National Health and Nutrition Examination Survey

2015-2016 Data Documentation, Codebook, and Frequencies

Dietary Interview - Total Nutrient Intakes, First Day (DR1TOT_I)

Data File: DR1TOT_I.xpt

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Component Description

The objective of the dietary interview component is to obtain detailed dietary intake information from NHANES participants. The dietary intake data are used to estimate the types and amounts of foods and beverages (including all types of water) consumed during the 24-hour period prior to the interview (midnight to midnight), and to estimate intakes of energy, nutrients, and other food components from those foods and beverages. Following the dietary recall, participants are asked questions on salt use, whether the person's overall intake on the previous day was much more than usual, usual or much less than usual, and whether the participant is on any type of special diet. Questions on frequency of fish and shellfish consumed during the past 30 days are asked of participants 1 year or older, with the use of proxies for young children (see the MEC In-Person Dietary Interviewers Procedures Manual for more information on the proxy interview).

The dietary interview component, called What We Eat in America (WWEIA), is conducted as a partnership between the U.S. Department of Agriculture (USDA) and the U.S. Department of Health and Human Services (DHHS). Under this partnership, DHHS' National Center for Health Statistics (NCHS), Division of Health and Nutrition Examination Surveys is responsible for the survey sample design and all aspects of data collection and USDA's Food Surveys Research Group (FSRG) is responsible for the dietary data collection methodology, maintenance of the databases used to code and process the data, and data review and processing.

All NHANES participants are eligible for two 24-hour dietary recall interviews. The first dietary recall interview is collected in-person in the Mobile Examination Center (MEC) and the second interview is collected by telephone 3 to 10 days later.

As in previous years, two types of dietary intake data are available for the 2015-2016 survey cycle: Individual Foods files and Total Nutrient Intakes files.

What's New with the 2015-2016 WWEIA Release:

In the Total Nutrient files, the variables DR1MNRSP, DR2MNRSP, which indicate the main respondent, and the variables DR1HELPD and DR2HELPD, which indicate the person whom helped with the interview, were deleted. The new variables DR1MRESP, DR2MRESP, DR1HELP, and DR2HELP were added to indicate the main respondent and the person whom helped with the interview. **Appendix 1** provides a summary of changes among the 5 latest cycles of data collection.

Dietary Interview Data Files: Four data files were produced from the information collected in the dietary interviews: two Individual Foods files and two Total Nutrient Intakes files. Each file includes one day of intake data. The number "1" or "2" in the file name identifies the day (and mode) of the interview: 1 = first day (in-person), 2 = second day (phone). File names are as follows:

File Names for Dietary Interview Data:

File	Day 1	Day 2
Individual Foods File	DR1IFF_I	DR2IFF_I
Total Nutrient Intakes File	DR1TOT_I	DR2TOT_I

The amounts in these files reflect only nutrients obtained from foods, beverages, and water, including tap and bottled water. They do not include nutrients obtained from dietary supplement intakes, antacids, or medications. Data on intake of dietary supplement use are available on the NHANES 2015-2016 Dietary Data page.

Individual Foods Files (DR1IFF_I and DR2IFF_I): Detailed information about each food/beverage item (including the description, amount of, and nutrient content) reported by each participant is included in the Individual Foods files. The names for both Day 1 and Day 2 variables are listed in **Appendix 2**.

The Individual Foods files include, for each interview day, one record for each food/beverage consumed by a participant. Each record is uniquely numbered within a participant's set of records and contains the information listed below:

- Number of days of complete intake obtained from participant
- Day of the week of the intake
- Whether the food/beverage was eaten in combination with other foods, such as in a sandwich
- Time of eating occasion when the food was eaten
- Eating occasion name
- Where the food/beverage was obtained
- Whether the meal/snack was eaten at home or not
- A USDA FNDDS code identifying the food/beverage
- Amount of food/beverage consumed, in grams
- Food energy and 64 nutrients/food components (listed in **Appendix 3**) from each food/beverage as calculated using USDA's Food and Nutrient Database for Dietary Studies 2015-2016 (FNDDS 2015-2016)

Descriptions for the USDA FNDDS food codes are provided in the Food Code Description file (DRXFCD_I). The DRXFCD_I file includes abbreviated descriptions (up to 60 characters) and complete descriptions (up to 200 characters) associated with each USDA food code in the FNDDS 2015-2016. **Appendix 4** provides SAS code examples that may be used to link the food code description to the Individual Foods file.

