential food related hazards and nutritional risks.
- Provide information to the National Marine Fisheries Service on nutritional contributions of fish to the U.S. diet and evaluate changes in demand for fishery products.
- In general provide the above and other contributions to food and nutrition policies.

Although areas of analysis have been identified, firm analysis plans for the most part have not been developed. Procedures for developing the tabular reports and food plans are mostly in place, but panels are just now being established to develop specific analysis plans for other areas of research. Some of this research will be done under contract to ARS. Additionally the data tapes will be made available to independent researchers.

The 1965-66 HFCS was often criticized because of the amount of time it took to release the survey report series. The final report was not released until March 1974. Much of the delay was caused by contractor difficulties with data processing. Corrective action has been taken for this survey. Initial reports for the current NFCS are expected in late 1978 with reports continuing to be released through 1980.

#### DATA COLLECTION

The current survey will collect data on food used in the home (or carried away from the home) as well as data

on the foods as eaten by individual family members (both from home food supplies and from other sources). Data on income, expenditures for food, housing, and basic personal data on height and weight of participants will also be collected.

Two types of survey instruments will be used to collect food consumption data. One is the household food consumption questionnaire which is usually completed by the person responsible for household food planning or preparation. It covers all food consumed from the home supply during a 7-day period. The other survey instrument is the individual food intake questionnaire. The participating members of responding households are asked to record all food consumed over a 3-day period, whether from home food supplies, purchased elsewhere, or received from other sources.

#### SCOPE

We made our review at the ARS offices of CFEI which has primary responsibility for the NFCS. We examined the work plan for the survey, the survey questionnaire, the request for proposals (RFP's), the actual contract, and other related documents. We interviewed officials at the Department of Health, Education, and Welfare (HEW) and the Food and Nutrition Service (FNS) of USDA who paid for a portion of the survey and officials at the Office of Management and Budget (OMB) who had final approval of the NFCS. Additional persons within and outside of the Federal Government were interviewed who had opinions on the NFCS methodology and data use.

HISTORY, FUNDING, AND CONTRACTING OF THE 1977-78 NFCS

In the Spring of 1974 CFEI developed a request for a two-phase national food consumption survey. The first phase required a one-city survey to serve as a pilot study addressing such issues as; developing a screening program to identify low-income families with specific characteristics and developing improved survey instruments, data collection, and data processing which would allow evaluation of certain changes in data collection methods proposed for the nationwide surveys.

Phase II required designing the nationwide basic survey, identifying any changes in the survey instrument on the basis of the results of the pilot survey, and actually executing the nationwide survey and certain optional surveys. The basic national survey was to provide 13,000 completed interviews for households in the continental United States (CONUS) and at least 24,000 completed interviews with individuals from those households. The national survey was also to include a supplementary sample of low-income households to provide 2,000 additional completed questionnaires. Also, a special group of low-income households (drawn from HEW lists of elderly, blind, and disabled social security beneficiaries and supplementary income program participants) was to be sampled to provide 4,700 completed household questionnaires.

In addition to the requirements discussed above, there were two optional groups which would be sampled as part of the national sample, dependent on the results of the pilot survey. The first optional group was to be drawn from State listings of participants in the aid to families with dependent children (AFDC) programs and would have required 3,200 completed questionnaires on households. The second optional group would be a sample of low-income households meeting specific criteria of income and family size. This optional sample was to provide at least 6,500 completed household questionnaires.

In addition to the national survey of the CONUS described above, several other independent surveys were required. These surveys were to be conducted in Alaska, Hawaii, Puerto Rico, Guam, and the Virgin Islands. The results were to provide a total of 5,000 household question-

naires, plus 1-day diets (as opposed to the regular 3-day diets for the national surveys) for at least 13,000 individuals within these households.

#### REQUEST FOR PROPOSAL

The RFP was submitted to OMB for approval on May 21, 1974. However, while OMB felt the RFP had merit, it was returned for further consideration. Reasons for the rejection were that "a more precise identification of the requirements for data including the requirements of other agencies" was needed, and that additional study on possible methodologies was needed. OMB was particularly concerned about the need for a better methodological study. It felt that the methodology for data collection, i.e., the recall method for household and individual food consumption, used in the 1965-66 survey was inadequate. Data for households was to be collected through a 7-day recall method in which homemakers had no advance instructions. Individual data was to be collected through a 24-hour recall of food intake. ARS sponsored a methodological survey in 1969, but OMB stated procedural difficulties with that survey severely limited its value. CFEI responded to these concerns by establishing a formal interagency policy committee to discuss requirements for information to be obtained from the NFCS (although CFEI and several other agencies had previously been meeting informally to plan the survey). This committee drafted a listing of problem areas relating to food and nutrition and indicated ways in which the NFCS could respond by providing needed information.

In response to OMB's concern about methodology, CFEI awarded a contract to Response Analysis Corporation for a study of alternative methods for collecting NFCS data. The study included evaluating various methods by actual surveys of households in Detroit, Michigan; Minneapolis, Minnesota; and Pittsburgh, Pennsylvania. In addition, a panel of consultants reviewed survey results and assisted CFEI and Response Analysis in choosing the optimal methods for collecting the data.

On the basis of inputs from the interagency committee and the methodological study, CFEI developed a new RFP in 1976 for the NFCS (See Sch. 1). This RFP differed from the 1974 version in several ways. Unlike the 1974 RFP, no pilot

study was required since a separate methodology study had been conducted. However, a "dress rehearsal" was required just before the start of the actual nationwide survey to test questionnaires, instructions, interviewing, data review, and data processing procedures.

The national survey (of CONUS) was to provide at least 15,000 completed household questionnaires--3,750 in each of the four quarters of the survey period. The survey period was to be the 12 months from April 1977 through March 1978, with all sections of the country being uniformly sampled during each quarter. These questionnaires were to provide information on food consumed by the household during a specified 7-day period. (The 1974 RFP required 13,000 household questionnaires and 2,000 additional low-income household questionnaires.) All individuals within responding households were to complete 3-day intake questionnaires. However, this requirement was subsequently changed before solicitation of bids, upon advice of OMB because it was felt it would be too expensive and would place an excessive burden on respondents. (The revision required that all members of the 3,750 households sampled during the first quarter of the survey would complete 3-day questionnaires. However, for the remaining three quarters, all household members 18 and under would be surveyed, but only one-half of family members 19 years and over would be surveyed.)

In addition to the above nationwide sample, a special "bridging" sample of 1,500 households was to be conducted, using the 1965-66 methodology. This special survey was intended to provide a link with the earlier HFCS and was to be completed within the first quarter of the nationwide survey. This bridging survey and the nationwide survey of 15,000 households were the only items included in the basic RFP. There were, however, several additional independent surveys described in the RFP to be conducted at CFEI's option and pending the availability of funds. Bidders were to submit estimates for each of these independent surveys which are described below.

