GNA/MNA FFQ Processing System
Technical Documentation

v2020

Contents

Overview

The FFQ Processing System takes a [batch](#) of completed FFQ forms as input and generates several datasets, the most important of which is the [daily nutrient intake dataset](#). This documentation outlines the major components of the processing system and provides details about the calculations used in producing the output datasets. It is intended primarily for users of NASR's newest FFQ forms (i.e. GNA and MNA and their Spanish language equivalents), but the concepts also apply to other forms (e.g. GSEL, WHX).

Scanning

The first stage of the processing system is the scanning of a batch. FFQs are passed through a mark sense scanner where hand-marked questionnaire responses are converted into ASCII data.

Error Checking

The ASCII data produced by the scanner is checked for errors. If errors are detected they are written to a text file—this file is known as the error report and is included in the [batch output](#). If errors are detected on a questionnaire, processing is still completed. It is the responsibility of the researcher to determine the severity of the errors and whether a given FFQ should be considered "acceptable". However, the processing system does provide the outcome of a pass/fail test which is written to the error report as a reasonable guideline for acceptability. The [pass/fail test](#) and the [defaults used when errors are encountered](#) are described below.

Calculating Daily Nutrient Intake

Once error checking is complete, the processing system proceeds with calculating nutrient intake. This can be broken into two phases: (1) the estimation of annual servings and (2) the estimation of the nutrients associated with those annual servings.

(1) Annual Servings

In the first phase, the processing system estimates the number of annual medium servings for each FFQ food item. For a "regular" food item this means simply multiplying the reported frequency by the reported portion size. For example, a participant reporting a frequency of "1 per week" and a portion size of "Small" for the food item "Eggs" would be assigned 26 annual medium servings of "Eggs"-that's 52 annual medium servings for "1 per week" (see formats for [Regular Food Frequencies](#) below) multiplied by 0.5 for "Small" (see formats for [Portion Size](#) below).

For "adjusted" food items, the calculation of annual medium servings varies in complexity depending on the type of adjustment used. An example of a fairly simple adjustment is the calculation for "Cold cereal". Take a participant who reported "1 per day" as the frequency, "Medium" for the portion size, and marked the first and second cereals for the adjustment question that reads "When you ate cold cereal, what type did you usually eat?". The total annual medium servings of "Cold cereal" would be 365 (365 x 1.0). But this would be divided between two types of cereal so that there were 182.5 annual medium servings of "Highly fortified cereals" and 182.5 annual medium servings of "High fiber or bran cereals". Note that there is no food item in the nutrient database called "Cold cereals". Instead there are the four cereal types listed in the adjustment question.

More complex adjustments include the vegetable and fruit adjustments described below in the section titled [Vegetable and Fruit Summary Adjustments](#). Other adjustments are described in the section titled [Adjustment Questions: application and defaults](#).

(2) Nutrient Database

In the second phase, the processing system estimates annual nutrients consumed. For each food item the annual medium servings are multiplied by the single medium serving nutrient data for that food item which are stored in a nutrient database. Each record in the nutrient database represents the nutrient content of a single medium serving of a single food item. For example, there is a record for "Eggs" which has a Food ID (3717 for GNA; 3903 for MNA) followed by values for grams (104.9), calories (190.1), fat (14.2), etc. When calculating annual nutrients consumed for "Eggs", each single medium serving nutrient value is multiplied by the annual medium servings for "Eggs" arrived at in the first phase. When this has been done for all food items, the food item nutrient results are summed and divided by 365 resulting in the average daily intake of each nutrient.

The Error Report and Error Defaults

The error report lists the locations and types of all errors. The report is sorted by FFQ booklet ID number. Note that the food item questions are numbered starting with FFRQ1 for "Cold cereals" through FFRQ106 for "Other candy, such as Lifesavers, licorice and jelly beans." Beverages are numbered starting at BFRQ1 for "Milk (all types) as a beverage" through BFRQ18 for "Liquor and mixed drinks." See Survey Variables below for a list of all the variables.

The following types of errors are reported:

- Multiple marks when only one is allowed
- Missing values when a value is required
- Food sections with less than half the foods marked

The table below shows the default behavior if errors or missing values are encountered in the frequency section of the FFQ. Note that the default behavior for adjustment questions and summary questions are described in other sections.

Scenario	Default Behavior
Food frequency is present, but portion size is missing	No error is reported. Medium portion size is used.
Food frequency is missing, but portion size is present	Error is reported. No consumption for this food.
Multiple marks for food frequency	Error is reported. No consumption for this food.
Food frequency is missing and portion size is missing	No error is reported. No consumption for this food.
Multiple marks for portion size	Error is reported. Medium portion size is used.

Pass/Fail Test

The error report includes the outcome of a pass/fail test. Any one of the following errors will generate a "fail" outcome:

- One or more illegal multiple mark response (this can be a food frequency, a portion, a summary, or an adjustment question)
- One or more missing summary question
- One or more bad page number (i.e. booklet IDs don't match)
- More than half the foods in a section are missing
- Illegal missing responses for three or more adjustment questions

Adjustment Questions: application and defaults

Food, beverage, and summary line items are preceded by "F", "B", and "S". Adjustment questions are preceded by "A". Note that where defaults for the men's (MNA) and general (GNA) surveys differ, they are explicitly stated.

Skin on chicken (A1)

1. Adjusts the following FFQ food line item: Chicken and turkey (F33)
2. Question options:
   a. Almost always - 100% with skin, 0% without skin
   b. Often - 75% with skin, 25% without skin
   c. Sometimes - 50% with skin, 50% without skin
   d. Rarely - 25% with skin, 75% without skin
   e. Never - 0% with skin, 100% without skin
3. If a frequency is given for F33, but for any reason adjustment question (A1) is missing, the value **defaults to the "Sometimes" option**. An error is reported if the answer to the "yes/no" part of the question is "Yes."

Fat on meat (A2)

1. Adjusts the following FFQ line item: Beef, pork, ham and lamb (F29)
2. Questions options:
   a. Almost always - 100% with fat, 0% without fat
   b. Often - 75% with fat, 25% without fat
   c. Sometimes - 50% with fat, 50% without fat
   d. Rarely - 25% with fat, 75% without fat
   e. Never - 0% with fat, 100% without fat
3. If a frequency is given for F29, but for any reason adjustment question (A2) is missing, the value **defaults to the "Rarely" option**. An error is reported if the answer to the "yes/no" part of the question is "Yes."

Type of ground meat (A3)

1. Adjusts the following FFQ line item: Ground meat, including hamburgers and meatloaf (F30)
2. Question options:
   a. If only one option is marked
      i. Regular - 100% regular ground beef
      ii. Lean - 100% lean ground beef
      iii. Extra lean - 100% extra lean ground beef
      iv. Ground chicken or turkey - 100% ground turkey
      v. Don't know - 50% extra lean ground beef, 50% lean ground beef
   b. If two or more options are marked, each of the chosen food options (i.-iv.) will be added at 1/n where n is the number of food options chosen. Note that in this case "Don't know" is not considered a "food" option.
3. If a frequency is given for F30, but for any reason adjustment question (A3) is missing, the value **defaults to 50% "Extra lean" and 50% "Lean."** An error is reported if the answer to the "yes/no" part of the question is "Yes."

Fortified juices (A4)

1. Adjusts the following FFQ line item: Orange juice and grapefruit juice (B8)
2. For each item below that is marked, the amount to the right of the item is added per medium serving of B8 reported.
   a. Extra Vitamin C – 36 mg
   b. Vitamin E – 6 IU
   c. Calcium – 350 mg
   d. None – nothing added
   e. Don't know – nothing added

Types of cold cereals (A5)

1. Adjusts the following FFQ line item: Cold cereal (F1)
2. Question options:
   a. If only one option is marked:
      i. Highly fortified cereals - 100% highly fortified cereals
      ii. High fiber or bran cereals - 100% high fiber cereals
      iii. Sweetened cereals - 100% sweetened cereals
      iv. Other cereals - 100% other cereals
   b. If two or more options are marked, each of the chosen food options (i.-iv.) will be added at 1/n where n is the number of food options chosen.
3. If a frequency is given for F1, but for any reason adjustment question (A5) is missing, the value **defaults to the "Other cereals" option**. An error is reported if the answer to the "yes/no" part of the question is "Yes."

Milk, cream or creamer on cereal (A6)

1. Adjusts the following FFQ line item: Milk on cereals (F3)
2. Question options:
   a. If only one option is marked:
      i. Cream or half and half - 100% half-and-half/cream
      ii. Whole milk - 100% whole milk
      iii. 2% milk - 100% two-percent milk
      iv. 1% milk or buttermilk - 100% one-percent milk
      v. Nonfat or skim milk - 100% nonfat milk
      vi. Soy milk - 100% soy milk
      vii. Non-dairy creamer - 100% non-dairy creamer
      viii. Don't know - 100% two-percent milk
   b. If two or more options are marked, each of the chosen food options (i.-vii.) will be added at 1/n where n is the number of food options chosen. Note that in this case "Don't know" is not considered a "food" option.
3. If a frequency is given for F3, but for any reason adjustment question (A6) is missing, the value **defaults to the "2% milk" option**. An error is reported if the answer to the "yes/no" part of the question is "Yes."

Milk, cream or creamer on coffee or tea (A7)

1. Adjusts the following FFQ line items: Milk, cream, or creamer added to tea and coffee (B6)
2. Question options:

a. If only one option is marked:
    i. Cream or half and half - 100% half-and-half/cream
    ii. Whole milk - 100% whole milk
    iii. 2% milk - 100% two-percent milk
    iv. 1% milk or buttermilk - 100% one-percent milk
    v. Nonfat or skim milk - 100% nonfat milk
    vi. Soy milk - 100% soy milk
    vii. Non-dairy creamer - 100% non-dairy creamer
    viii. Don't know - 100% two-percent milk
b. If two or more options are marked, each of the chosen food options (i.-vii.) will be added at 1/n where n is the number of food options chosen. Note that in this case "Don't know" is not considered a "food" option.
3. If a frequency is given for B6, but for any reason adjustment question (A7) is missing, the value **defaults to the "2% milk" option**. An error is reported if the answer to the "yes/no" part of the question is "Yes."