Total Nutrient Intakes Files (DR1TOT_I and DR2TOT_I): For each participant, daily total energy and nutrient intakes from foods and beverages, and whether the amount of food consumed was usual, much more than usual, or much less than usual, are included in the Total Nutrient Intakes files. The Day 1 file also includes information on salt use in cooking and at the table; whether the participant is currently on any kind of diet to lose weight or for another health-related reason and, if so, the type of diet; and information on frequency of fish and shellfish consumption for participants aged 1 or older. The names for both Day 1 and Day 2 variables are listed in **Appendix 5**.

The Total Nutrient Intakes files provide a summary record of total nutrient intakes for each individual. Each total intake record contains the following information:

- Number of days of complete intake obtained from participant
- Day of the week of the intake
- Type of salt used and how often added at the table and in food preparation (Day 1 file only)
- Use of salt at the table yesterday and the type of salt used

- Whether the participant is currently on any kind of diet to lose weight or for other health-related reason and, if so, the type of diet (Day 1 file only)
- Total number of foods and beverages including water reported for that participant for that day's intake
- Daily aggregates of food energy and 64 nutrients/food components (listed in **Appendix 3**) from all foods/beverages as calculated using USDA's Food and Nutrient Database for Dietary Studies 2015-2016 (FNDDS 2015-2016)
- Whether the amount of food consumed was usual, much more than usual, or much less than usual
- Total amount of tap and bottled water consumed (calculated as the sum of reports of water drunk by itself in the 24-hour recall) and the usual source of tap water (e.g., community supply, well or rain cistern, spring, etc.)
- Frequency of fish and shellfish consumption in the past 30 days (participants one year or older, Day 1 file only)

Eligible Sample

All NHANES participants are eligible for the dietary interview component. However, only participants one year or older are eligible for the frequency of fish and shellfish consumption questions following the 24-hour recall.

Protocol and Procedure

The examination protocol and data collection methods are fully documented in the NHANES dietary interviewer procedures manuals (In-person interview and phone follow-up interview).

Interviews were conducted for participants less than six years of age with a proxy (who was generally the person most knowledgeable about the participant's intake). Interviews of children ages 6 to 8 were conducted with a proxy and the child present to assist in reporting intake information. Interviews of children ages 9-11, were conducted with the child and the assistance of a proxy familiar with the child's intake. Participants 12 years or older answered for themselves. Dietary interviewers conducted in-person interviews in English and Spanish. Translators were used to conduct interviews in other languages.

The in-person interview was conducted in a private room in the NHANES MEC. A set of measuring guides (various glasses, bowls, mugs, bottles, household spoons, measuring cups and spoons, a ruler, thickness sticks, bean bags, and circles) was available in the MEC dietary interview room for the participant to use for reporting amounts of foods (NHANES Measuring Guides for the Dietary Recall Interview). Upon completion of the in-person interview, participants were given measuring cups, spoons, a ruler, and a food model booklet, which contained two-dimensional drawings of the various measuring guides available in the MEC, to use for reporting food amounts during the telephone interview. Telephone dietary interviews were collected 3 to 10 days following the MEC dietary interview and were generally scheduled on a different day of the week as the MEC interview. Only a small number of participants (n=120) were interviewed on the same day of the week for both day 1 and day 2 interviews due to their scheduling availability. Any participant who did not have a telephone was given a toll-free number to call so that the recall could be conducted.

What We Eat in America data were collected using USDA's dietary data collection instrument, the Automated Multiple Pass Method (AMPM) (http://www.ars.usda.gov/nea/bhnrc/fsrg). The AMPM was designed to provide an efficient and accurate means of collecting intakes for large-scale national surveys. The AMPM is a fully computerized recall method that uses a 5-step interview outlined below:

1. **Quick List** - Participant recalls all foods and beverages consumed the day before the interview (midnight to midnight).
2. **Forgotten Foods** - Participant is asked about consumption of foods commonly forgotten during the Quick List step.