The first survey involved completing food consumption questionnaires for 5,000 "elderly" households within CONUS. To be classified as an elderly household at least one member must be 65 years or over and receiving social security or supplemental security income payments. Households would be surveyed as in the primary survey and all members of each household would be required to complete questionnaires on

individual food consumption for a 3-day period. <sup>2/</sup> This special sample of elderly households was needed, according to the RFP, because the information obtained from the 15,000 households in the basic survey would not provide sufficient data on the elderly to allow meaningful analysis. This survey of elderly households was developed at the request of HEW, and most of the funding for this sample comes from HEW.

The next independent survey was to sample 5,000 low-income households within the CONUS. This was amended before solicitation of bids to provide surveys of at least 2,250 households participating in the food stamp programs and 2,750 households which are eligible but do not participate or with incomes slightly above eligibility levels. OMB was also involved with this change to the sample. As with the elderly sample, households would be surveyed as in the primary survey and all individuals within the sampled households were to complete the 3-day consumption questionnaires. This subsample was deemed necessary to allow analysis of poor and near poor households not possible within the 15,000 basic nationwide sample.

HEW originally put forward the low-income sample. It was interested at various times during the 2 year interval between RFP's in surveys of AFDC families and the "working poor." HEW officials at one time felt that the food stamp program might be transferred from USDA to HEW and wanted a more detailed data set of dietary patterns and food consumption of low-income households.

By the time the 1976 RFP was issued, HEW interest had slackened. It had no money available for the low-income sample and it felt that the food stamp program would likely not be transferred. Therefore, any additional information derived from such a sample would be of less interest to them. The low-income option was left in--at OMB's request--in hope that funding could be found.

The third independent survey required questionnaires to be completed for 1,200 urban Alaskan households. Each individual within responding households would also be required to complete a 3-day consumption questionnaire.

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<sup>2/</sup>This was changed to a 24-hour recall for individuals during contract negotiations.

A fourth independent survey required sampling in Hawaii. Like the Alaskan survey, it required that 1,200 households complete questionnaires and that all members of these households complete individual 3-day surveys.

The fifth independent survey called for completing 3,000 household questionnaires in Puerto Rico. Again each individual within these households was to complete the 3-day personal consumption questionnaire.

The final two independent surveys required household consumption surveys to be conducted in Guam and the Virgin Islands. These were requested by the Food and Nutrition Service (FNS) to provide information needed for the food stamp program. Both surveys required responses from 1,000 households with each member of those households being required to complete the individual 3-day consumption questionnaire.

In summary, the major differences between the 1974 and 1976 RFP's are as follows:

- The basic 15,000 household sample is not as strictly defined under the 1976 RFP. (The 1974 called for a 13,000 basic sample and an additional 2,000 low-income households. The 1976 RFP calls for only 15,000 households--no differentiation is made for low-income households.)
- The 1974 RFP called for optional surveys of 3,200 households participating in AFDC and 6,500 households meeting certain income and family size criteria (and classified as low income). The 1976 RFP called for a total of 5,000 low-income households, with 2,250 being participants in the food stamp programs.
- Total households to be surveyed under the 1974 RFP was 35,000; under the 1976 RFP it was 34,100. (This includes the presurvey sampling.)

--For those groups specifically identifiable as low-income households, the 1974 RFP called for 11,800 households and the 1976 RFP called for 5,000 households. (While the 4,700 elderly households for the 1976 RFP were to be drawn from HEW listings, not all households can be assumed to be low income.)

#### CONTRACTING FOR THE NFCS

On July 9, 1976, CFEI sent RFP's to 20 potential contractors regarding the NFCS. The RFP was also advertised in "Commerce Business Daily" and additional firms requested the RFP. The NFCS was to cover the CONUS with options, depending on the availability of funds, to cover the elderly, low income, Alaska, Hawaii, Guam, Puerto Rico, and the Virgin Islands. The contract was to be fixed price; however, the award was to be made to the offerer whose proposal was considered most advantageous to the Government-- price and other factors considered. The evaluation of proposals was to be made by a CFEI designated Board of Contract and Grant Awards.

Seventeen prospective contractors met with CFEI on July 22, 1976, where the scope and plans for the surveys were discussed in detail. Following the meeting, five organizations submitted contract proposals by the August 1976 deadline. These were: Opinion Research Corp., Audits and Surveys, Inc., Booz-Allen and Hamilton, Inc., Crosleys Survey, Inc., and a consortium of Response Analysis Corp., Westat, Inc., and Chilton Research Services.

Booz-Allen and Hamilton, Inc. was awarded the contract although it was third low bidder with a price of \$9,373,744 for the basic and all optional surveys. The low bidder was Opinion Research with a price of \$6,331,718, and the second low bidder was Audits and Surveys with a price of \$7,109,567.

As part of the justification for awarding the contract to Booz-Allen it was stated that its proposal was devoid of major limitations, such as those found in the other proposals, and had a consistent and efficient approach to the problem.

In the contract award justification CFEI made the following statement--

"At the present time, funds are available for the nationwide, elderly, Hawaiian, and Alaskan surveys. Pending determination of funds from other Federal agencies, surveys in Puerto Rico, the Virgin Islands, and Guam may be undertaken."

The price for these segments of the survey amounted to \$7,943,147. The price quoted for the low-income segment, not included in the above figure, was \$1,430,597.

The contract with Booz-Allen was signed on September 29, 1976, for \$6,980,627, after deleting Guam, Virgin Islands, and the low-income segments and after price negotiations.

#### DECISION TO DELETE LOW-INCOME SEGMENT

The Chairman of CFEI said that he made the decision to delete the low-income segment of the NFCS once it became apparent that the prices proposed by the selected contractor--Booz-Allen--exceeded the amount of funds that ARS had been appropriated for the survey and the amount of funds committed to ARS by the agencies.

At several points between the release of the RFP and the signing of the contract, FNS had been approached regarding the funding of the low-income sample. FNS was unwilling to participate in this survey because it had submitted to OMB a request for funding its own survey of low-income households focusing on panels of food stamp recipients and nonrecipients. This request was rejected in October 1976.

OMB rejected FNS'S proposed survey because the methodology was unacceptable, and they believed that most of the FNS data needs could be best met with the NFCS. OMB officials indicated that they had given FNS early indication that its survey would not be approved and had encouraged its participation in the low-income sample.