Milk as a beverage (A8)

1. Adjusts the following FFQ line items: Milk as a beverage (B1) and Latte, mocha or hot chocolate (B2)
2. Question options:
    a. If only one option is marked:
        i. Whole milk - 100% whole milk
        ii. 2% milk - 100% two-percent milk
        iii. 1% milk or buttermilk - 100% one-percent milk
        iv. Nonfat or skim milk - 100% nonfat milk
        v. Soy milk - 100% soy milk
        vi. Don't know - 100% two-percent milk
    b. If two or more options are marked, each of the chosen food options (i.-v.) will be added at 1/n where n is the number of food options chosen. Note that in this case "Don't know" is not considered a "food" option.
3. If a frequency is given for B1 or B2, but for any reason adjustment question (A8) is missing, the value **defaults to the "2% milk" option**. An error is reported if the answer to the "yes/no" part of the question is "Yes."

Type of salad dressing used (A9)

1. Adjusts the following FFQ line item: Salad Dressing (all types) (F59)
2. Question options:
    a. If only one option is marked:
        i. Regular - 100% regular dressing
        ii. low or reduced fat - 100% low or reduced fat dressing
        iii. Fat free or nonfat - 100% fat-free or nonfat dressing
    b. If two options are marked, each of the chosen food options (i.-iii.) will be added at 1/n where n is the number of food options chosen.
3. If a frequency is given for F59, but for any reason adjustment question (A9) is missing, the value **defaults to 50% "regular dressing" and 50% "low or reduced fat dressing"**. An error is reported if the answer to the "yes/no" part of the question is "Yes."

Type of mayonnaise used (A10)

1. Adjusts the following FFQ line item: Mayonnaise and mayonnaise-type spreads (F89)

2. Question options:
    a. If only one option is marked:
        i. Regular - 100% regular fat mayonnaise
        ii. Low or reduced fat - 100% diet mayonnaise
        iii. Fat free or nonfat - 100% fat-free mayonnaise
    b. If two options are marked, each of the chosen food options (i.-iii.) will be added at 1/n where n is the number of food options chosen.
3. Frequency is given for F89, but for any reason adjustment question (A10) is missing, the value **defaults to the "Regular" option**. An error is reported if the answer to the "yes/no" part of the question is "Yes."

Low fat cookies and cakes (A11)

1. Adjusts the following FFQ line item: Cookies and Cakes (F104)
2. Question options:
    a. Almost always - 100% lowfat, 0% regular
    b. Often - 75% lowfat, 25% regular
    c. Sometimes - 50% lowfat, 50% regular
    d. Rarely - 25% lowfat, 75% regular
    e. Never - 0% lowfat, 100% regular
3. If a frequency is given for F104, but for any reason adjustment question (A11) is missing, the value **defaults to the "Rarely" option**. An error is reported if the answer to the "yes/no" part of the question is "Yes."

Type of fat used when cooking vegetables or frying meat (A12)

1. Adjusts the following FFQ line item: summary question 1-fats used in food preparation (S1).
2. Question options:
    a. If only one option is marked:
        i. Butter - 100% Butter
        ii. Butter blended with oil or margarine – 100% Butter blended with oil or margarine
        iii. Stick margarine - 100% Stick margarine
        iv. Regular tub margarine - 100% Regular tub margarine
        v. Diet or light margarine - 100% Diet or light margarine
        vi. Olive oil - 100% Olive oil
        vii. Canola oil - 100% Canola oil
        viii. Other oils - 100% Soybean/cottonseed oil
        ix. Lard, bacon fat or meat drippings - 100% Lard
        x. Didn't use fat or used non-stick spray - If necessary to adjust line item (i.e. some fat use was reported in S1) then 50% Olive oil, 50% Canola oil
    b. If two or more options are marked, each of the chosen food options (i.-ix.) will be added at 1/n where n is the number of food options chosen. Note that in this case "Didn't use fat" is not considered a "food" option.
3. If a frequency is given for S1, but for any reason adjustment question (A12) is missing, the value **defaults to 50% Olive oil and 50% Canola oil**. In addition, an error is reported.

Type of fat added at the table on breads, vegetables or potatoes (A13)

1. Adjusts the following FFQ line items: Butter or margarine on breads, cereals, pancakes, etc (F10) and Butter, margarine, sour cream and other fat added to vegetables, potatoes and rice (F84)
2. Question options:

a. If only one option is marked:
    i. Butter – 100% Butter
    ii. Butter blended with oil or margarine – 100% Butter blended with oil or margarine
    iii. Stick margarine - 100% Stick margarine
    iv. Regular tub margarine - 100% Regular tub margarine
    v. Diet or light margarine - 100% Diet or light margarine
    vi. Olive oil - 100% Olive oil
    vii. Sour cream - 100% Sour cream
    viii. Didn't use fat - If necessary to adjust line item (i.e. some fat use reported in F10 or F84) then 50% Butter, 50% Tub margarine
b. If two or more options are marked, each of the chosen food options (i.-vii.) will be added at 1/n where n is the number of food options chosen. Note that in this case "Didn't use fat" is not considered a "food" option.

3. If a frequency is given for F10 or F84, but for any reason adjustment question (A13) is missing, the value **defaults to 50% "Butter" and 50% "Tub or liquid margarine"**. In addition, an error is reported.

Frequency and Portion Formats

(1) Regular food frequencies

Code	Label	Annual Servings
1	Never or less than once per month	0
2	1 per month	12
3	2 to 3 per month	28
4	1 per week	52
5	2 per week	104
6	3 to 4 per week	180
7	5 to 6 per week	264
8	1 per day	365
9	2 + per day	730

(2) Beverage frequencies

Code	Label	Annual Servings
1	Never or less than once per month	0
2	1-3 per month	22
3	1 per week	52
4	2-4 per week	144
5	5-6 per week	276
6	1 per day	365
7	2-3 per day	852
8	4-5 per day	1560
9	6+ per day	2190

(3) Portion size

Code	Label	Serving Ratio
1	S	0.5
2	M	1.0
3	L	1.5

(4) Fat summary frequencies

Code	Label	Annual Servings
1	Less than once per week	12
2	1-2 per week	75
3	3-4 per week	168
4	5-6 per week	264
5	1 per day	365
6	2 per day	730
7	3 per day	1095
8	4 per day	1460
9	5+ per day	1825

(5) Vegetable summary frequencies

Code	Label	Annual Servings
1	Less than once per week	12
2	1-2 per week	96
3	3-4 per week	180
4	5-6 per week	276
5	1 per day	365
6	2 per day	730
7	3 per day	1095
8	4 per day	1460
9	5+ per day	1825

(6) Fruit summary frequencies

Code	Label	Annual Servings
1	Less than once per week	12
2	1-2 per week	89
3	3-4 per week	180
4	5-6 per week	276
5	1 per day	365
6	2 per day	730
7	3 per day	1095
8	4 per day	1460
9	5+ per day	1825

Default for Summary Question 1

If summary question 1 is missing or bad, the "1-2 per week" option is assigned.

Vegetable and Fruit Summary Adjustments

(1) Vegetables

Summary question 2 is used to adjust the consumption frequency of a number of vegetable items. A ratio (calculated using the summary question and the vegetable frequency items) is applied to each of the items resulting in revised consumption for the items.

The following vegetable items are included:

1. Carrots
2. Broccoli
3. Cauliflower, cabbage and Brussels sprouts
4. Green or string beans
5. Green peas
6. Corn and hominy
7. Summer squash and zucchini
8. Winter squash such as acorn, butternut and pumpkin
9. Yams and sweet potatoes
10. Cooked greens such as spinach, mustard greens and collards

How to calculate the ratio:

ratio = (frequency as answered in summary question 2) / (sum of frequencies in items above)

Note that portion sizes are not included in the calculation of the denominator.

Adjustments to the ratio:

1. If summary question 2 is missing or bad the following **default ratios** are used:
   a. for MNA: **0.90**
   b. for GNA: **0.95**[**]
2. **Upper and lower limits** are imposed on the ratio. These are:
   a. for both MNA and GNA: **min 0.25, max 4.00**

[**]This is an average of the men's (0.90) and women's (1.00) default ratios for the VITAL FFQ.

(2) Fruits

Summary question 3 is used to adjust the consumption frequency of a number of fruit items. A ratio (calculated using the summary question and the fruit frequency items) is applied to each of the items resulting in revised consumption for the items.

The following fruit items are included:

1. Apples, applesauce and pears
2. Bananas
3. Peaches, nectarines and plums
4. Apricots (fresh, canned or dried)
5. Dried fruit (other than apricots) such as raisins and prunes
6. Oranges, grapefruit and tangerines (not juice)
7. Berries such as strawberries and blueberries
8. Cantaloupe, orange melon and mango
9. Watermelon and red melon
10. Any other fruit such as grapes, fruit cocktail, pineapple and cherries

How to calculate the ratio:

ratio = (frequency as answered in summary question 3) / (sum of frequencies in items above)

Note that portion sizes are not included in the calculation of the denominator.

Adjustments to the ratio:

1. If summary question 3 is missing or bad the following default ratios are used:
   a. for MNA: 0.55
   b. for GNA: 0.60[**]
2. Upper and lower limits are imposed on the ratio. These are:
   a. for both MNA and GNA: min 0.25, max 2.50

[**]This is an average of the men's (0.55) and women's (0.65) default ratios for the VITAL FFQ.

Daily Consumption of Vegetables and Fruits

The variables VEG5DAY and FRT5DAY hold the daily consumption of vegetables and fruit per day calculated using the "5-A-Day" method. These values are missing if summary questions on usual servings of vegetables and fruit are missing. The variables VEGSUMM and FRTSUMM hold daily consumption of vegetables and fruit using the "summation" method, which is the sum of serving across all vegetable and fruit items without adjustments. See Kristal AR, Vizenor NC, Patterson RE, Shattuck AL, McLerran D. Precision and bias of food frequency based measures of fruit and vegetable intakes. <u>Cancer Epidemiology Biomarkers & Prevention</u> 9:939-944, 2000 for more details on these methods.