3. **Time and Occasion** - Time and eating occasion are collected for each food.
4. **Detail Cycle** - For each food, a detailed description, amount eaten, and additions to the food are collected. Eating occasions and times between eating occasions are reviewed to elicit forgotten foods.
5. **Final Probe** - Additional foods not remembered earlier are collected.

The AMPM includes an extensive compilation of standardized food-specific questions and possible response options. Routing of questions is based on previous responses. The AMPM is updated for each 2-year collection of WWEIA to reflect the changing food supply and to address research needs from the data user community. Additional information about the AMPM is provided in Raper et al. (Raper et al., 2004).

The AMPM was validated in a large study and shown to be an effective method for collecting accurate group energy intake of adults. Completed in 2004, this extensive research project included 524 healthy, weight-stable volunteers, aged 30-69 years. The accuracy of the AMPM was evaluated by comparing reported energy intake (EI) to total energy expenditure (TEE) using the doubly labeled water technique (Moshfegh et al., 2008). Among the findings were that EI compared to TEE was under-reported by 11% overall, by less than 3% for normal weight subjects with body mass index (BMI) < 25 and 16% for overweight subjects with BMI ≥ 25.

Additional studies provide evidence that the AMPM accurately measures group energy intake. Blanton (Blanton et al., 2006) reported that EI was not significantly different from TEE for a sample of 20 adult females. Rumpler and colleagues found that mean EIs were accurately reported for a sample of 12 adult males (Rumpler et al., 2008).

Additional evidence for the accuracy of AMPM has been provided by analysis of the 24-hour urinary sodium data collected in the AMPM Validation Study, which suggest the AMPM is a valid measure for estimating mean sodium intake in adults. Dietary sodium intake calculated from 24-hour recall data of 465 subjects collected via AMPM was compared with sodium values from 24-hour urine collections measured during the same 24-hour period. The AMPM-derived mean dietary sodium estimates reflected over 90% of the biomarker-based estimates (Rhodes et al., 2013).

For additional information about the dietary interview component and related survey protocols, please go to the Survey Operations Manuals site.

Quality Assurance & Quality Control

All dietary interviewers were required to complete an intensive one-week training course and to conduct supervised practice interviews before working independently in the field. Retraining sessions were conducted annually to reinforce the proper protocols and technique.

Interviewers were monitored throughout the data collection period. Monitoring consisted of the following:

- Reviews of audio recorded interviews or in-person observations were conducted for approximately 5% of each interviewer's work.
- Interviews were checked for completeness of the recalls, missing information, inconsistent reports, and unclear notes. Written notification and feedback were provided to the interviewers.

Data Processing and Editing

Interview data files were sent electronically from the field and were imported into Survey Net, a computer-assisted food coding and data management system developed by USDA (Raper et al., 2004).

USDA's Food and Nutrient Database for Dietary Studies (FNDDS) 2015-2016 was used for

processing the 2015-2016 intakes (http://www.ars.usda.gov/nea/bhnrc/fsrg). The FNDDS includes comprehensive information that can be used to code individual foods/beverages and portion sizes reported by participants and also includes nutrient values for calculating nutrient intakes. FNDDS nutrient values are updated for every 2-year WWEIA, NHANES release cycle. The basis for the nutrient values in FNDDS are detailed in the documentation for FNDDS 2015-2016 available at http://www.ars.usda.gov/nea/bhnrc/fsrg.

Coders were required to pass a certification test after the initial training. They were routinely monitored to ensure the quality and completeness of their work. Approximately 10 percent of the coder's work was randomly selected to be independently coded by another coder. Results from the two codings were compared and adjudicated, if necessary.

After intake data were coded, various types of reviews and quality assurance procedures were conducted by FSRG scientists to ensure the quality of the data. Examples of reviews include the following:

- Interviewers' and coders' questions and comments were reviewed to ensure that they have been addressed.
- Decisions made by coders about how to code new or unusual foods/beverages or quantities reported by participants were reviewed by FSRG scientists. Items of question were resolved by FSRG scientists.
- Specific data integrity checks for reasonableness, consistency, and logic were conducted.