Even though FNS participated in the interagency task force group and both FNS and CFEI are both within USDA, there seems to have been a general lack of cooperation between the two. The above example is evidence of this. Another example is that FNS was not given the opportunity (or chose not to--according to some sources) to comment on sections of the NFCS questionnaire dealing with the food stamp program until OMB requested that it do so.

The President's supplemental budget proposal released February 22, 1977, provides \$2,000,000 to be used by FNS

to fund the low-income sample of 5,000 households within the NFCS.

#### ESTIMATES FOR SURVEYS TOO LOW

Before receiving contractors' bids for the NFCS, the CFEI estimated that the cost of the survey including all options would be about \$6.6 million. This is about \$2.8 million less than the price proposed by Booz-Allen to perform all segments of the NFCS. We were told that the preliminary estimate was prepared by Response Analysis Corporation, the firm that made the methodological survey. Response Analysis was part of the consortium that bid over \$14 million for the NFCS 2 months after it submitted the estimated cost. ARS told us it was advised that it was not proper to question Response Analysis as to why this substantial difference existed.

#### FUNDING OF NFCS CONTRACT

The NFCS contract is being funded as follows:

Agricultural Research Service	a/ \$4,911,227
Food and Nutrition Service	994,400
Social Security Administration	700,000
Food and Drug Administration	200,000
Department of Commerce	100,000
Administration on Aging	75,000
	b/ <u>\$6,980,627</u>

a/About \$823,500 for fiscal year 1978 for Hawaii and Alaska.

b/Does not include the \$2,000,000 proposed for the low-income sample.

(See sch. 2 for further budget details)

FNS funding is for the Puerto Rican segment, Social Security and Administration on Aging funding is for the elderly segment, and the Food and Drug Administration and Commerce is partially funding the nationwide segment. ARS is partially or fully funding all segments of the NFCS.

ARS had been appropriated \$4,500,000 through fiscal year 1977 for the NFCS. Of this amount, \$1,550,000 had been appropriated for fiscal year 1976 and the transition quarter and \$2,950,000 for fiscal year 1977.

#### DISCRETIONARY FUNDS

In its January 19, 1977, letter to Senator McGovern, ARS stated that:

"The bids received from prospective contractors in response to the Agricultural Research Service (ARS) request for proposal indicated that the funds appropriated by Congress for the survey were insufficient to execute the original plan in its entirety. Therefore, ARS funds are being used to conduct a food consumption survey of the United States of America. This includes a representative sample of low-income households but not an oversampling of this group."

It was also stated that:

"Inclusion of 5,000 additional low-income household families into the survey would cost an additional \$2 million. Undesignated sums of this magnitude do not exist within ARS."

We noted that ARS has two discretionary funds to be used for unforeseen circumstances. One, known as the Contingency Fund had \$1,000,000 available at the beginning of fiscal year 1977, and the other, known as the Administrator's Reserve Funds, had about \$2.8 million available at the beginning of that fiscal year.

The ARS Administrator said that he did not consider using these funds for the NFCS, since they are for emergencies which may surface during the fiscal year.

SURVEY METHODOLOGY

The Nationwide Food Consumption Survey is designed to collect household and individual food consumption data and to quantify food consumption across time. To achieve this result the contractor will conduct a stratified sample yielding 15,000 households covering a universe of all private households in the CONUS. Individuals in institutions, such as the on-base military, boarding schools, and prisons, will not be surveyed.

Stratification breaks the sample into three types of population groups--central cities, suburban areas surrounding central cities in standard metropolitan statistical areas, and nonmetropolitan areas. The sample is further segmented into nine geographic areas. This array provides 114 strata with each stratum containing about 600,000 housing units.

Additional samples will be drawn yielding 5,000 elderly households, 1,200 households each in Alaska and Hawaii, and 3,000 households in Puerto Rico. The sample for the elderly will be drawn from a list of elderly provided to the contractor by HEW. The Alaskan survey will be a sample of urban areas only while both the Hawaii and Puerto Rico surveys will be samples of both urban and nonurban areas.

The expected response rate is 70 to 75 percent, so for all of the above samples sufficient households will be drawn to yield the expected results. Nonrespondents will be sampled to determine what differences, if any, exist between respondents and nonrespondents.

An additional 1,500 households will be interviewed in an identical manner to the 1965-66 HFCS. This sample will act as a bridge to the previous survey allowing comparisons to be made between the two.

DATA COLLECTION METHODOLOGY

Except for the bridge sample, each household selected for the sample will be notified in advance of the actual interview. The person primarily responsible for food preparation will be asked to keep unstructured notes on food consumption and costs during the ensuing 7-day period. In the 1965-66 HFCS, households did not have advance instructions for the recall procedure.

Following the interview for household consumption, individuals will be questioned concerning their food consumption. This information will be gathered over a 3-day period using a 24-hour recall of food intake followed by a 48-hour

diary, During the first quarter all individuals in each selected household will participate in the survey. (See table 1.) During the following three quarters all individuals under 19 will be surveyed as will one-half of those 19 and over. The 1965-66 survey used only the 24-hour recall with all individuals under 20 and over 65 surveyed and one-half of those between 20 and 65 surveyed.

Table 1

Summary of Survey Sample

<u>Sample</u>	<u>No. of Households</u>	<u>No. of Households</u>				<u>No. of individuals</u>
		<u>spring</u>	<u>summer</u>	<u>fall</u>	<u>winter</u>	
Primary Sample	15,000	3,750	3,750	3,750	3,750	34,000
Bridging						
Survey <sup>a/</sup>	1,500	1,500				3,265
Elderly <sup>a/</sup>	5,000	1,250	1,250	1,250	1,250	<sup>b/</sup>
Alaska	1,200				1,200	4,000
Hawaii	1,200				1,200	4,300
Puerto Rico	<u>3,000</u>		1,500	1,500		11,700
	<u>26,900</u>					

a/ Individual survey for the bridging survey and elderly includes only the 24-hour recall of food intake

b/ All individuals in household (for elderly) will be interviewed, but no estimate of total number was given in the contract.

The aided recall method of obtaining consumption information from households and the combination recall/diary method for individuals was selected on the basis of a methodology study performed by Response Analysis Corporation for CFEI during 1976. As mentioned previously this study resulted from OMB's objections to the data collection methodology proposed in the 1974 RFP. Response Analysis Corporation tested nine different methods in three cities during 1975-76 as follows:

"Method 1: Advance letter to homemaker is part of a kit which includes a notetaking pad. Interviewer telephones to answer questions, motivate homemaker, and initiate the seven-day household food use period.

At the arranged time, interviewer visits household, conducts recall interview, and administers other instruments.

During this visit, interviewer, administers 24-hour individual recall with homemaker supplying information for each family member. Diaries are left behind for each family member to keep for the next 48-hours and then mail back.