(1) VEG5DAY Calculation

If summary question 2 is answered:

VEG5DAY =
    sumfrq2 +
    fcon58 (Green salad) +
    fcon60 (Fresh tomatoes) +
    0.5 * fcon62 (Green peppers and green chilies) +
    0.5 * fcon63 (Red peppers and red chilies) +
    fcon77 (Potatoes, not fried) +
    fcon80 (Coleslaw) +
    bcon7 (Tomato juice, V8 and other vegetable juice)

If summary question 2 is missing then VEG5DAY will be missing. Note that: (1) the "con" variables are consumption variables and have the portion size factor (0.5, 1.0, or 1.5) applied to them, (2) the first character ("f" or "b") indicates whether the item is a food or beverage, and (3) the number represents where the item is in the FFQ.

(2) FRT5DAY Calculation

If summary question 3 is answered:

FRT5DAY =
    sumfrq3 +
    bcon8 (Orange juice and grapefruit juice) +
    bcon9 (Other 100% fruit juice)

If summary question 3 is missing then FRT5DAY will be missing. Note that: (1) the "con" variables are consumption variables and have the portion size factor (0.5, 1.0, or 1.5) applied to them, (2) the first character ("f" or "b") indicates whether the item is a food or beverage, and (3) the number represents where the item is in the FFQ.

(3) VEGSUMM Calculation

VEGSUMM=
    fcon58 (Green salad) +
    fcon60 (Fresh tomatoes) +
    fcon61 (Carrots) +
    0.5 * fcon62 (Green peppers and green chilies) +
    0.5 * fcon63 (Red peppers and red chilies) +
    fcon64 (Broccoli) +
    fcon65 (Cauliflower, cabbage and Brussels sprouts) +
    fcon66 (Green or string beans) +
    fcon67 (Green peas) +
    fcon68 (Corn and hominy) +
    fcon69 (Summer squash, zucchini) +
    fcon70 (Winter squash) +
    fcon71 (Yams and sweet potatoes) +
    fcon72 (Cooked greens) +
    fcon77 (Potatoes, not fried) +
    fcon80 (Coleslaw) +
    bcon7 (Tomato juice, V8 and other vegetable juice)

(4) FRTSUMM Calculation

FRTSUMM =
    fcon90 (Apples, applesauce and pears) +
    fcon91 (Bananas) +
    fcon92 (Peaches, nectarines and plums) +
    fcon93 (Apricots) +
    fcon94 (Dried fruit) +
    fcon95 (Oranges, grapefruit and tangerines) +
    fcon96 (Berries) +
    fcon97 (Cantaloupe, orange melon and mango) +
    fcon98 (Watermelon and red melon) +
    fcon99 (Any other fruit) +
    bcon8 (Orange juice and grapefruit juice) +
    bcon9 (Other 100% fruit juice)

Batch Output

The batch output is the group of files created by the processing of a single batch. These files are zipped into a single file with a name of the form abc_nnn_yyyy_MM_dd_hhmm.zip where "abc" is the three-letter project code, "nnn" is the batch number, and yyyy_MM_dd_hhmm is the processing date and time.

The table below describes the files included in the batch output. Note that all datasets are provided in both SAS and SPSS formats. One dataset, the nutrient analysis dataset, is provided in Excel and tab-delimited text formats as well.

    abc = three-letter project code
    nnn = batch number (e.g. 001, 002)
    FFF = form name (e.g. GNA, MNA)
    yyyy_MM_dd_hhmm = date and time processed

Individual Batch Output

Filename	Contents
abc_nnn_yyyy_MM_dd_hhmm_nut.sas7bdat (SAS) abc_nnn_yyyy_MM_dd_hhmm_nut.sav (SPSS) abc_nnn_yyyy_MM_dd_hhmm_nut.xls (Excel) abc_nnn_yyyy_MM_dd_hhmm_nut.txt (Text)	Daily nutrient intake dataset - includes a record for each participant in a batch. Its fields contain estimated daily intake of more than 130 different nutrients.
abc_nnn_yyyy_MM_dd_hhmm_nutfmt.xls (Excel) abc_nnn_yyyy_MM_dd_hhmm_nutfmt.txt (Text)	List of variables in the daily nutrient intake dataset along with their labels and variable types.
abc_nnn_yyyy_MM_dd_hhmm_survey.sas7bdat (SAS) abc_nnn_yyyy_MM_dd_hhmm_survey.sav (SPSS)	Survey dataset - includes formatted questionnaire responses.
abc_nnn_yyyy_MM_dd_hhmm_serving.sas7bdat (SAS) abc_nnn_yyyy_MM_dd_hhmm_serving.sav (SPSS)	Serving dataset - provides number of annual medium servings per food item per person.
abc_nnn_yyyy_MM_dd_hhmm_error.sas7bdat (SAS) abc_nnn_yyyy_MM_dd_hhmm_error.sav (SPSS)	Error dataset - includes summary error information for each participant.
FFF_food.sas7bdat (SAS) FFF_food.sav (SPSS) FFF_food.xls (Excel) FFF_food.txt (Text)	List of the food items for the FFQ along with their IDs and serving sizes.
formats.sas7bcat (SAS)	SAS formats file which records special formats for the above SAS datasets.
abc_nnn_yyyy_MM_dd_hhmm.err	Error report - text file that details the errors for each participant in the batch.
readme.txt	Provides information about the contents of the output files.

Cumulative Batch Output

The cumulative output includes all batches processed up to the time the cumulative run occurs. So, for example, the cumulative run at the time batch 006 is run will include batches 001, 002, 003, 004, 005 and 006.

Filename	Contents

`abc_FFF_yyyy_MM_dd_hhmm_nut.sas7bdat (SAS)`
`abc_FFF_yyyy_MM_dd_hhmm_nut.sav (SPSS)`
`abc_FFF_yyyy_MM_dd_hhmm_nut.xls (Excel)`
`abc_FFF_yyyy_MM_dd_hhmm_nut.txt (Text)`
	Daily nutrient intake dataset - includes a record for each FFQ in a batch. Its fields contain estimated daily intake of more than 130 different nutrients.

`abc_FFF_yyyy_MM_dd_hhmm_nutfmt.xls (Excel)` `abc_FFF_yyyy_MM_dd_hhmm_nutfmt.txt (Text)`	List of variables in the daily nutrient intake dataset along with their labels and variable types.
`abc_FFF_yyyy_MM_dd_hhmm_survey.sas7bdat (SAS)` `abc_FFF_yyyy_MM_dd_hhmm_survey.sav (SPSS)`	Survey dataset - includes formatted questionnaire responses.
`abc_FFF_yyyy_MM_dd_hhmm_serving.sas7bdat (SAS)` `abc_FFF_yyyy_MM_dd_hhmm_serving.sav (SPSS)`	Serving dataset - provides number of annual medium servings per food item per person.
`abc_FFF_yyyy_MM_dd_hhmm_error.sas7bdat (SAS)` `abc_FFF_yyyy_MM_dd_hhmm_error.sav (SPSS)`	Error dataset - includes summary error information for each FFQ.

`FFF_food.sas7bdat (SAS)`
`FFF_food.sav (SPSS)`
`FFF_food.xls (Excel)`
`FFF_food.txt (Text)`
	List of the food items for the FFQ along with their IDs and serving sizes.

`formats.sas7bcat (SAS)`	SAS formats file which records special formats for the above SAS datasets.
`abc_FFF_yyyy_MM_dd_hhmm.err`	Error report - text file that details the errors for each FFQ.
`readme.txt`	Provides information about the contents of the output files.
`abcscan.lst`	Text file that lists the batches included in a cumulative run. Only provided for cumulative output.

Variables in Daily Nutrient Intake Dataset

Variable Name	Variable Label	Units/day
Primary Energy Sources		
CALORIES	Energy	kcal
JOULES	Energy	kJ
FAT	Total Fat	gm
CARBO	Total Carbohydrate	gm
AVCARB	Available Carbohydrate	gm
PROTEIN	Total Protein	gm
PROTANIM	Animal Protein	gm
PROTVEG	Vegetable Protein	gm
GLUTEN	Gluten	gm
ALCOHOL	Alcohol	gm
Fat and Cholesterol		
CHOLEST	Cholesterol	mg
SOLIDFAT	Solid Fats	gm
SFATOT	Total Saturated Fatty Acid (SFA)	gm
MFATOT	Total Monounsaturated Fatty Acids (MUFA)	gm
PFATOT	Total Polyunsaturated Fatty Acids (PUFA)	gm
TOTALTFA	Total Trans-Fatty Acids	gm
TOTCLA	Total Conjugated Linoleic Acid (CLA 18:2)	gm
OMEGA3	Omega-3 Fatty Acids	gm
OMEGA6	Omega-6 Fatty Acids	gm
Carbohydrates		
FRUCTOSE	Fructose	gm
GALACTOS	Galactose	gm
GLUCOSE	Glucose	gm
LACTOSE	Lactose	gm
MALTOSE	Maltose	gm
SUCROSE	Sucrose	gm
TOTSUGAR	Total Sugars	gm