Analytic Notes

Each Individual Foods file (Day 1 and Day 2) is comprised of food records. For most participants, there are multiple records in each file. For each Total Nutrient Intakes file (Day 1 and Day 2) there is one record for each participant. These files can be linked with other NHANES files by the respondent sequence number (SEQN).

Variable names: For data collected on both Day 1 and Day 2, variable names are differentiated by having the number "1" or "2" in the third position of the variable name to identify the collection day. For example, the USDA food code variable (in the Individual Foods File), which identifies the food reported by the participant, is named DR1IFDCD in the Day 1 file and DR2IFDCD in the Day 2 file. Appendices **2** and **5** list the Day 1 and Day 2 variable names for the Individual Foods file and the Total Nutrient Intakes file, respectively.

Names for the following variables are the same for both days in the Individual Foods file and the Total Nutrient Intakes file:

Variables with the Same Name for Both Days in the Dietary Interview Files

Day 1 and Day 2 variable name	Label
SEQN	Respondent sequence number
WTDRD1	Dietary day one sample weight
WTDR2D	Dietary two-day sample weight
DRABF	Breast-fed infant (either day)
DRDINT	Number of days of intake

Number of days of intake: A variable has been included to indicate the number of days of intake collected from each participant. The variable name is DRDINT. In 2015-2016, 8,506 participants provided complete dietary intakes for Day 1. Of those providing the Day 1 data, 7,027 provided complete dietary intakes for Day 2.

Dietary recall status code: A status code (DR1DRSTZ or DR2DRSTZ) is used in both the Individual Foods and Total Nutrient Intakes files to indicate the quality and completeness of a survey participant's response to the dietary recall section. The codes are the following:

1 = Reliable and met the following minimum criteria:

- The first 4 steps of the 5-step AMPM completed.
- Food/beverages consumed for each reported eating occasion identified.

For individuals with a code 1, all relevant variables associated with the 24-hour dietary recall contain a value.

2 = Not reliable or did not meet the minimum criteria

Individuals with a code 2 have incomplete records. No data on total nutrient intakes and the total number of foods reported are provided for these cases. These individuals have no records in the Individual Foods files.

3 [Code 3 is not included in the current datasets. It was only used for data from the 1999-2000 survey cycle.]

4 = Reported consuming breast milk

For infants and children who consumed human milk, there is a record in the Individual Foods files for each report of human milk. However, because amounts of human milk intake are not quantified, these records contain missing values for the amount consumed and for the amounts of energy and nutrients from human milk. Also, records of human milk have a missing value for the food source variable (DR1FS, DR2FS) and the eaten at home variable (DR1_040Z, DR2_040Z) in the Individual Foods files. Records for any other foods and beverages consumed by breast-fed infants and children are included in the Individual Foods files along with their amounts and nutrient information. Because of the missing amount or quantity information for human milk, no total nutrient intakes (contained in the Total Nutrient Intakes files) were computed for participants with a code 4.

A variable that identifies breast-fed children, DRABF, is included. This variable has a code of 1 if a child consumed human milk in either intake day.

5 = Not done

This code is assigned when the dietary recall section of the interview did not take place due to various reasons (such as arrived late/left early, refusal, illness, emergency, or equipment failure). These individuals have no records in the Individual Foods files. These individuals have a record in the Total Nutrients file with values only for the following variables: the respondent sequence number (SEQN), the dietary recall status code (DR1DRSTZ or DR2DRSTZ) and for participants one year or older, the fish and shellfish questions in the DR1TOT_I file (DRD340, DRD350A-K, DRD350AQ-JQ, DRD360, DRD370A-V, and DRD370AQ-UQ).

Only codes 1 and 4 appear in the Individual Foods file.

Distinguishing Between Foods/Beverages and Dietary Supplements in NHANES

The 24-hour dietary supplement use component is administered after the 24-hour dietary recall. All NHANES participants responding to the 24-hour dietary recall interview are eligible for the dietary supplement and non-prescription antacid use questions. Information is obtained on all vitamins, minerals, herbals, and other dietary supplements as well as non-prescription antacids that were consumed during a 24-hour time period (midnight to midnight), including the name and the amount of supplement or antacid taken.