"Method 2: Advance letter followed by first interviewer visit to train homemaker for keeping a seven-day diary of household food use. Interviewer telephones on second and fifth days after placement to motivate and answer questions. Interviewer returns at arranged time to collect diary and review it with homemaker and to administer other instruments.

Interviewer asks each family member to provide 24-hour recall of his or her food consumption. This takes place at either the first or second visit.

"Method 3: Advance letter followed by first interviewer visit. Interviewer trains homemaker in keeping notes, saving labels, and otherwise preparing for second visit seven days later.

At this time, interviewer also places three-day diaries of individual consumption to be kept by individual family members and collected at time of second visit.

During the seven-day period of notekeeping to prepare for household food use recall, interviewer telephones homemaker on second and fifth days to answer questions and motivate.

At arranged time, interviewer returns to conduct seven-day household recall interview, administer other instruments, collect the individual diaries.

"Methods

4, 7 : Advance letter followed by visit to conduct seven-day household food use recall interview with homemaker and administer other instruments. (This is closest to the household portion of the 1965 interview.)

"Method 5: Advance letter followed by interviewer visit to prepare homemaker for recall task. Remainder of contacts are by telephone. Each day, for three days, interviewer conducts telephone interview on household recall. Third telephone call also includes administration of other instruments.

- "Method 6: Advance letter followed by first interviewer visit to train homemaker in keeping a three-day diary of household food use. Interviewer telephones once during the three-day period to answer questions, motivate. At arranged time, interviewer visits household again to collect and review diary and to administer other instruments.
- "Method 8: Procedure like that of Method 4. Difference is that household food use information does not include asking for food prices. Instead, interviewer determines sources of supply, visits stores, records prices for selected food items.
- "Method 9: Only method which elicits no household food use information, only individual intake information. Three-day diary for each family member. Advance letter followed by interviewer visit to provide instruction to homemaker on diary keeping. Homemaker, in turn, provides instruction to other family members. Diaries are mailed back after 3 days."

Estimated quantity and price data for food consumed for each method were tabulated and an overall average for both quantity and price was determined. Index numbers were developed for each method. These numbers would indicate the percentage of the average for that method. For example, the quantity amount for method 1 was 113 percent of the average amount of all methods.

Table 2

<u>Method</u> <u>(for households)</u>	<u>Index</u> <u>(quantity)</u>	<u>Index</u> <u>(price)</u>
1	113	113
2	73	76
3	106	109
4	131	123
5	93	91
6	85	89

Methods 7 and 8 are not listed on Table 2. These methods were tested at different times. Both measured quantities as in method 4 but tested prices differently. Method 9 is not listed because it included no test for household food consumption.

The results of these tests were inconclusive. Response Analysis Corporation, in its report to CFEI, stated that:

"\* \* \* differences among the measurement methods produce different results in the amount of food use reported by households. The probability values do not, however, suggest the specific ways in which the methods differ from one another. Nor do they suggest anything about the validity of different methods (except, of course, that all methods cannot be equally correct or incorrect).

"Recommendations reported \* \* \* are based on the assumption that the 'true' figures on household food use exist somewhere in the array of results for the methods tested and that neither extreme is as satisfactory as a procedure which yields data in the mid-range of the array. This assumption is supported by findings of earlier studies which indicate that the recall method with no homemaker preparation (the method which produced the largest reported amounts of food use in the present study) appears to produce overstatements of household food use, at least for some product groups."

As indicated that method selected (similar to #3) did represent a "middle" method. In fact (and as stated above) that is no assurance that any of these methods provides a true or valid measure of food use. Thus, there can be no assurance that the results of the survey will be completely valid. We feel that survey methodology should be validated and assessed for accuracy and reliability before the survey is started. This is a commonly accepted procedure for survey practitioners, and there are several standards available, such as American Psychological Association Standards for Reports of Research on Reliability and Validity.

It has not been demonstrated that the survey instrument produces measures that are valid; furthermore, there are no provisions for making such assessments. In this case, validity refers to the issue of whether the survey is actually measuring what it purports to measure. There are no assurances that the data obtained will actually measure the amount of food consumed.

Whereas, supporting documentation available to us fails to show any attempt to assess the reliability and accuracy of the measures, there was the major effort to validate this methodology as mentioned earlier. This effort was not successful since six independent approaches produced six different results in terms of food consumed. Consequently, we do not know which, if any, of these methods is valid. A method was arbitrarily selected which produced a mid-range value, but there was no scientific basis for this selection or followon effort to specifically validate the selected method.

Some nutritionists have criticized the collection methodology of the 1965 HFCS. OMB's belief that the methodology was weak led, in part, to its rejection of the 1974 RFP. We believe that the methodology used in the current survey and the method for selecting that methodology is again open to question.

We also have additional reservations regarding the survey questionnaire. The questionnaire is long and seems to place an unnecessary burden on the respondent. This in turn may result in poor quality of responses. Several questions are quite sensitive, particularly those dealing with income and personal relationships. Several questions provide auxiliary information that is not directed to the stated objectives of the survey. We feel that there are some item construction problems such as question bias and poor clarity, but these are less serious.

Examples of these problems in the questionnaire follow. A question on the relationship among persons in a particular household is potentially sensitive to the respondent because it probes into the private relationship of the persons living together in this household. Questions on absence from work and reasons for absences are not related to the purposes of the survey and are potentially sensitive, as are income amounts from nongovernmental sources asked in the last section of the questionnaire.

The inclusion of these items together with the method used of exposing each individual to the large number of choices in each food category, when in fact only a small portion of this set of choices pertains to that individual, constitutes an unnecessary burden.

For example, the memory recall list of types of food used (section II of household survey) includes over 350 main food categories which are read by the interviewers. The respondent specifies the particular food item which the household used in the past 7 days, and the interviewer finds that item in his subcategory list under each category and codes it on the questionnaire. Of course, if food items are not eaten by the respondents, these categories can be skipped. Further questions are then asked regarding such things as quantity used, price, and where purchased. Examples of subcategory lists are the following:

--91 types of "other fish," including little known fish such as Dolly Varden, Squeteague, and Sheephead

--45 types of "other lunch meats," including the little known salamies Alessandvi, Alpine, and Arles

--137 types of ready-to-eat cookies

--125 types of candy

This process places a burden on the respondent since the respondent must listen to the reading of 350 plus main food categories, and wait for the interviewer to find the code for each from a sometimes lengthy list of subcategories.

Such extensive detail does not seem fully justified by the principal purposes of this survey. Many of the subcategories are apparently not that different from each other from a nutritional standpoint. For example, it does not seem that each of the 137 types of cookies (or 125 types of candy) is sufficiently different in nutrients from the rest to justify separate coding. It does not appear that alternatives to this burdensome process have been adequately considered--including reducing the number of subcategories to those with nutritional differences and/or having the respondent describe the type of food used and having the interviewer code the type of food after the interview.