Variable Name	Variable Label	Units/day
ADDSUGAR	Added Sugars (by Available Carbohydrate)	gm
ADSUGTOT	Added Sugars (by Total Sugars)	gm
STARCH	Starch	gm
TGRAIN	Total Grains	oz equivalents
RGRAIN	Refined Grains	oz equivalents
WGRAIN	Whole Grains	oz equivalents
Glycemic Load		
GLAC	Glycemic Load based on available carbohydrate	
GLTC	Glycemic Load based on total carbohydrate	
NCCGLBR	Glycemic Load (bread reference)	
NCCGLGR	Glycemic Load (glucose reference)	
Fiber		
FIBER	Total Dietary Fiber	gm
FIBH2O	Soluble Dietary Fiber	gm
FIBINSO	Insoluble Dietary Fiber	gm
PECTINS	Pectins	gm
Vitamins		
VITA_RE	Total Vitamin A Activity (Retinol Equivalents)	RE
VITA_IU	Total Vitamin A Activity (International Units)	IU
VITA_RAE	Total Vitamin A Activity (Retinol Activity Equivalents)	RAE
RETINOL	Retinol	mcg
VITD	Vitamin D (calciferol)	mcg
VITD2	Vitamin D2 (ergocalciferol)	mcg
VITD3	Vitamin D3 (cholecalciferol)	mcg
VITE_IU	Vitamin E (International Units)	IU
ALPHTOCE	Total Alpha-Tocopherol Equivalents (Total Vitamin E)	mg
ALPHTOCO	Alpha-Tocopherol	mg
NATOCO	Natural Alpha-Tocopherol (RRR-alpha-tocopherol or d-alpha-tocopherol)	mg
SATOCO	Synthetic Alpha-Tocopherol (all rac-alpha-tocopherol or dl-alpha-tocopherol)	mg
BETATOCO	Beta-Tocopherol	mg

Variable Name	Variable Label	Units/day
GAMMTOCO	Gamma-Tocopherol	mg
DELTTOCO	Delta-Tocopherol	mg
VITK	Vitamin K (phylloquinone)	mcg
VITC	Vitamin C (ascorbic acid)	mg
THIAMIN	Thiamin (vitamin B1)	mg
RIBOFLA	Riboflavin (vitamin B2)	mg
NIACIN	Niacin (vitamin B3)	mg
NIACINEQ	Niacin Equivalents	mg
PANTOTHE	Pantothenic Acid	mg
VITB6	Vitamin B6 (pyridoxine, pyridoxyl, and pyridoxamine)	mg
TOTFOLAT	Total Folate	mcg
FOL_DEQV	Folate Dietary Equivalents	mcg
FOL_NAT	Folate Natural (food folate)	mcg
FOL_SYN	Folate Synthetic (folic acid)	mcg
VITB12	Vitamin B12 (cobalamin)	mcg
Carotenoids		
BETACAR	Beta-Carotene (provitamin A carotenoid)	mcg
ALPHACAR	Alpha-Carotene (provitamin A carotenoid)	mcg
BETACRYP	Beta-Cryptoxanthin (provitamin A carotenoid)	mcg
LUTZEAX	Lutein + Zeaxanthin	mcg
LYCOPENE	Lycopene	mcg
Minerals		
CALCIUM	Calcium	mg
PHOSPHOR	Phosphorus	mg
MAGNES	Magnesium	mg
IRON	Iron	mg
ZINC	Zinc	mg
COPPER	Copper	mg
SELENIUM	Selenium	mcg
SODIUM	Sodium	mg
POTASS	Potassium	mg

Variable Name	Variable Label	Units/day
MANGAN	Manganese	mg
Fatty Acids		
SFA40	SFA 4:0 (butyric acid)	gm
SFA60	SFA 6:0 (caproic acid)	gm
SFA80	SFA 8:0 (caprylic acid)	gm
SFA100	SFA 10:0 (capric acid)	gm
SFA120	SFA 12:0 (lauric acid)	gm
SFA140	SFA 14:0 (myristic acid)	gm
SFA160	SFA 16:0 (palmitic acid)	gm
SFA170	SFA 17:0 (margaric acid)	gm
SFA180	SFA 18:0 (stearic acid)	gm
SFA200	SFA 20:0 (arachidic acid)	gm
SFA220	SFA 22:0 (behenic acid)	gm
MFA141	MUFA 14:1 (myristoleic acid)	gm
MFA161	MUFA 16:1 (palmitoleic acid)	gm
MFA181	MUFA 18:1 (oleic acid)	gm
MFA201	MUFA 20:1 (gadoleic acid)	gm
MFA221	MUFA 22:1 (erucic acid)	gm
PFA182	PUFA 18:2 (linoleic acid, undifferentiated)	gm
PFA182N6	PUFA 18:2 n-6 (linoleic acid [LA])	gm
PFA183	PUFA 18:3 (linolenic acid, undifferentiated)	gm
PFA183N3	PUFA 18:3 n-3 (alpha-linolenic acid [ALA])	gm
PFA183N6	PUFA 18:3 n-6 (gamma-linolenic acid [GLA])	gm
PFA184	PUFA 18:4 (parinaric acid)	gm
PFA204	PUFA 20:4 (arachidonic acid, undifferentiated)	gm
PFA204N6	PUFA 20:4 n-6 (arachidonic acid [AA])	gm
PFA205	PUFA 20:5 n-3 (eicosapentaenoic acid [EPA])	gm
PFA225	PUFA 22:5 n-3 (docosapentaenoic acid [DPA])	gm
PFA226	PUFA 22:6 n-3 (docosahexaenoic acid [DHA])	gm
TFA161T	TRANS 16:1 (trans-hexadecenoic acid)	gm
TFA181T	TRANS 18:1 (trans-octadecenoic acid [elaidic acid])	gm

Variable Name	Variable Label	Units/day
TFA182T	TRANS 18:2 (trans-octadecadienoic acid [linolelaidic acid]); includes c-t, t-c, t-t)	gm
CLAC9T11	CLA cis-9, trans-11	gm
CLAT10C12	CLA trans-10, cis-12	gm
Amino Acids		
TRYPTOPH	Tryptophan	gm
THREONIN	Threonine	gm
ISOLEUC	Isoleucine	gm
LEUCINE	Leucine	gm
LYSINE	Lysine	gm
METHION	Methionine	gm
CYSTINE	Cystine	gm
PHENYLAL	Phenylalanine	gm
TYROSINE	Tyrosine	gm
VALINE	Valine	gm
ARGININE	Arginine	gm
HISTIDIN	Histidine	gm
ALANINE	Alanine	gm
ASPARTIC	Aspartic Acid	gm
GLUTAMIC	Glutamic Acid	gm
GLYCINE	Glycine	gm
PROLINE	Proline	gm
SERINE	Serine	gm
Isoflavones (and related)		
DAIDZEIN	Daidzein	mg
GENISTN	Genistein	mg
GLYCITN	Glycitein	mg
COUMEST	Coumestrol	mg
BIOCHANA	Biochanin A	mg
FORMONTN	Formononetin	mg
LIGTOT	Total Lignans	mcg

Variable Name	Variable Label	Units/day
LIGSEC	Secoisolariciresinol	mcg
LIGMAT	Matairesinol	mcg
LIGLAR	Lariciresinol	mcg
LIGPIN	Pinoresinol	mcg
Sugar Alcohols (Polyols)		
ERYTHRITOL	Erythritol	gm
INOSITOL	Inositol	gm
ISOMALT	Isomalt	gm
LACTITOL	Lactitol	gm
MALTITOL	Maltitol	gm
MANNITOL	Mannitol	gm
PINITOL	Pinitol	gm
SORBITOL	Sorbitol	gm
XYLITOL	Xylitol	gm
Other		
ASPARTAM	Aspartame	mg
SACCHAR	Saccharin	mg
TAGATOSE	Tagatose	mg
CAFFEINE	Caffeine	mg
PHYTIC	Phytic Acid	mg
OXALIC	Oxalic Acid	mg
METHHIS3	3-Methylhistidine	mg
SUCPOLY	Sucrose Polyester	gm
SUCRLOSE	Sucralose	mg
CHOLINE	Choline	mg
BETAINE	Betaine	mg
ACESUPOT	Acesulfame Potassium	mg
NITROGEN	Nitrogen	gm
ASH	Ash	gm
WATER	Water	gm
GRAMS	Gram Amount (weight)	gm

Variable Name	Variable Label	Units/day
Summary Variables		
FRT5DAY	Daily Fruit Consumption (5-A-Day Method)	
FRTSUMM	Daily Fruit Consumption (Summation Method)	
VEG5DAY	Daily Vegetable Consumption (5-A-Day Method)	
VEGSUMM	Daily Vegetable Consumption (Summation Method)	
Document Variables		
BATCHID	Batch ID	
BARCODE	Barcode ID (if applicable)	
DATE	Date Survey Completed	
IDNUM	Participant ID Number	
PROCDATE	Processing Date	
RECNO	Record Number	
SRVID	Survey Identification (unique pre-printed booklet ID)	
VERSDB	Food Database Version Number	
VERSFFQ	FFQ Algorithm Version Number	
VERSNDS	NDSR Food Database Version Number	

Alphabetical List of Variables in Daily Nutrient Intake Dataset

Variable Name	Variable Label
ACESUPOT	Acesulfame Potassium (mg)
ADDSUGAR	Added Sugars (by Available Carbohydrate) (gm)
ADSUGTOT	Added Sugars (by Total Sugars) (gm)
ALANINE	Alanine (gm)
ALCOHOL	Alcohol (gm)
ALPHACAR	Alpha-Carotene (mcg)
ALPHTOCE	Total alpha-toc eq (mg)
ALPHTOCO	Alpha-Tocopherol (mg)
ARGININE	Arginine (gm)
ASH	Ash (gm)
ASPARTAM	Aspartame (mg)
ASPARTIC	Aspartic acid (gm)
AVCARB	Available Carbohydrate (gm)
BATCHID	Batch ID
BARCODE	Barcode ID (if applicable)
BETACAR	Beta-Carotene (mcg)
BETACRYP	Beta-Cryptoxantin (mcg)
BETAINE	Betaine (mg)
BETATOCO	Beta-Tocopherol (mg)
BIOCHANA	Biochanin A (mg)
CAFFEINE	Caffeine (mg)
CALCIUM	Calcium (mg)
CALORIES	Energy (kcal)
CARBO	Total Carbohydrate (gm)
CHOLEST	Cholesterol (mg)
CHOLINE	Choline (mg)
CLAC9T11	CLA cis-9, trans-11 (gm)
CLAT10C12	CLA trans-10, cis-12 (gm)
COPPER	Copper (mg)

