

**NHANES 2001-2002 Data Release
November 2004**

Food Security (FSQ_B)

Survey Years Included in this File: 2001-2002

Questionnaire Section Characteristics:

Questionnaire Section Description:

The Food Security section (FSQ) covers a variety of areas relating to lack of adequate food and receipt of food assistance in various forms. FSQ items were included in various parts of the NHANES survey, both in the household interview and in the Mobile Exam Center (MEC). These are listed and described separately.

U.S. Household Food Security Survey Module (FSSM)

The 18-item module, formerly known as the “Core food security module” was administered to one adult in a household, even if there was more than one family in the household. The questions referred to all household members, even if they were not individual participants in NHANES. The FSSM has been used on many other surveys, including the Current Population Survey (CPS), whose results are used to provide an estimate of the percent of US households that is food insecure and that experiences hunger.

Interview setting: Home

Mode of administration: In-person

Eligible sample: All households, but high income households were screened out of the questions. One adult responds.

Release level: All household members

Food program participation

NHANES included questions on receipt of benefits from the Special Supplemental Nutrition Program for Women, Infants and Children (WIC), food stamp receipt, and reduced price or free school meals. Data on subsidized school meals are released with the Diet Behavior section (DBQ); WIC and food stamp data are included in this FSQ release. Questions about WIC were asked at the household level and at the individual child and mother level.

WIC: Household received

Interview setting: Home

Mode of administration: In-person

Eligible sample: All households with a child 0-5 and/or a woman 12-59 years. One adult responds.

Release level: All household members

WIC: Child received

Interview setting: Home
Mode of administration: In-person
Eligible sample: Children 0-5 years old. Adult responds.
Release level: Individual child

WIC: Mother received

Interview setting: Mobile Exam Center
Mode of administration: In-person
Eligible sample: Women pregnant, lactating, or within 6 months of giving birth. Woman responds.
Release level: Individual woman

Food Stamps: How many in household authorized

Interview setting: Home
Mode of administration: In-person
Eligible sample: All households. One adult responds.
Release level: All household members

Food Stamps: Individual authorized; how many months, currently authorized

Interview setting: Home
Mode of administration: In-person
Eligible sample: All household members. One adult responds.
Release level: Individual beneficiary

Individual Food Security

NHANES 2001-2002 included questions for children and adults on their individual experience of food insecurity. The questions are derived from a subset of those asked at the household level in the FSSM. Adults are asked 5 questions, with 2 follow-ups about frequency; 5 questions with 1 frequency follow-up are asked for children. This is the first time these questions have been included in a national survey.

Interview setting: Mobile Exam Center
Mode of administration: In-person
Eligible sample: Children under 12; adults/ teens 16 years and over
Release level: Individual adult or child

Eligible sample and any section-specific exclusion criteria:

Refer above.

Data Processing and Editing:

Data collection

Food Adequacy Indicator

The USDA food adequacy indicator (FSD.010) was asked of only a subset of households and these data are not released

Food Security Survey Module (FSSM)

NHANES 2001-2002 contains the 18-item U.S. Food Security Survey Module (formerly known as the Core Module) which is used in numerous surveys, including the Current Population Survey (CPS) and is the basis for national level reports of food insecurity and hunger. This module was part of the family interview but was asked at the household level and answered by one adult respondent, even if there were multiple families in the household. Not all households screened into the FSSM. Screening into the module was based upon response to the USDA food adequacy indicator and/or income. Screens within the module itself were based on answers to prior questions. Screens were not always implemented consistently, because of computer programming errors and glitches as well as procedural changes. Data are released in four categories: Food secure, marginally food secure, food insecure without hunger, food insecure with hunger.

WIC

A question about receipt of any WIC benefits in the past 12 months was asked in the family interview. The question was asked about the entire household and was answered by one adult respondent, even if there were multiple families in the household. Questions about an individual child participant's WIC benefits – past 12 months, current, and duration- were asked in the diet behavior section (DBQ) of the interview and were answered by an adult respondent. Children up to 5 years of age were eligible. Women who were pregnant, lactating, or within 6 months of birth were asked about WIC benefits in the MEC, as part of the Reproductive Health Section (RHQ). Household, child, and mother data on receipt of WIC benefits are released.

Food Stamps

Questions about authorization to receive food stamps in the past 12 months were included in the FSQ section of the family interview and were answered by one adult respondent. The questions asked about authorization for anyone in the household, who in the household was authorized, how many months in the past 12 months the person was authorized, and whether the person was now authorized. Data are released on number of people in household authorized for food stamps, individual

authorization, number of months received in past 12 months, and current authorization. Individual data are not available for all participants.

Individual Food Security

Questions on an individual's experience of food insecurity were asked for children under 12 years and adults 16 years and over residing in households that had reported an experience of household-level food insecurity in the family interview, defined as a positive response to one or more of the first 5 FSSM questions. The individual-referenced questions were asked following the dietary recall in the MEC. Proxies responded for children, adults responded for themselves. The questions were a subset of those asked at the household level in the FSSM. Adults were asked 5 questions, with 2 follow-ups about frequency; proxies for children were asked 5 questions with 1 frequency follow-up. Data are released on that individual's record.