We feel that these concerns with questionnaire design present two problems:

1. Extensive information needs of other agencies
2. Lack of pretesting the questionnaire.

The first problem revolves around a concern of OMB with respect to this survey that data needs of other agencies be considered. These needs expand the focus of an already extensive survey and add substantially to respondent burden. In our opinion these additional examples or "riders" could be met in most cases separately and not via the NFCS.

Using such riders can be illustrated by the requirements apparently placed on the survey by the National Marine Fisheries Service and the Food and Drug Administration. The objectives of the NFCS with respect to the Fisheries Service is stated:

"To have detailed data tapes for analysis of consumption patterns for fish to appraise potential health hazards of microconstituents."

As noted above, the memory recall list has an extensive listing of types of fish that serve to lengthen appreciably the survey and to increase respondent burden while adding

little nutrition information. If the Fisheries Service decided that it needs this information, there are likely to be less expensive alternatives for getting the data, for example a "point of purchase" retail fish consumption survey.

No detailed pretest of this questionnaire was made. A pretest is a procedure whereby the actual survey instrument is completed for a representative sample of respondents. Respondents are then queried to determine the degree to which they understand the questions, the relevance of the questions, the accuracy of the answers, and specific factors which contribute to question difficulty (e.g., clarity, language, undue complexity ambiguity of choice, lack of qualifications, and so forth). In this manner problem areas can be uncovered before the actual survey begins.

Similar survey instruments were used in the 1965-66 HFCS, a 1969 methodological study, and the Response Analysis methodological study. In our opinion, none of these constituted a true pretest of the instrument since individual questions were not examined for procedural difficulties, problems of clarity, or adequacy of response. The final survey instrument to be used in the current NFCS was not tested. The contractor has carried out a dress rehearsal using the current survey instrument. To some extent this was a procedure to test the questionnaire for clarity, language, and undue complexity as well as test administrative procedures. It did not, however, meet what we feel are good criteria for a pretest.

#### CFEI COMMENTS AND OUR EVALUATION

CFEI was given the opportunity to informally comment on the Appendix material in this report. It primarily differs with our opinions on the adequacy of the pretest, the validation of the survey methodology, and the list-recall procedure.

CFEI offered the following comments on the pretest.

- The food schedules, for both the household and individual intake phases of the survey, have been used widely by USDA, State universities, and many others. Limited refinements have been made based on previous survey experience. Each survey serves as a pretest for the next one.
- Most of the nonfood questions have been taken from other surveys, such as the Consumer Expenditure Surveys, Census, HANES, and others and conform to Federal standards. They have been tested.

--New questions, except for some possible late additions, and sensitive ones were pretested by Response Analysis in terms of comprehension, relevance, and adequacy of answers.

--A pretest was conducted in January-February 1977. Nearly 200 households in 4 areas in Pennsylvania and New Jersey completed the survey. As a result of the pretest a limited number of changes in questions and procedures were proposed and approved by OMB in their clearance on February 15, 1977.

While these procedures were useful in refining the survey, we feel they do not constitute a systematic pretest of the actual questionnaire using current survey methodology. In such a pretest, as explained earlier, respondents go over each question with an interviewer to determine the degree of understanding, question relevance, and response accuracy. The dress rehearsal did test for clarity, language, and undue complexity. This process is valuable, but again the process was not a complete pretest as we define it. The entire questionnaire was not systematically reviewed question by question. The fact that these questions were used in earlier surveys also does not constitute a pretest. The questionnaire must be pretested as an entity.

CFEI officials agree that the selected methodology cannot be shown to be completely valid. However, based on the Response Analysis study and on the experience of consultants who have expertise in this area, CFEI feels that the selected method was the best choice. They further believed that it would be impossible to validate the NFCS to the degree we felt necessary.

GAO believes that means of testing and validating survey methodology should be attempted. We recognize the difficulty of pinpointing actual consumption, but such a procedure is needed--particularly for a survey that has such a large potential impact on food policy questions.

In defending the list-recall procedure, CFEI states:

"The GAO report takes exception to the food list-recall procedure used in obtaining information on household food consumption. Needs for a systematized memory jogging procedure in surveys involving recall of detailed information have been cited in the literature. Also, the system should provide a standardized procedure for facilitating interviewer probes in required depth. In the GAO report, the response burden associated with the list recall used in the survey has been overestimated.

Further review of the alternatives suggested indicate that response burden would be increased if they were adopted. Also, validity of data would be reduced."

We feel the list-recall method provides accurate information--but at great personal expense to the respondent. The respondent is exposed to large food listings and must wait for the interviewer to code his responses. We disagree with CFEI that selecting alternative methods would increase response burden. On the contrary, alternative methods placing more of a burden on the interviewer would decrease respondent burden with a possible increase in respondent accuracy.

ADEQUACY OF THE NATIONWIDE FOOD CONSUMPTION  
SURVEY TO PROVIDE INFORMATION ON DIETARY  
INTAKE OF FOOD PROGRAM RECIPIENTS

USDA and HEW administer approximately \$8.2 billion in feeding programs. To date only the Special Supplemental Food Program for Women, Infants and Children has had any systematic review to evaluate program performance in meeting nutritional objectives. Even this evaluation has been questioned in an earlier GAO report (RED-75-310, dated Dec. 18, 1974).

The NFCS could be used--with supplemental samples--to provide useful data in determining and evaluating the dietary intake of recipients of these food assistance programs. This information could give an indication of the adequacy of the diet of these households and individuals in providing essential nutrients.

It could not be used, however, to determine whether the diets of families or individuals receiving food assistance had improved since receiving these benefits. It could not be used to determine whether individuals or families were malnourished or determine the general health status of these groups; this can be done only by using health survey and surveillance techniques such as those developed by HEW for their Health and Nutrition Examination Survey.

The usefulness of the NFCS in this instance would be to compare the nutrient intake levels of families receiving particular food assistance benefits and comparing them with similarly sized families of the same and varying incomes who are not beneficiaries of that food assistance program. Such information would be useful to both the executive branch and the Congress in better determining the proper level of program benefits, the interrelationship of various food assistance programs in providing multiple benefits, and to some extent, the adequacy of the programs in providing a better diet.

We requested ARS to respond to a series of questions designed to determine what information could be developed from the NFCS as it is now constituted to address the above issues, and what additional information could be gathered with an additional sample of 5,000 low-income families. ARS responses to these questions are contained in Appendix V.