Variable Name	Variable Label
COUMEST	Coumestrol (mg)
CYSTINE	Cystine (gm)
DAIDZEIN	Daidzein (mg)
DATE	Date Survey Completed
DELTTOCO	Delta-Tocopherol (mg)
ERYTHR	Erythritol (g)
FAT	Total Fat (gm)
FIBER	Dietary Fiber (gm)
FIBH2O	Soluble Dietary Fiber (gm)
FIBINSO	Insoluble Dietary Fiber (gm)
FOL_DEQV	Folate-dietary equivalents (mcg)
FOL_NAT	Folate-natural (food folate) (mcg)
FOL_SYN	Folate-synthetic (folic acid) (mcg)
FORMONTN	Formononetin (mg)
FRT5DAY	Daily Fruit Consumption (5-A-Day method)
FRTSUMM	Daily Fruit Consumption (Summation method)
FRUCTOSE	Fructose (gm)
GALACTOS	Galactose (gm)
GAMMTOCO	Gamma-Tocopherol (mg)
GENISTN	Genistein (mg)
GLAC	Glycemic Load based on available carbohydrate
GLTC	Glycemic Load based on total carbohydrate
GLUCOSE	Glucose (gm)
GLUTAMIC	Glutamic acid (gm)
GLUTEN	Gluten (gm)
GLYCINE	Glycine (gm)
GLYCITN	Glycitein (mg)
GRAMS	Gram Amount
HISTIDIN	Histidine (gm)
IDNUM	Participant ID Number
INOSITOL	Inositol (g)

Variable Name	Variable Label
IRON	Iron (mg)
ISOLEUC	Isoleucine (gm)
ISOMALT	Isomalt (g)
JOULES	Energy (kJ)
LACTITOL	Lactitol (g)
LACTOSE	Lactose (gm)
LEUCINE	Leucine (gm)
LIGLAR	Lariciresinol (mcg)
LIGMAT	Matairesinol (mcg)
LIGPIN	Pinoresinol (mcg)
LIGSEC	Secoisolariciresinol (mcg)
LIGTOT	Total Lignans (mcg)
LUTZEAX	Lutein + Zeaxanthin (mcg)
LYCOPENE	Lycopene (mcg)
LYSINE	Lysine (gm)
MAGNES	Magnesium (mg)
MALTITOL	Maltitol (g)
MALTOSE	Maltose (gm)
MANGAN	Manganese (mg)
MANNITOL	Mannitol (g)
METHHIS3	3-Methylhistidine (mg)
METHION	Methionine (gm)
MFA141	MUFA 14:1 (gm)
MFA161	MUFA 16:1 (gm)
MFA181	MUFA 18:1, oleic acid (gm)
MFA201	MUFA 20:1 (gm)
MFA221	MUFA 22:1 (gm)
MFATOT	Total MUFA (gm)
NATOCO	Natural Alpha-Tocopherol (RRR-alpha-tocopherol or d-alpha-tocopherol) (mg)
NCCGLBR	Glycemic Load (bread reference)
NCCGLGR	Glycemic Load (glucose reference)

Variable Name	Variable Label
NIACIN	Niacin (mg)
NIACINEQ	Niacin Equivalents (mg)
NITROGEN	Nitrogen (gm)
OMEGA3	Omega-3 Fatty Acids (gm)
OMEGA6	Omega-6 Fatty Acids (gm)
OXALIC	Oxalic Acid (mg)
PANTOTHE	Pantothenic Acid (mg)
PECTINS	Pectins (gm)
PFA182	PUFA 18:2, linoleic acid (gm)
PFA182N6	PUFA 18:2 n-6 (linoleic acid [LA])
PFA183	PUFA 18:3, linolenic acid (gm)
PFA183N3	PUFA 18:3 n-3 (alpha-linolenic acid [ALA]) (gm)
PFA183N6	PUFA 18:3 n-6 (gamma-linolenic acid [GLA])
PFA184	PUFA 18:4 (gm)
PFA204	PUFA 20:4 (gm)
PFA204N6	PUFA 20:4 n-6 (arachidonic acid [AA])
PFA205	PUFA 20:5, EPA (gm)
PFA225	PUFA 22:5 (gm)
PFA226	PUFA 22:6, DHA (gm)
PFATOT	Total PUFA (gm)
PHENYLAL	Phenylalanine (gm)
PHOSPHOR	Phosphorous (mg)
PHYTIC	Phytic Acid (mg)
PINITOL	Pinitol (g)
POTASS	Potassium (mg)
PROCDATE	Processing Date
PROLINE	Proline (gm)
PROTANIM	Animal protein (gm)
PROTEIN	Protein (gm)
PROTVEG	Vegetable protein (gm)
RECNO	Record Number

Variable Name	Variable Label
RETINOL	Retinol (mcg)
RGRAIN	Refined Grains (ounce equivalents)
RIBOFLA	Riboflavin (mg)
SACCHAR	Saccharin (mg)
SATOCO	Synthetic Alpha-Tocopherol (all rac-alpha-tocopherol or dl-alpha-tocopherol) (mg)
SELENIUM	Selenium (mcg)
SERINE	Serine (gm)
SFA40	SFA 4:0 (gm)
SFA60	SFA 6:0 (gm)
SFA80	SFA 8:0 (gm)
SFA100	SFA 10:0 (gm)
SFA120	SFA 12:0 (gm)
SFA140	SFA 14:0 (gm)
SFA160	SFA 16:0, palmitic acid (gm)
SFA170	SFA 17:0 (gm)
SFA180	SFA 18:0, stearic acid (gm)
SFA200	SFA 20:0 (gm)
SFA220	SFA 22:0 (gm)
SFATOT	Total SFA (gm)
SODIUM	Sodium (mg)
SOLIDFAT	Solid Fats (g)
SORBITOL	Sorbitol (g)
SRVID	Survey Identification (unique pre-printed booklet ID)
STARCH	Starch (gm)
SUCPOLY	Sucrose polyester (gm)
SUCRLOSE	Sucralose (mg)
SUCROSE	Sucrose (gm)
TAGATOSE	Tagatose (mg)
TFA161T	TRANS 16:1 (gm)
TFA181T	TRANS 18:1 (gm)
TFA182T	TRANS 18:2 (gm)

Variable Name	Variable Label
TGRAIN	Total Grains (ounce equivalents)
THIAMIN	Thiamin (mg)
THREONIN	Threonine (gm)
TOTALTFA	Total Trans-Fatty Acids (gm)
TOTCLA	Total Conjugated Linoleic Acid (CLA 18:2) (gm)
TOTFOLAT	Total Folate (mcg)
TOTSUGAR	Total Sugar (gm)
TRYPTOPH	Tryptophan (gm)
TYROSINE	Tyrosine (gm)
VALINE	Valine (gm)
VEG5DAY	Daily Vegetable Consumption (5-A-Day Method)
VEGSUMM	Daily Vegetable Consumption (Summation Meth)
VERSDB	Food Database Version Number
VERSFFQ	FFQ Algorithm Version Number
VERSNDS	NDSR Food Database Version Number
VITA_IU	Total Vit A Activity (international units)
VITA_RAE	Total Vit A Activity (retinol activity equiv)
VITA_RE	Total Vit A Activity (retinol equiv)
VITB12	Vitamin B12 (mcg)
VITB6	Vitamin B6 (mg)
VITC	Vitamin C (mg)
VITD	Vitamin D (calciferol) (mcg)
VITD2	Vitamin D2 (ergocalciferol) (mcg)
VITD3	Vitamin D3 (cholecalciferol) (mcg)
VITE_IU	Vitamin E (international units)
VITK	Vitamin K (mcg)
WATER	Water (gm)
WGRAIN	Whole Grains (ounce equivalents)
XYLITOL	Xylitol (g)
ZINC	Zinc (mg)

List of Variables in Survey Dataset

Variable names for adjustment question responses begin with the prefix "ADJ" and are followed by a number indicating the question number in the survey associated with the response. Variables for responses to the second part of an adjustment question have an "A" in their name (e.g. ADJ1A). If the adjustment question is of the "select one or more" type there will be a variable for each possible response. For example, there are three variables for the second part of adjustment question 9: ADJ9A_1, ADJ9A_2, ADJ9A_3.

The possible values for "yes/no" adjustment questions are: 1 = "yes" and 0 = "no"; for "almost always…never" type adjustment questions: 1.00 = "almost always", 0.75 = "often", 0.50 = "sometimes", 0.25 = "rarely", and "0.00" never; and for "select one or more" type adjustment questions: 1 = selected and missing = not selected.

The variable names for food frequency question responses begin with the prefix "FFRQ" (for the frequency) and "FPOR" (for the portion size) and are followed by a number representing the order of the item on the questionnaire. The values are based on the frequency and portion size formats (1 and 3) above.

The variable names for beverage frequency question responses begin with the prefix "BFRQ" (for the frequency) and "BPOR" (for the portion size) and are followed by a number representing the order of the item on the questionnaire. The values are based on the beverage frequency and portion size formats (2 and 3) above.

The variable names for summary question responses begin with the prefix "SUMFRQ" and are followed by a number corresponding with the order of the summary question on the questionnaire. The values are based on the frequency formats (4 through 6) above.

The following values apply to most variables: "." = missing, "-9901" = Bad scanner data, and "-9902" = Illegal multiple responses.

The portion variables have the medium serving size for the GNA FFQ in brackets. Note that the MNA has different medium serving sizes for some food items.