Distinguishing between foods/beverages and supplements can be challenging. NCHS and FSRG review questionable items reported in the dietary supplement and dietary recall components to resolve disposition of these items into the appropriate component. Products that are labeled as a dietary supplement, that have a supplement facts panel on the label, and are in tablets, capsules, softgels, gelcaps, or other pill forms, are considered dietary supplements. Items that are powders or liquids can be hard to distinguish. General guidelines used state that if powders and liquid concentrates have product directions stating that they be added to a liquid, they are classified as beverages. Examples are teas and protein powders. An exception is made for fiber products, which are classified as dietary supplements. Along this same guideline, energy drinks are considered beverages, but "energy shot" type products are considered dietary supplements.

It is best to refer to the two databases that detail every food/beverage and dietary supplement reported in NHANES to identify exact determination used. The databases are:

- 2015-2016 Food and Nutrient Database for Dietary
- NHANES Dietary Supplement Database

Participants who reported consuming only water, no food or other beverages: Records are included in the Individual Foods file for participants who consumed only water. There are 5 such individuals in the 2015-2016 datasets, none in the Day 1 data and 5 in the Day 2 data. Their dietary recall status variable for the day is coded as "1" (complete and reliable) in the Total Nutrients file and the total number of items is the number of times water was reported. Individuals with just water intake and no food intake will have zero energy intake for the day.

Participants who reported consuming no water, food or other beverages: There can be participants whose intakes are determined to be complete even though they reported no water, food, or other beverage records for the day. For such participants there are no records in the Individual Foods file but their dietary recall status is coded as complete and reliable and the Total Nutrients file will include records with zero values for all nutrients. In the 2015-2016 datasets, there is 1 individual in the day 1 data that reported no water, food, or other beverage records for the day.

Number of days between the intake day and the day of family interview: Each of the four intake files includes a variable (DR1DBIH for Day 1 files and DR2DBIH for Day 2 files) to indicate the number of days between the intake day (i.e., the period covered by the 24-hour recall) and the day that the family questionnaire was administered in the household. A positive value in DR1BHIH or DR2BHIH indicates the family interview occurred prior to the intake day. In the survey, most of the family interviews were done before the participant came to the MEC and participated in the dietary interview. A value of "0" in DR1BHIH or DR2BHIH indicates the family interview occurred on the same date as the intake day. A negative value (i.e., DR1BHIH<0 or DR2BHIH<0) means that the family interview occurred after the intake day.

Food source: The source from which each food/beverage was obtained (e.g., from a store, fast food restaurant, cafeteria) is identified by the variables DR1FS (day 1) and DR2FS (day 2) in the Individual Foods files.

The code descriptions for this variable are:

Code Descriptions for Source of Food Variable

Code	Description
1	Store grocery/supermarket
2	Restaurant with waiter/waitress
3	Restaurant fast food/Pizza
4	Bar/Tavern/Lounge
5	Restaurant, no additional information
6	Cafeteria NOT in a K-12 school
7	Cafeteria in a K-12 school
8	Child/Adult care center
9	Child/Adult home care
10	Soup kitchen/shelter/food pantry facility
11	Meals on Wheels Program
12	Community food program – other
13	Community program, no additional info
14	Vending machine
15	Common coffee pot or snack tray
16	From someone else/gift
17	Mail order purchase
18	Residential dining facility
19	Grown or caught by you or someone you know
20	Fish caught by you or someone you know
24	Sport, recreation, or entertainment
25	Street vendor, vending truck
26	Fundraiser sales
27	Store - convenience type
28	Store - no additional information
91	Other, specify

Eating occasion: The variables DR1_030Z and DR2_030Z are located in the Individual Foods file. The code descriptions for the eating occasion variables are shown in the table below.

Code Descriptions for Eating Occasion Variable

Code	Description
1	Breakfast
2	Lunch
3	Dinner
4	Supper
5	Brunch
6	Snack
7	Beverage/Drink
8	Feeding-infant only
9	Extended consumption
10	Desayuno
11	Almuerzo
12	Comida
13	Merienda
14	Cena
15	Entre comida
16	Botana
17	Bocadillo
18	Tentempie
19	Bebida
91	Other

Eating occasion was designated by the respondent. During the interview, a list of eating occasion names was available to the respondent for selection. However, eating occasion names were not defined for the respondent.