As can be determined by reviewing the ARS responses, the NFCS does not provide sufficient data to perform more than cursory analysis for most food assistance programs. For example, one could probably state with assurance that food stamp recipient households had a nutrient intake of N percent as compared with nonfood stamp recipient households. But if the comparison were made by household size and by income level, the levels at which feeding programs are designed, the resulting analysis would not likely be accurate. Similar comments could be made about other food assistance programs.

Information derived from samples such as this are commonly displayed in tabular or matrix form. As this is a representative sample, one would expect 1,000 to 1,200 1/ households to be food stamp recipients. For the most simple comparisons the number of food stamp recipients (or incidences) in each section (or cell) of the matrix would be quite large. Table 3 represents a two-cell matrix whereby all incidences would be located in those cells. As subsets were developed, such as food stamp recipients, by region, by race, age, sex, and income, these matrices would become larger or be limited by some qualifier. The number of incidences within each cell would be expected to decrease.

Table 3

	Percent meeting RDA	Percent not meeting RDA
Food stamp recipients		

For the 1965-66 HFCS, ARS preferred that at least 50 incidences occur in each cell and information was not published if there were fewer than 39 incidences in a cell.

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1/ About 7.3 percent of all American households receive food stamps. So a sample of 15,000 randomly selected households would normally yield this number of households receiving food stamps.

In the 1972-73 Consumer Expenditure Survey conducted by the Department of Labor's Bureau of Labor Statistics (BLS), 700 of the 10,106 families surveyed in one segment of that survey were food stamp recipients. Information regarding costs of stamps, average value of stamps, etc. was broken out by age (under or over 65), family size, and income. Many of the resultant cells had fewer than 10 incidences. (BLS prefers 75 incidences per cell.)

An additional sample of 5,000 low-income households would add large numbers of families receiving some type of food assistance and would allow additional comparisons and subsets to be drawn for each type of food program. This sample would also allow a better analysis of the nutrient intake of all low-income families regardless of their status as a food program recipient. This group, along with children and the elderly, are most likely to be nutritionally at risk.

For some types of analysis the addition of 5,000 low-income families would prove to be insufficient. Income breakouts would have to be fairly broad; comparisons would be limited based on race; Women, Infants, and Childrens Program, the special milk program, year round day care, and the summer feeding program could not be examined adequately, because of insufficient representation; and the interrelationship of feeding programs could only be broadly examined - and then only for the school lunch program and food stamps. The additional sample, however, would substantially improve the data base.

Additional low-income families should be surveyed in order that statistically significant studies can be made of program impact. Furthermore, analysis plans should be fully detailed before a sample is drawn and the number to be sampled is determined. Depending on the the types of information and analysis desired, 5,000 additional low-income families might not be sufficient. Screening procedures designed to secure adequate numbers of program participants for analysis purposes might need to be drawn.

GAO QUESTIONS CONCERNING THE NATIONWIDE FOOD  
CONSUMPTION SURVEY

For sections A through E answer the questions first for the survey as it is now constituted and secondly as if the 5,000 household low-income sample were in place.

SECTION A--FOOD STAMPS

Will the HFCS data provide statistically significant information on the following for food stamp recipients?

Questions in Section A reflect food purchases and food expenditures. The Household Food Consumption Survey (HFCS) is directed at food used in the household during a 7-day period and the cost of those foods used. Data are collected, however, on the average amount of total expenditure for food at home during the past 3 months, for either a week or month.

1. Question: Nutrient intake of families and individuals who purchase all of their food with food stamps? For 95 percent of their food purchases? 90 percent? 80 percent? etc.

Answer: Basic Sample--Data will be obtained on the value of food stamps received "last month," whether or not the household is receiving food stamps during the month the household is interviewed, and the value of purchased food that was used during the previous week. From this information an estimate of the percentage of purchased food used paid for by stamps by each household receiving stamps could be made. The nutritive value of the food used by each household will also be determined. Classifications as fine as 95, 90, 80 percent of food purchases would not be feasible because of the means of estimating the percentage and the number of families in the sample that receive stamps. Broader breaks, however, could be provided.

Low-Income Sample--Same as above, but the percentage breaks could be narrowed.

2. Question: Amount of food purchased at each of the above levels?

Answer: Basic and Low-Income Samples--Amount of purchased food used can be provided subject to 1.

3. Question: Expenditures for food at each of the above levels?

Answer: Basic and Low-Income Samples--Expenditures for food are not collected except as specified in the background statement. However, the money value of purchased foods used during the survey week can be provided subject to 1.

4. Question: Will the information gathered in 1-3 above be available for varying income levels and by household size?

Answer: Basic Sample--The expected number of food stamp recipients in the sample would not allow cross classification.

Low-Income Sample--The low-income sample should allow limited income and household size classifications. However, even with the low-income sample, there probably wouldn't be a sufficient number of households consisting of 7 or more members to provide statistically significant information except as a group.

5. Question: Can the information gathered in 1-3 above be compared with the nutrient intake and food expenditures of nonfood stamp recipients of similar household size and income levels? With similar household size and varying income levels?

Answer: Basic Sample--Sample size is not sufficient for the cross classifications specified. However, broad comparisons can be made, i.e., grouped food stamp households vs. nonfood stamp households of comparable income and household.

Low-Income Sample--The low-income sample will allow for comparisons between households receiving and not receiving food stamps classified by broad income and household size categories.

6. Question: Provide information showing amount of food purchase by food stamp households beyond the coupon allotment?

Answer: Basic Sample--As specified in 1, data will be obtained as to the value of food stamps obtained last month by households participating in the food stamp program. These data can then be compared with purchased food used during the week households are in the survey.

Low-Income Sample--Same as above, except that with increased sample size the level of significance would be greater.

7. Question: Will sufficient information be obtained to derive the Thrifty Food Plan--or its equivalent--for the Food Stamp Program, including cost data?

Answer: Basic and Low-Income Samples--Yes. The food plans are not based on income-of households, but are based on money value of food used per capita. The low-income sample would provide more adequate data for determining factors for adjusting costs for large households than has been available from earlier surveys.

8. Question: Can the cost and type of food purchased by coupon and the cost and type of food paid for by cash (among food stamp households) be determined?

Answer: Basic and Low-Income Samples--No, data will not be collected from food stamp households as to which foods are purchased by stamps and those purchased by cash.

9. Question: Can information developed for 1-8 above be developed for Black food stamp individuals and households, by sex, and by age?

Answer: Basic Sample--Sample size is not sufficient to break-out Black food stamp recipient households.

Low Income Sample--This sample should provide sufficient data to make limited classification breaks between Black and non-Black food stamp households.