Variable Name	Variable Label
SCAN_DT	Scan date
SCAN_TM	Scan time
SRVID	Survey Identification (unique pre-printed booklet ID)
IDNUM	Participant ID Number
ADJ1	1. Did you eat chicken or turkey?
ADJ1A	1.1 When you ate chicken or turkey, how often did you eat the skin?
ADJ2	2. Did you eat beef, pork, ham or lamb?
ADJ2A	2.1 When you ate beef, pork, ham or lamb, how often did you eat the fat?
ADJ3	3. Did you eat hamburger or other ground meat?
ADJ3A_1	3.1 When you ate hamburger or other ground meat, was it usually-- (Mark one or two.) [1 => Regular]

Variable Name	Variable Label
ADJ3A_2	3.1 When you ate hamburger or other ground meat, was it usually-- (Mark one or two.) [2 => Lean]
ADJ3A_3	3.1 When you ate hamburger or other ground meat, was it usually-- (Mark one or two.) [3 => Extra lean]
ADJ3A_4	3.1 When you ate hamburger or other ground meat, was it usually-- (Mark one or two.) [4 => Ground chicken or turkey]
ADJ3A_5	3.1 When you ate hamburger or other ground meat, was it usually-- (Mark one or two.) [5 => Don't know]
ADJ4	4. Did you drink orange, grapefruit or other fruit juices?
ADJ4A_1	4.1 Were any of these vitamins or minerals added (specially fortified) to the juices you drank? (Mark all that apply.) [1 => Extra Vitamin C]
ADJ4A_2	4.1 Were any of these vitamins or minerals added (specially fortified) to the juices you drank? (Mark all that apply.) [2 => Vitamin E]
ADJ4A_3	4.1 Were any of these vitamins or minerals added (specially fortified) to the juices you drank? (Mark all that apply.) [3 => Calcium]
ADJ4A_4	4.1 Were any of these vitamins or minerals added (specially fortified) to the juices you drank? (Mark all that apply.) [4 => None]
ADJ4A_5	4.1 Were any of these vitamins or minerals added (specially fortified) to the juices you drank? (Mark all that apply.) [5 => Don't know]
ADJ5	5. Did you eat cold cereals?
ADJ5A_1	5.1 When you ate cold cereals, what type did you usually eat? (Mark one or two.) [1 => Highly fortified cereals (100% of daily values) such as Total, Smart Start, and Product 19]
ADJ5A_2	5.1 When you ate cold cereals, what type did you usually eat? (Mark one or two.) [2 => High-fiber or bran cereals, such as Raisin Bran and All Bran]
ADJ5A_3	5.1 When you ate cold cereals, what type did you usually eat? (Mark one or two.) [3 => Sweetened cereals such as Frosted Flakes and Froot Loops]
ADJ5A_4	5.1 When you ate cold cereals, what type did you usually eat? (Mark one or two.) [4 => All other cereals such as Cheerios, Corn Flakes and granola]
ADJ6	6. Did you put milk (all types), cream or creamer on cereal?
ADJ6A_1	6.1 When you put milk, cream or creamer on cereal, what type did you usually use? (Mark one or two.) [1 => Cream or half and half]
ADJ6A_2	6.1 When you put milk, cream or creamer on cereal, what type did you usually use? (Mark one or two.) [2 => Whole milk]
ADJ6A_3	6.1 When you put milk, cream or creamer on cereal, what type did you usually use? (Mark one or two.) [3 => 2% milk]
ADJ6A_4	6.1 When you put milk, cream or creamer on cereal, what type did you usually use? (Mark one or two.) [4 => 1% milk or buttermilk]

Variable Name	Variable Label
ADJ6A_5	6.1 When you put milk, cream or creamer on cereal, what type did you usually use? (Mark one or two.) [5 => Non-fat or skim milk]
ADJ6A_6	6.1 When you put milk, cream or creamer on cereal, what type did you usually use? (Mark one or two.) [6 => Soy milk]
ADJ6A_7	6.1 When you put milk, cream or creamer on cereal, what type did you usually use? (Mark one or two.) [7 => Non-dairy creamer]
ADJ6A_8	6.1 When you put milk, cream or creamer on cereal, what type did you usually use? (Mark one or two.) [8 => Don't know]
ADJ7	7. Did you put milk (all types), cream or creamer in coffee or tea?
ADJ7A_1	7.1 When you put milk, cream or creamer in coffee or tea, what type did you usually use? (Mark one or two.) [1 => Cream or half and half]
ADJ7A_2	7.1 When you put milk, cream or creamer in coffee or tea, what type did you usually use? (Mark one or two.) [2 => Whole milk]
ADJ7A_3	7.1 When you put milk, cream or creamer in coffee or tea, what type did you usually use? (Mark one or two.) [3 => 2% milk]
ADJ7A_4	7.1 When you put milk, cream or creamer in coffee or tea, what type did you usually use? (Mark one or two.) [4 => 1% milk or buttermilk]
ADJ7A_5	7.1 When you put milk, cream or creamer in coffee or tea, what type did you usually use? (Mark one or two.) [5 => Non-fat or skim milk]
ADJ7A_6	7.1 When you put milk, cream or creamer in coffee or tea, what type did you usually use? (Mark one or two.) [6 => Soy milk]
ADJ7A_7	7.1 When you put milk, cream or creamer in coffee or tea, what type did you usually use? (Mark one or two.) [7 => Non-dairy creamer]
ADJ7A_8	7.1 When you put milk, cream or creamer in coffee or tea, what type did you usually use? (Mark one or two.) [8 => Don't know]
ADJ8	8. Did you drink milk (all types)? (Also include beverages made with milk, such as lattes, cappuccinos, mochas, or hot chocolate.)
ADJ8A_1	8.1 When you drank milk or beverages made with milk, was it usually-- (Mark one or two.) [1 => Whole milk]
ADJ8A_2	8.1 When you drank milk or beverages made with milk, was it usually-- (Mark one or two.) [2 => 2% milk]
ADJ8A_3	8.1 When you drank milk or beverages made with milk, was it usually-- (Mark one or two.) [3 => 1% milk or buttermilk]
ADJ8A_4	8.1 When you drank milk or beverages made with milk, was it usually-- (Mark one or two.) [4 => Non-fat or skim milk]
ADJ8A_5	8.1 When you drank milk or beverages made with milk, was it usually-- (Mark one or two.) [5 => Soy milk]

Variable Name	Variable Label
ADJ8A_6	8.1 When you drank milk or beverages made with milk, was it usually-- (Mark one or two.) [6 => Don't know]
ADJ9	9. Did you use salad dressing?
ADJ9A_1	9.1 When you used salad dressing, what type did you usually use? (Mark one or two.) [1 => Regular, including oil and vinegar]
ADJ9A_2	9.1 When you used salad dressing, what type did you usually use? (Mark one or two.) [2 => Low or reduced fat]
ADJ9A_3	9.1 When you used salad dressing, what type did you usually use? (Mark one or two.) [3 => Fat free or nonfat]
ADJ10	10. Did you use mayonnaise?
ADJ10A_1	10.1 When you used mayonnaise, what type did you usually use? (Mark one or two.) [1 => Regular]
ADJ10A_2	10.1 When you used mayonnaise, what type did you usually use? (Mark one or two.) [2 => Low or reduced fat]
ADJ10A_3	10.1 When you used mayonnaise, what type did you usually use? (Mark one or two.) [3 => Fat free or nonfat]
ADJ11	11. Did you eat cookies or cakes?
ADJ11A	11.1 When you ate cookies or cakes, how often were they fig bars, angel food cakes, or other types of low or nonfat cookies or cakes?
ADJ12_1	12. In your household, what kinds of fat were usually used when cooking, for example to flavor vegetables or fry meat? (Mark up to four.) [1 => Butter]
ADJ12_2	12. In your household, what kinds of fat were usually used when cooking, for example to flavor vegetables or fry meat? (Mark up to four.) [2 => Butter blended with oil or margarine]
ADJ12_3	12. In your household, what kinds of fat were usually used when cooking, for example to flavor vegetables or fry meat? (Mark up to four.) [3 => Stick margarine]
ADJ12_4	12. In your household, what kinds of fat were usually used when cooking, for example to flavor vegetables or fry meat? (Mark up to four.) [4 => Regular tub margarine]
ADJ12_5	12. In your household, what kinds of fat were usually used when cooking, for example to flavor vegetables or fry meat? (Mark up to four.) [5 => Diet or light margarine]
ADJ12_6	12. In your household, what kinds of fat were usually used when cooking, for example to flavor vegetables or fry meat? (Mark up to four.) [6 => Olive oil]
ADJ12_7	12. In your household, what kinds of fat were usually used when cooking, for example to flavor vegetables or fry meat? (Mark up to four.) [7 => Canola oil]
ADJ12_8	12. In your household, what kinds of fat were usually used when cooking, for example to flavor vegetables or fry meat? (Mark up to four.) [8 => Other oils such as corn, soybean, safflower or peanut]

Variable Name	Variable Label
ADJ12_9	12. In your household, what kinds of fat were usually used when cooking, for example to flavor vegetables or fry meat? (Mark up to four.) [9 => Lard, bacon fat or meat drippings]
ADJ12_10	12. In your household, what kinds of fat were usually used when cooking, for example to flavor vegetables or fry meat? (Mark up to four.) [10 => Didn't use fat or used non-stick spray (Pam)]
ADJ13_1	13. What kinds of fat did you use at the table, for example on breads, vegetables or potatoes? (Mark up to four.) [1 => Butter]
ADJ13_2	13. What kinds of fat did you use at the table, for example on breads, vegetables or potatoes? (Mark up to four.) [2 => Butter blended with oil or margarine]
ADJ13_3	13. What kinds of fat did you use at the table, for example on breads, vegetables or potatoes? (Mark up to four.) [3 => Stick margarine]
ADJ13_4	13. What kinds of fat did you use at the table, for example on breads, vegetables or potatoes? (Mark up to four.) [4 => Regular tub margarine]
ADJ13_5	13. What kinds of fat did you use at the table, for example on breads, vegetables or potatoes? (Mark up to four.) [5 => Diet or light margarine]
ADJ13_6	13. What kinds of fat did you use at the table, for example on breads, vegetables or potatoes? (Mark up to four.) [6 => Olive oil]
ADJ13_7	13. What kinds of fat did you use at the table, for example on breads, vegetables or potatoes? (Mark up to four.) [7 => Sour cream]
ADJ13_8	13. What kinds of fat did you use at the table, for example on breads, vegetables or potatoes? (Mark up to four.) [8 => Didn't use fat]
FFRQ1	Cold cereals
FFRQ2	Cooked cereals and grits
FFRQ3	Milk on cereals
FFRQ4	Pancakes, French toast and waffles
FFRQ5	Muffins, scones, croissants and biscuits
FFRQ6	White breads, including bagels, rolls and English muffins
FFRQ7	Whole grain breads and rolls
FFRQ8	Plain tortillas as a side dish
FFRQ9	Cornbread and corn muffins
FFRQ10	Butter or margarine on breads, cereals, pancakes, etc.
FFRQ11	Jam, jelly, honey, syrup and sugar (including in coffee, tea and cereal)
FFRQ12	Granola bars and cereal bars such as Nutri-Grain Bars
FFRQ13	Sports or meal replacement bars such as Power Bars and Clif Bars