Data Editing

Food Security Survey Module (FSSM)

When screening procedures and skips operated correctly, respondents with no prior affirmative responses and/or high income were skipped out of some subsequent questions. Responses to the subsequent questions were coded as negative.

Where data were missing for a specific item not resulting from a valid skip, results were imputed when possible, using the instructions for imputing given in the "Guide to Measuring Household Food Security, Revised 2000." Series of truly missing data could not be imputed and were left as missing. Data for child-referenced items were not imputed if none were answered.

Screening for entry into the Food Security Survey Module varied over the two years, using response to the USDA food adequacy indicator or reported income to screen out some households. Households screened out of questions were presumed to have responded negatively to all FSSM items.

Several of the internal screens in the FSSM did not always work correctly. Where possible, the data were edited to simulate these screens. Where this was not possible, data are missing.

FSSM responses were used to create three categorical measures of food security for households with children and two for households without children.

The household measure uses all 18 items (or 10 items for households without children) in a manner consistent with the CPS categorical measure, depicted on page 31 of the "Guide to Measuring Household Food Security, Revised 2000" (<http://www.fns.usda.gov/fsec/FILES/FSGuide.pdf>). The four categories created for household food security are: food secure, marginally food secure ("at risk" in the guide), food insecure without hunger, and food insecure with hunger (moderate and severe hunger have been combined into one category).

The adult measure uses 10 items to create four response categories. These categories are the same as those used for the household measure, but they utilize only the household and adult items and label names differ slightly. The adult measure is scored the same as the household scale for households with adults only (uses 10 items), whether or not there are children in the household. Thus, for adult-only households, the household and adult measures are identical.

It is further described in documentation on the Survey of Program Dynamics <http://www.ers.usda.gov/data/FoodSecurity/spd/spd98.pdf> and <http://www.ers.usda.gov/data/FoodSecurity/spd/spd01.pdf>.

The child measure categorization is based upon the ERS research report “Measuring Children’s Food Security in U.S. Households, 1995-99” (<http://www.ers.usda.gov/publications/fanrr25/fanrr25.pdf>), which uses the 8 child-referenced items to classify households into two categories (no or insufficient evidence of hunger; clear evidence of hunger). However, the NHANES data are grouped into four categories, for consistency with the household and adult measures. The first category in the ERS report is separated into three categories (food quantity and quality unaffected (0), marginally food secure (1), and food insecure without hunger 2-4). The most severe category is scored the same as that in the ERS report: but labeled “child food insecure with hunger (5-8).”

WIC

Responses to questions about the duration of receipt of WIC benefits for children (FSQ.655) were categorized into ≤ 6 , 7-12, 13-18, 19-24, 25-30, 31-36, and ≥ 37 months. Durations that appeared to be mis-entered (e.g. in years rather than months) were edited. When children’s ages and length of WIC benefits were in different categories, the data were coded as missing.

Food Stamps

Computer programming errors resulted in some missing data on how many months each person was authorized to receive food stamps, and whether the person was currently authorized. These data could not be imputed and remain missing. A household level variable was created containing the number of people in the household receiving food stamps. This can be used in conjunction with the variable for the total number of people in the household to calculate the percentage of household members receiving food stamps.

Individual food security

Data for people who were not asked the individual-referenced food security questions in the MEC because of negative responses to food security questions in the household interview have been coded as missing, **but should be considered negative responses for most analytic purposes**. Those who should have been asked questions but were not because of programming glitches are also coded as missing – **these are true missings**. Three items (two adult and one child) have follow-up questions on how many days a meal was skipped or cut, or an adult didn’t eat. Questions asking how many days a person had gone without food, or a meal

was cut or skipped, were coded as missing if the response to the base question was no. They were also coded as missing if the base question was missing. If responses to all initial individual-referenced questions were negative, the question about going a whole day without food was not asked but was coded as negative.

Analytic Notes:

Notes on Data Collection, Data Release, and Data Analysis

The implementation of the Food Security Survey Module in NHANES was not always identical to its implementation in the CPS due to a programming error. For some participants, the items used for screening into the children's questions (FSQ.110, 120, 140, 145) were the more severe adult questions (FSQ.070, 080, and 090) rather than the less severe ones used in the CPS (FSQ.030f, 040, 060, 070, 080). Thus, some participants who should have been asked these questions were not. No responses could be imputed for these items so these data are missing. **Consequently, households that were fully food secure are over-represented in the sample with valid data at the household, adult, and child level and should not be used for prevalence estimates.**

Similarly, there were some people who should have received the individual-referenced food security questions in the MEC who did not, again due to programming errors. These people have missing data. It is important NOT to consider that these missing responses are negative; they are true missings. People who were not asked these questions because of prior negative responses were also coded as missing, but for most analytic purposes their responses should be considered as NEGATIVE responses. These two very different categories of missing responses can be identified by cross-classification with the household food security measure HHfdsec. Households that are fully food secure on HHfdsec (i.e., had no affirmative responses) were correctly screened out of the individual-referenced food security questions, and their responses may be considered as NEGATIVE. Households for which HHfdsec was missing were correctly screened out of the individual-referenced food security questions, but their responses to those questions should also be considered MISSING. Households for which HHfdsec was 2, 3, or 4 (marginally food secure or food insecure) and for which all individual-referenced food security questions are missing were incorrectly screened out of the individual-referenced food security questions or did not answer these questions and their responses to those questions should be considered MISSING.