#### SECTION B--CHILDREN'S FEEDING PROGRAM

Will the HFCS data provide statistically accurate information on the following for childrens' feeding programs?

1. Question: Nutrient contribution of each feeding program to the child's daily diet (school lunch program, school breakfast program, special milk program, year round day care, and the summer feeding program)?

Answer: Basic and Low-Income Samples--a. School Lunch--Statistically reliable information should be generated regarding group average relationships for nutritional contributions of school lunches and the portion of the days total nutritional intake derived from this source. For all participating children, such information should be statistically reliable for many measures of concern to the NSLP program. Included are measures such as

National and regional relationships; measures for age groups associated with attendance in elementary and junior and senior high schools; for household income groups such as poverty income, 100 to 199 percent of poverty income levels and over 200 percent; white and Negro. For children from poverty households, the number of valid breaks would be restricted substantially. The scope of statistically reliable relationships derived from the low-income survey would be increased substantially.

b. School Breakfast Programs--Only about 1 school in 4 offers the school breakfast program. Participating schools tend to be concentrated in large metropolitan central cities, or localities where long bus rides are required. The universe of households from which samples are drawn may differ widely from the universe of households having access to school breakfasts. The potential for evaluating nutritional relationships would be quite limited in the basic sample.

The low-income sample should be adequate for drawing general conclusions regarding impacts of the breakfast program on the diets of poor children. Results, while less than desirable, should provide new knowledge to the program.

c. Day Care Centers and Summer Day Camps--Responses from either survey will probably be too few to provide statistically significant measures for these programs.

2. Question: Can comparisons of nutrient intake be made of children who are recipients of one or more child nutrition programs and children who are not, by age, sex, and income?

Answer: Basic and Low-Income Sample--Children receiving food and day care centers or summer day camps will not be obtaining simultaneously meals through the school lunch and breakfast programs.

A limited analyses may be possible on nutrient intake of children receiving both school lunches and breakfasts from the basic sample. Analysis would be limited to children from poor households only. A substantially wider analysis may be made from data derived from the low-income sample.

The basic sample should provide the basis for nutritional comparisons between participants in NSLP from upper income children receiving and not receiving school lunches. The supplementary survey may provide for similar comparisons among poorer children--although a large portion appear to be receiving free or reduced priced lunches.

3. Question: Can the amount of food eaten and not eaten by the child for each of the programs be determined?

Answer: Basic and Low-Income Sample--No.

4. Question: For questions 1-3 above, as each pertains to the school lunch program, can comparisons be made of children who receive a free lunch, reduced price lunch, those who eat the Type A lunch and pay full price, and those who eat outside the school or a sack lunch?

Answer: Basic and Low-Income Samples--Children in each of the above categories can be identified for the most part. Subject to the limitations in numbers of observations, broad comparisons could be made.

SECTION C--SPECIAL SUPPLEMENTAL FOOD PROGRAM FOR WOMEN, INFANTS, AND CHILDREN (WIC)

Will the HFCS provide statistically significant information on the following for WIC recipients?

1. Question: Nutrient intake contribution from WIC to the daily diet of WIC recipients?
2. Question: Comparisons of the nutrient intake level of WIC recipients with appropriate non-WIC recipients of various income levels?
3. Question: The amount of food obtained through the WIC program which is consumed by other members of the household?

Answer: Basic and Low-Income Samples--Neither sample will provide sufficient observations to provide statistically significant analyses.

SECTION D--THE ELDERLY

Will the HFCS data provide statistically significant information on the following for the elderly?

1. Question: Will the survey methodology for the elderly sample allow comparisons of the nutrient intake level and food purchases and expenditures of households with an elderly member and elderly individuals with households and individuals surveyed in the primary sample?

Answer: Yes.

2. Question: Nutrient intake contribution to the daily diet from meals on wheels by income and family size? From congregate feeding?

Answer: The elderly who participate in Meals on Wheels programs as well as those who participate in congregate feeding programs do not form a distribution which is uniform over all income and family size breaks. There will be adequate data for statistical evaluation of groups from small family sizes, but the occurrence of sufficient data to make all family size and income class evaluations is not likely. Where individuals participate in more than one of the programs, there will be some meals where it will not be possible to know which of the programs was the source of the food. The contribution of each of the programs to the daily nutrient intake cannot be determined. Their total contribution will be available.

3. Question: Comparison of the nutrient intake level of recipients of meals on wheels to elderly nonrecipients of similar and varying income levels? Provide the same information for elderly recipients and nonrecipients of food stamps? SSI recipients? Congregate feeding?

Answer: The basic sample would for the most part allow only comparisons of recipients as compared to nonrecipients. The elderly sample should allow comparisons with some income breaks.

4. Questions: Comparison of eating patterns and nutrient intake of those elderly eating alone and those not?

Answer: Sufficient data should be available from both the basic and elderly samples to make comparisons of eating patterns and nutrient intake of those eating along and those not. The elderly sample should provide data that will provide more significant comparisons.

#### SECTION E--AFDC RECIPIENTS

Will the HFCS data provide statistically significant information on the following for AFDC recipients?

1. Question: Nutrient intake and food expenditures for AFDC recipients by dollar amount of benefit received, by income, and by household size?
2. Question: Can this information be compared with non-AFDC recipients of similar household size and by similar and varying income levels?

Answer: Neither the basic or low-income sample will provide adequate data to make statistically significant comparison by the cross classification specified. The low-income sample, however, should provide data to make general comparisons between AFDC recipients and nonrecipients.

For Sections A-E can data be developed to show the inter-relationship of feeding programs; e.g., the nutrient intake and food expenditures of recipients of multiple feeding programs? Can the data be collected and tabulated by income, sex, age, and household size with similar households of the same and varying income levels who do not receive these benefits or among multiple beneficiaries receiving different levels of benefits?

Answer: The basic sample would not be sufficient to develop all of the relationships outlined. The elderly sample, however, should provide sufficient

data to make broad classifications and analyses relative to the programs that the elderly may participate in.

With the low-income sample, broad classification for major feeding programs--food stamps and school lunches--could be tabulated and analyzed. However, the sample would not be large enough to include a sufficient number of WIC participants or of the smaller feeding programs to undertake the analyses outlined.

To obtain the data and relationships outlined, a special sample would have to be designed to obtain sufficient numbers of participants in each of the feeding programs. Neither the basic HFCS or the prospective low-income sample are designed to do this.