Variable Name	Variable Label
FFRQ14	Low or nonfat potato chips, tortilla chips, corn chips and pretzels
FFRQ15	Regular potato chips, tortilla chips, corn chips and puffs
FFRQ16	Plain popcorn (no butter) or lowfat microwave popcorn
FFRQ17	Buttered or regular microwave popcorn
FFRQ18	Low or nonfat crackers, such as saltines
FFRQ19	Whole grain crackers such as Triscuits and rye crispbread
FFRQ20	Regular crackers, such as Ritz and club crackers
FFRQ21	Peanut butter, peanuts and other nuts and seeds
FFRQ22	Eggs
FFRQ23	Bacon and breakfast sausage
FFRQ24	Low or reduced fat hot dogs and sausage
FFRQ25	Regular hot dogs and sausage such as bratwurst and chorizo
FFRQ26	Lunch meats such as ham, turkey and lowfat bologna
FFRQ27	All other lunch meat such as bologna, salami and Spam
FFRQ28	Canned tuna, tuna salad and tuna casserole
FFRQ29	Beef, pork, ham and lamb
FFRQ30	Ground meat, including hamburgers and meatloaf
FFRQ31	Liver, chicken liver and organ meats
FFRQ32	Fried chicken, including nuggets and tenders
FFRQ33	Chicken and turkey (roasted, stewed, grilled or boiled)
FFRQ34	Fried fish, fish sandwich and fried shellfish (shrimp and oysters)
FFRQ35	Shellfish, not fried (shrimp, lobster, crab and oysters)
FFRQ36	White fish (broiled or baked) such as sole, halibut, snapper and cod
FFRQ37	Dark fish (broiled or baked) such as salmon, mackerel and bluefish
FFRQ38	Stew, pot pie, curries and casseroles with meat or chicken
FFRQ39	Chili with meat and beans
FFRQ40	Spaghetti, lasagna and other pasta with tomato and meat sauce
FFRQ41	Spaghetti and other pasta with tomato sauce (no meat)
FFRQ42	Pasta with oil, cheese or cream sauce, including macaroni and cheese
FFRQ43	Asian-style (stir-fried) noodles and rice, such as chow mein, fried rice and Pad Thai
FFRQ44	Pizza

Variable Name	Variable Label
FFRQ45	Tofu, tempeh and products such as tofu hot dogs, soy burgers and tofu cheese
FFRQ46	Burritos, tacos, tostadas and quesadillas
FFRQ47	Enchiladas and tamales
FFRQ48	Vegetable, minestrone and tomato soup
FFRQ49	Cream soups such as chowders, potato and cheese
FFRQ50	Bean soups such as pea, lentil and black bean
FFRQ51	Miso soup
FFRQ52	Ramen noodle soup
FFRQ53	Other soups such as chicken noodle
FFRQ54	Cottage cheese and ricotta cheese
FFRQ55	Low or reduced fat cheese, including cheese used in cooking
FFRQ56	All other cheese, such as American, cheddar or cream cheese, including cheese in cooking
FFRQ57	Yogurt, all types except frozen
FFRQ58	Green salad (lettuce or spinach)
FFRQ59	Salad dressing (all types)
FFRQ60	Fresh tomatoes
FFRQ61	Carrots
FFRQ62	Green pepper and green chilies
FFRQ63	Red peppers and red chilies
FFRQ64	Broccoli
FFRQ65	Cauliflower, cabbage and Brussels sprouts
FFRQ66	Green or string beans
FFRQ67	Green peas
FFRQ68	Corn and hominy
FFRQ69	Summer squash, zucchini
FFRQ70	Winter squash such as acorn, butternut and pumpkin
FFRQ71	Yams and sweet potatoes
FFRQ72	Cooked greens such as spinach, mustard greens and collards
FFRQ73	Onions and leeks
FFRQ74	Fresh garlic, included in cooking

Variable Name	Variable Label
FFRQ75	Avocado and guacamole
FFRQ76	French fries, fried potatoes and hash browns
FFRQ77	Potatoes (boiled, baked or mashed)
FFRQ78	Refried beans
FFRQ79	All other beans such as baked beans, lima beans and chili without meat
FFRQ80	Coleslaw
FFRQ81	Potato, macaroni and pasta salads made with mayonnaise or oil
FFRQ82	Brown rice, whole wheat pasta and other whole grains (as a side dish)
FFRQ83	White rice, noodles and other grains (as a side dish)
FFRQ84	Butter, margarine, sour cream and other fat added to vegetables, potatoes and rice
FFRQ85	Cheese sauce and cream sauce
FFRQ86	Meat gravies
FFRQ87	Ketchup
FFRQ88	Salsa (as dip or on foods)
FFRQ89	Mayonnaise and mayonnaise-type spreads
FFRQ90	Apples, applesauce and pears
FFRQ91	Bananas
FFRQ92	Peaches, nectarines and plums
FFRQ93	Apricots (fresh, canned or dried)
FFRQ94	Dried fruit (other than apricots) such as raisins and prunes
FFRQ95	Oranges, grapefruit and tangerines (not juice)
FFRQ96	Berries such as strawberries and blueberries
FFRQ97	Cantaloupe, orange melon and mango
FFRQ98	Watermelon and red melon
FFRQ99	Any other fruit such as grapes, fruit cocktail, pineapple and cherries
FFRQ100	Low or nonfat frozen desserts such as lowfat ice cream, frozen yogurt and sherbet
FFRQ101	Ice cream and milkshakes
FFRQ102	Pudding, custard and flan
FFRQ103	Doughnuts, pies and pastries
FFRQ104	Cookies and cakes
FFRQ105	Chocolate, candy bars and toffee

Variable Name	Variable Label
FFRQ106	Other candy, such as Lifesavers, licorice and jelly beans
SUMFRQ1	How often did you eat foods that were cooked in fat (pan-fried, sauteed, or deep-fried)? Count all fat such as margarine, butter, oil or lard.
SUMFRQ2	How often did you eat a serving of vegetables? Do not count potatoes, salad or beans.
SUMFRQ3	How often did you eat a serving of fruit? Do not count juices.
BFRQ1	Milk (all types) as a beverage
BFRQ2	Latte, cappuccino, mocha or hot chocolate
BFRQ3	Coffee (not lattes or mochas)
BFRQ4	Tea, unsweetened or diet
BFRQ5	Tea, presweetened, bottled or instant
BFRQ6	Milk, cream or creamer added to tea and coffee
BFRQ7	Tomato juice, V-8 and other vegetable juice
BFRQ8	Orange juice and grapefruit juice
BFRQ9	Other 100% fruit juice, such as apple, grape and cranberry
BFRQ10	Fruit drinks fortified with Vitamin C, such Hi-C and Kool-Aid
BFRQ11	Meal replacement drinks and shakes such as Slim-Fast and Ensure
BFRQ12	Diet soft drinks (include energy drinks)
BFRQ13	Regular soft drinks (include energy drinks)
BFRQ14	Water (tap, bottled or sparkling)
BFRQ15	Beer (all types)
BFRQ16	Red wine
BFRQ17	White or rose wine
BFRQ18	Liquor and mixed drinks
FPOR1	Cold cereals [1 cup]
FPOR2	Cooked cereals and grits [1 cup]
FPOR3	Milk on cereals [1/2 cup]
FPOR4	Pancakes, French toast and waffles [2 pieces]
FPOR5	Muffins, scones, croissants and biscuits [1 medium]
FPOR6	White breads, including bagels, rolls and English muffins [2 slices or 1 medium]
FPOR7	Whole grain breads and rolls [2 slices or 1 medium]
FPOR8	Plain tortillas as a side dish (include flour and corn) [2 small or 1 medium]

Variable Name	Variable Label
FPOR9	Cornbread and corn muffins [2 slices or 1 medium]
FPOR10	Butter or margarine on breads, cereals, pancakes, etc. [2 pats or 2 teaspoons]
FPOR11	Jam, jelly, honey, syrup and sugar (including in coffee, tea and cereal) [2 Tbsp.]
FPOR12	Granola bars and cereal bars such as Nutri-Grain Bars [1 bar]
FPOR13	Sports or meal replacement bars such as Power Bars and Clif Bars [1 bar]
FPOR14	Low or nonfat potato chips, tortilla chips, corn chips and pretzels [2 handfuls or 1 small bag]
FPOR15	Regular potato chips, tortilla chips, corn chips and puffs [2 handfuls or 1 small bag]
FPOR16	Plain popcorn (no butter) or lowfat microwave popcorn [4 handfuls]
FPOR17	Buttered or regular microwave popcorn [4 handfuls]
FPOR18	Low or nonfat crackers, such as saltines [6 medium]
FPOR19	Whole grain crackers such as Triscuits and rye crispbread [6 medium]
FPOR20	Regular crackers, such as Ritz and club crackers [6 medium]
FPOR21	Peanut butter, peanuts and other nuts and seeds [2 Tbsp or 1/4 cup]
FPOR22	Eggs [2 eggs]
FPOR23	Bacon and breakfast sausage [3 strips or 2 links]
FPOR24	Low or reduced fat hot dogs and sausage [1 hot dogs or 2 ounces]
FPOR25	Regular hot dogs and sausage such as bratwurst and chorizo [1 hot dogs or 2 ounces]
FPOR26	Lunch meats such as ham, turkey and lowfat bologna [2 slices]
FPOR27	All other lunch meat such as bologna, salami and Spam [2 slices]
FPOR28	Canned tuna, tuna salad and tuna casserole [1/2 can tuna or 1 cups casserole]
FPOR29	Beef, pork, ham and lamb [4 ounces]
FPOR30	Ground meat, including hamburgers and meatloaf [1 medium or 3 ounces]
FPOR31	Liver, chicken liver and organ meats [4 ounces]
FPOR32	Fried chicken, including nuggets and tenders [1 large piece or 6 nuggets]
FPOR33	Chicken and turkey (roasted, stewed, grilled or boiled) [1 large or 2 small pieces]
FPOR34	Fried fish, fish sandwich and fried shellfish (shrimp and oysters) [3 ounces or 1 sandwich]
FPOR35	Shellfish, not fried (shrimp, lobster, crab and oysters) [3 ounces or ½ cup]
FPOR36	White fish (broiled or baked) such as sole, halibut, snapper and cod [4 ounces]
FPOR37	Dark fish (broiled or baked) such as salmon, mackerel and bluefish [4 ounces]
FPOR38	Stew, pot pie, curries and casseroles with meat or chicken [1 cup]