Because of the programming errors, **it is not valid to use these data to estimate the prevalence of individual food security, since only a subset of people who should have been asked these questions were, in fact, asked.** These data are best suited to correlational analyses, with elimination of records of people who should have received the individual-referenced questions but did not, identified by missing values on the individual-referenced items and a response of 2-4 for household food security (HHfdsec). In addition, it is important to distinguish between missing responses for the number of times something happened due to a negative responses

to the prior question (in which case the number could be considered zero), and missing responses that are truly missing.

Some responses to a question about emergency food use were considered invalid. Interviewers reported that people misunderstood the phrase “eat in a community kitchen” to include eating at a community senior center or other type of community center, not one specifically for people without food, more commonly called a “soup kitchen.” Analyses of the data confirmed numerous positive responses to the question by people who reported no food problems in earlier questions. Therefore, these data are not released.

When a screening procedure within the Food Security Survey Module did not work correctly, but data could be used to impute “presumed negative” responses, this was done. However data could not be generated for respondents who should have been asked a series of questions but weren’t. In these cases, the FSSM measures are coded as missing.

Categorical variables for household, adult, and child food security scales have been constructed and are released. Because of confidentiality concerns, data from the FSSM are not released as responses to specific items nor as scale values. Responses to questions about duration of receipt of WIC benefits for a mother for her last pregnancy and for a child sometimes exceeded the length allowed (pregnancy plus one year if lactating for a mother, 5 years for a child). Interviewers believe that mothers may not be able to distinguish well between their food and their child’s food, and that they sometimes receive food continuously because of consecutive pregnancies. Reasons for child errors may also be confusion of one child’s benefits with another’s, or mistaken entry. NCHS staff did not edit the length of use data for women but the data were categorized.

Errors occurred in the collection of details about food stamp receipt. Data are complete on receipt by 1) anyone in a household and 2) each individual household member, however follow-up details are not available for some individuals.

In data analysis and interpretation, it is important to take account of the level at which the data were collected and are released. Individual mother and child WIC data, individual food stamp data, and individual food security data are all released on an individual participant’s record only. However, the household level WIC variable, food stamp variable, and the three food security scales (household, adult, and child) are all released on the record of every individual in the household. These variables do not necessarily reflect the status of any one individual unless that person is the only child, adult, or person in the household. **Thus, it would not be appropriate to use the FSSM data, for example, to estimate the prevalence of children or adults experiencing hunger in the US.** Further, because of some errors in the FSSM data collection and the relatively small sample size, the Current Population Survey (CPS) data are more appropriate for estimating the number of children or adults living in households that are classified as experiencing hunger. The NHANES data are best suited for analyses which examine household food security in relation to health and nutritional status, and the individual-referenced data would be expected to strengthen associations. Similarly, small sample size for food stamp data make them best suited for analyses of association rather than prevalence estimates.

Data Access:

The five data files described in these notes are located on the NHANES website at: http://www.cdc.gov/nchs/about/major/nhanes/NHANES99_00.htm

For instructions general information about this data release, as well as how to access the SAS transport files, refer to: <http://www.cdc.gov/nchs/data/nhanes/gendoc.pdf>

Additional general information about the release, including data analysis, is found at the following URL:

<http://www.cdc.gov/nchs/about/major/nhanes/NHANES19992000FAQS.htm>

The NHANES 1999-2000 Analytic guidelines give guidance on how to analyze data and sample programs. Check <http://www.cdc.gov/nchs/data/nhanes/guidelines1.pdf>

Another SAS program sample is given at the following URL:

<http://www.cdc.gov/nchs/data/nhanes/examrgcd.txt>

References:

Guide to measuring Household Food Security, Revised 2000. Available at: <http://www.fns.usda.gov/fsec/FILES/FSGuide.pdf>

Measuring Children's Food Security in U.S. Households, 1995-99. Available at: <http://www.ers.usda.gov/publications/fanrr25/fanrr25.pdf>

Survey of Program Dynamics 1998 Food Security Status File
Technical Documentation and User Notes. Available at:
<http://www.ers.usda.gov/data/foodsecurity/spd/spd98.pdf>

Survey of Program Dynamics 2001 Food Security Status File
Technical Documentation and User Notes. Available at:
<http://www.ers.usda.gov/data/foodsecurity/spd/spd01.pdf>