GEORGE MCGOVERN, S. DAK., CHAIRMAN  
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**United States Senate**  
 SELECT COMMITTEE ON NUTRITION AND HUMAN NEEDS  
 (CREATED PURSUANT TO S. RES. 301, 90TH CONGRESS)  
 WASHINGTON, D.C. 20510

November 22, 1976

The Honorable Elmer B. Staats  
 Comptroller General of the  
 United States  
 General Accounting Office Building  
 Washington, D. C. 20548

Dear Mr. Staats:

The Agricultural Research Service is preparing to begin the next Household Food Consumption Survey on April 1, 1977. The cost of the survey, including Fiscal Year 1978 funds, is expected to be about \$7 million.

The survey was to have included a special sampling of 5,000 low-income families, at a cost of approximately \$1.5 million. However, according to Mr. Robert Rizek, head of ARS's Consumer and Food Economics Institute, this sample has been dropped because of lack of funds.

The decision to delete the low-income sample from the survey will in effect deny policy makers one of the few tools available for proper management of our food assistance programs, which last year accounted for over \$8 billion of the budget.

We are further concerned that adequate steps be taken to ensure that all the data gathered is as complete and accurate as possible and funded to allow full and complete statistical analysis.

The Household Food Consumption Survey is expected to be made once every decade. Unfortunately, it has not been conducted since 1965. Because of the long interval between surveys, it is especially important that it cover those groups at high nutritional risk, that the data be as complete and accurate as possible, and that it be thoroughly analyzed.

The Honorable Elmer B. Staats  
November 22, 1976

Therefore, I request that the General Accounting Office address the following areas of inquiry:

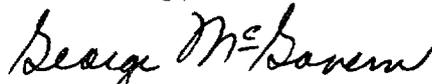
- (1) The number and kinds of analyses that are currently planned and any changes in approach that have occurred since the survey was originally planned;
- (2) The capacity of the HFCS as currently structured to provide an accurate account of the diets of members of low-income families, who are the primary recipients of our food programs, and the capacity of the HFCS to accurately and completely measure over-all food consumption in the United States;
- (3) The usefulness and practicability to policy makers of the methods chosen for the HFCS, with recommendations as to what analyses should or could be undertaken to gain a more complete and better understanding of the nation's nutritional condition.

Currently, the survey is planned to begin April 1. Consequently, I would appreciate it if your examination could be undertaken immediately. If possible, I would like to have a preliminary report on your findings by February 1, 1977, and a final report by March 1.

I consider the Household Food Consumption Survey to be of potentially great importance in guiding individual nutrition as well as food policy in the United States, and I hope that this inquiry will be given high priority.

Thank you for your continuing cooperation.

Sincerely,



George McGovern  
Chairman

COMPARISON OF SAMPLE POPULATIONS1974 PRELIMINARY RFP AND 1976 RFP1974 RFP1976 RFPPresurvey workPresurvey workI. One city pilot study

I. Survey approximately 200 households and their members to test questionnaires, instructions, interviewers, etc. Survey to be conducted in one city.

A. Select 3 sample groups--A, B, and C. Using these groups:

1. Sample A--250 households; survey using 1965 procedures.
2. Sample B--250 households; survey with 7-day household and 3-day individual, using current methodology.
3. Sample C--Screen first to find low-income groups. Then use same procedure as for Sample B, surveying only 100 households.

Basic surveyBasic survey

I. 13,000 households in CONUS (3,250 quarters for 4 quarters), at least 24,000 individual surveys sampling one-half of the households for first three quarters and all households during the last quarter. 2,000 low-income households selected by screening over all 4 quarters.

I. 15,000 households in CONUS (3,750/quarter for 4 quarters). For 3-day intake, all individuals in first quarter, for last 3 quarters, all individuals 18 and under and one-half of individuals 19 and over.

II. Supplementary sample of 4,700 households from HEW listing of elderly blind, and disabled (Social Security participants). Three day diets only for the individual named on the list and any other household member 65 years or older, during all 4 quarters.

Optional surveys

I. 3,200 households selected from State listings of Aid to Families with Dependent Children participants. Three day diets on all individuals in these households, possibly some 10,400 total, during 4 quarters.

Independent surveys

I. Alaska, Hawaii, Puerto Rico, Guam, and the Virgin Islands (in only one quarter of 1975-76, as selected by CFEI). Total for all five areas - 5,000 households, plus one day diets for at least 13,000 individuals.

II. Additional sample of 1,500 households during spring quarter using 1965-66 procedures (so-called "bridging survey). One day intake surveys for each member of household, except only one-half of individuals between 20 through 64 years will be surveyed.

Optional surveys

I. 5,000 elderly households drawn from HEW listings of Social Security participants. Three day diets on all individuals within these households.

II. 5,000 low-income households 2,250 of which participants in the food stamp program. The remainder to be eligible, but not participating, or slightly above income thresholds for eligibility. Three day intake on all individuals in these households. (To be conducted over only 2 quarters.)

III. 1,200 households in Alaska in only one quarter. Three day survey of all individuals in these households.

IV. 1,200 households in Hawaii in only one quarter. Three day survey of all individuals in these households.

V. 1,000 households in Guam in only one quarter. Three day survey of all individuals therein.

SCHEDULE 1

SCHEDULE 1

1976 RFP

VI. 1,000 households in Virgin Islands during two quarters. Three day survey of all individuals in those households.

VII. 3,000 households in Puerto Rico in two quarters. Three day survey on all individuals in these households.

The funding for the Booz-Allen contract is divided among the following agencies:

<u>Segment</u>	<u>Total</u>	<u>ARS</u>	<u>FNS</u>	<u>SSA</u>	<u>AOA</u>	<u>FDA</u>	<u>Commerce</u>
Nationwide	\$ 4,118,382	\$ 3,818,382				\$ 200,000	\$ 100,000
Elderly	988,271	213,271		\$ 700,000	\$ 75,000		
Puerto Rico	1,050,482	56,082	\$ 994,400				
Alaska	404,355	404,355					
Hawaii	419,137	419,137					
<b>Total</b>	<b>\$ 6,980,627</b>	<b>\$ 4,911,227</b>	<b>\$ 994,400</b>	<b>\$ 700,000</b>	<b>\$ 75,000</b>	<b>\$ 200,000</b>	<b>\$ 100,000</b>

The following tabulation shows the funds appropriated for the survey to ARS for fiscal years 1976 through 1977, and the funds that are allocated to the contract by fiscal year:

	<u>Appropriated</u>	<u>Contract</u>
Fiscal year 1976 and transition quarter	\$ 1,550,000	\$ 1,786,600
Fiscal year 1977	2,950,000	2,394,000
Fiscal year 1978	(a)	730,627
<b>Total</b>	<b>\$ 4,500,000</b>	<b>\$ 4,911,227</b>

(a) ARS estimates \$2,300,000 will be appropriated for fiscal year 1978, of which \$1,569,373 would be devoted to tabulation and analysis and \$730,627 for the Alaska-Hawaii segments.

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