Variable Name	Variable Label
FPOR39	Chili with meat and beans [1 cup]
FPOR40	Spaghetti, lasagna and other pasta with tomato and meat sauce [1 cup]
FPOR41	Spaghetti and other pasta with tomato sauce (no meat) [1 cup]
FPOR42	Pasta with oil, cheese or cream sauce, including macaroni and cheese [1 cup]
FPOR43	Asian-style (stir-fried) noodles and rice, such as chow mein, fried rice and Pad Thai [1 cup]
FPOR44	Pizza [2 slices]
FPOR45	Tofu, tempeh and products such as tofu hot dogs, soy burgers and tofu cheese [3 ounces, 1 hot dog or 1 burger]
FPOR46	Burritos, tacos, tostadas and quesadillas [1 medium]
FPOR47	Enchiladas and tamales [1 medium]
FPOR48	Vegetable, minestrone and tomato soup [1 cup]
FPOR49	Cream soups such as chowders, potato and cheese [1 cup]
FPOR50	Bean soups such as pea, lentil and black bean [1 cup]
FPOR51	Miso soup [1 cup]
FPOR52	Ramen noodle soup [1 cup]
FPOR53	Other soups such as chicken noodle [1 cup]
FPOR54	Cottage cheese and ricotta cheese [1/2 cup]
FPOR55	Low or reduced fat cheese, including cheese used in cooking [1 slice or 1/4 cup shredded]
FPOR56	All other cheese, such as American, cheddar or cream cheese, including cheese in cooking [1 slice, 1/4 cup shredded, or 2 Tbsp cream]
FPOR57	Yogurt, all types except frozen [6 ounces]
FPOR58	Green salad (lettuce or spinach) [1 cup]
FPOR59	Salad dressing (all types) [2 tablespoons]
FPOR60	Fresh tomatoes [1 medium or 4 slices]
FPOR61	Carrots [1/2 cup]
FPOR62	Green pepper and green chilies [1/4 cup]
FPOR63	Red peppers and red chilies [1/4 cup]
FPOR64	Broccoli [1/2 cup]
FPOR65	Cauliflower, cabbage and Brussels sprouts [1/2 cup]
FPOR66	Green or string beans [1/2 cup]
FPOR67	Green peas [1/2 cup]

Variable Name	Variable Label
FPOR68	Corn and hominy [1/2 cup]
FPOR69	Summer squash, zucchini [1/2 cup]
FPOR70	Winter squash such as acorn, butternut and pumpkin [1/2 cup]
FPOR71	Yams and sweet potatoes [1 medium]
FPOR72	Cooked greens such as spinach, mustard greens and collards [1/2 cup]
FPOR73	Onions and leeks [1/4 cup]
FPOR74	Fresh garlic, included in cooking [1 clove]
FPOR75	Avocado and guacamole [1/4 medium or 1/4 cup]
FPOR76	French fries, fried potatoes and hash browns [3/4 cup]
FPOR77	Potatoes (boiled, baked or mashed) [1 medium or 3/4 cup]
FPOR78	Refried beans [1/2 cup]
FPOR79	All other beans such as baked beans, lima beans and chili without meat [1/2 cup]
FPOR80	Coleslaw [1/2 cup]
FPOR81	Potato, macaroni and pasta salads made with mayonnaise or oil [1/2 cup]
FPOR82	Brown rice, whole wheat pasta and other whole grains (as a side dish) [1 cup]
FPOR83	White rice, noodles and other grains (as a side dish) [1 cup]
FPOR84	Butter, margarine, sour cream and other fat added to vegetables, potatoes and rice [1 pat or 1 teaspoon]
FPOR85	Cheese sauce and cream sauce [1/4 cup]
FPOR86	Meat gravies [1/4 cup]
FPOR87	Ketchup [2 Tbsp.]
FPOR88	Salsa (as dip or on foods) [1/4 cup]
FPOR89	Mayonnaise and mayonnaise-type spreads [2 Tbsp]
FPOR90	Apples, applesauce and pears [1 medium or 1/2 cup]
FPOR91	Bananas [1 medium]
FPOR92	Peaches, nectarines and plums [1 medium or 1/2 cup]
FPOR93	Apricots (fresh, canned or dried) [2 medium or 4 halves]
FPOR94	Dried fruit (other than apricots) such as raisins and prunes [1/4 cup]
FPOR95	Oranges, grapefruit and tangerines (not juice) [1 orange or 1/2 grapefruit]
FPOR96	Berries such as strawberries and blueberries [1/2 cup]
FPOR97	Cantaloupe, orange melon and mango [1/4 melon or 1/2 mango]

Variable Name	Variable Label
FPOR98	Watermelon and red melon [1 medium slice]
FPOR99	Any other fruit such as grapes, fruit cocktail, pineapple and cherries [1/2 cup]
FPOR100	Low or nonfat frozen desserts such as lowfat ice cream, frozen yogurt and sherbet [1 scoop]
FPOR101	Ice cream and milkshakes [1 scoop or 1 shake]
FPOR102	Pudding, custard and flan [3/4 cup]
FPOR103	Doughnuts, pies and pastries [1 piece]
FPOR104	Cookies and cakes [2 medium cookies or 1 piece of cake]
FPOR105	Chocolate, candy bars and toffee [1 regular bar or 2 pieces]
FPOR106	Other candy, such as Lifesavers, licorice and jelly beans [4 pieces or 12 jelly beans]
BPOR1	Milk (all types) as a beverage [1 cup]
BPOR2	Latte, cappuccino, mocha or hot chocolate [1 cup]
BPOR3	Coffee (not lattes or mochas) [1 cup]
BPOR4	Tea, unsweetened or diet [1 cup]
BPOR5	Tea, presweetened, bottled or instant [1 cup]
BPOR6	Milk, cream or creamer added to tea and coffee [1 Tbsp]
BPOR7	Tomato juice, V-8 and other vegetable juice [1 cup]
BPOR8	Orange juice and grapefruit juice [1 cup]
BPOR9	Other 100% fruit juice, such as apple, grape and cranberry [1 cup]
BPOR10	Fruit drinks fortified with Vitamin C, such Hi-C and Kool-Aid [1 cup]
BPOR11	Meal replacement drinks and shakes such as Slim-Fast and Ensure [1 cup]
BPOR12	Diet soft drinks (include energy drinks) [12 ounces or 1 can]
BPOR13	Regular soft drinks (include energy drinks) [12 ounces or 1 can]
BPOR14	Water (tap, bottled or sparkling) [1 cup]
BPOR15	Beer (all types) [12 ounce can or bottle]
BPOR16	Red wine [1 medium glass (6 oz)]
BPOR17	White or rose wine [1 medium glass (6 oz)]
BPOR18	Liquor and mixed drinks [1 shot (1.5 oz) or 1 mixed drink]
BATCHID	Batch ID
RECNO	Record Number
BARCODE	Barcode ID (if applicable)

Variable Name	Variable Label
DATE	Date Survey Completed
PROCDATE	Processing Date
VERSDB	Food Database Version Number
VERSFFQ	FFQ Algorithm Version Number
VERSNDS	NDSR Food Database Version Number

Comparison of GNA/MNA and GSEL/MSEL

The GNA (General Nutrition Assessment) and MNA (Men's Nutrition Assessment) replace NASR's older food frequency questionnaires (GSEL and MSEL). The GNA will be used for all new studies as of October 2010. The major change is the addition of whole grain items.

The following list summarizes the main updates incorporated in the GNA.

- Adjustment question for cereals now includes sweetened cereals
- Adjustment questions for fat in cooking and fat added at the table were revised:
  o Butter blended with oil or margarine was added
  o Margarine categories were revised to more accurately capture varying fat content
- Whole grain options were expanded
  o The previous line for "dark breads" was revised to "whole grain breads and rolls"
  o Whole grain crackers were added
  o Whole grains as a side dish (such as brown rice and whole wheat pasta) were added
- Plain tortillas (flour and corn) were added
- Several medium serving sizes were updated to reflect current portions commonly consumed:
  o Yogurt was changed from 1 cup to the more common serving of 6 oz
  o Rice, pasta and other grains as a side dish were changed from ¾ cup to 1 cup
  o Fruit and vegetable juices were changed from ¾ cup to 1 cup
- Tea now has two categories: unsweetened/diet tea and presweetened/bottled tea
- The soft drink lines now specify that energy drinks should be included here
- Brand names for products no longer widely available have been removed (i.e. SnackWells, Fruitopia)
- Juice fortification levels have been updated

Glossary

Batch

A group of FFQ forms that are scanned together at NASR. Batches are given a name which consists of a three-letter project code followed by a number, called the BatchNumber, that indicates how many batches have been scanned for the project. For example, ABC7 represents the seventh batch scanned for the ABC project.

Daily nutrient intake dataset

A dataset with a record for each participant in a batch. Its fields contain estimated daily intake of more than 130 different nutrients.