Foods and beverages coded as part of a combination: 39 percent of foods and beverages reported in WWEIA, NHANES 2015-2016 were identified as items consumed together as combinations. Items consumed as a combination were identified by one of fifteen unique "combination food types." Foods and beverages not coded in combination have the code "0" for the combination food type variable.

The combination types provide a linkage for:

- Foods or beverages with additions, such as cereal with milk, coffee with cream;
- Multi-component foods that have specific protocol for collection such as some salads and sandwiches (primarily those that are not from fast food establishments); and
- Other combinations that do not have a unique code in the FNDDS.

Combination Type, Code, Examples, and Percent of Food and Beverages Reported by Type, 2015-2016, Day 1

Combination Type	Code	Examples of Combination Type	% Items
Not in combination	0	NA	61
Beverage w/ additions	1	Coffee, tea with: milk, cream, sugar. Infant formula with: baby cereal.	8
Cereal w/ additions	2	Cereals (ready-to-eat, cooked, baby) with: milk, sugar, fruit, butter.	4
Bread/baked product w/additions	3	Breads, rolls, pancakes with: butter, jam, syrup, fruit. Cakes, pies with: ice cream, toppings. Crackers with: cheese, dip, peanut butter.	4
Salad	4	Components of salads that do not have a single code in FNDDS. It may also designate additional items to single code salads.	4
Sandwiches	5	Components of sandwiches that do not have a single code in FNDDS. It may also designate additional items added to single code sandwiches.	7
Soup	6	Soup with: crackers, croutons, cheese.	1
Frozen meals	7	Components of a prepackaged frozen meal and additions to the meal.	<1
Ice cream/ frozen yogurt w/ additions	8	Ice cream with: syrup, nuts, toppings.	<1
Dried beans or Vegetable w/ additions	9	French fries, potatoes with: catsup, gravy, butter, toppings. Beans with: sauce, butter.	3
Fruit w/ additions	10	Fruit with: toppings, milk, honey. Components of fruit mixtures or salads that do not have a single code in FNDDS.	1
Tortilla products	11	Components of tacos and tortilla products that do not have a single code in FNDDS. It may also designate additional items to single code tacos or tortilla products.	2
Meat, Poultry, Fish	12	Meat, poultry, fish with: gravy, sauce, and condiments.	2
Lunchables®	13	Components of pre-packaged lunch kits.	<1
Chips w/ additions	14	Potato chips, corn chips with: dip, cheese, salsa.	1
Other mixtures	90	Rice, pasta, spaghetti, eggs, other mixtures with: butter, gravy, sauce, condiments.	4

All items given a combination food type are given an additional variable to identify each of the items within the combination. This variable is the "combination food number" that is unique to the combination food type within the individual intake.

Variable Labels and Names for Combination Coding

Combination Coding	Variable Name, Day 1	Variable Name, Day 2
Combination food type	DR1CCMTX	DR2CCMTX
Combination food number	DR1CCMNM	DR2CCMNM

The What We Eat in America Food Categories, available on the FSRG website (http://www.ars.usda.gov/nea/bhnrc/fsrg), is a grouping scheme that combines foods and beverages together that have similar usage and nutrient content with the emphasis on how they are commonly consumed in the American diet. There are approximately 150 unique

categories and each is assigned a 4-digit number and description. The WWEIA Food Categories contain discrete food items and are not disaggregated (e.g., pizza vs. grain, cheese, tomatoes, etc.). Designed to be flexible, the categories can be combined as needed to address specific research questions. A new version of the WWEIA Food Categories is produced for each 2-year release cycle of WWEIA, NHANES.

Special diet: Information on whether the participant is currently on any kind of diet to lose weight or for other health-related reason and, if so, the type of diet, was provided. The variable DRQSDIET identifies whether a participant was on a special diet. The variables DRQSDT1 through DRQSDT12 and DRQSDT91 identify the type of diet or diets that the participant was following. These variables can be found in the Total Nutrient Intakes file.

Sample weights for dietary intake data: The NHANES participants were selected on the basis of a national probability design. In order to increase the number of participants for specific demographic groups, a multi-stage, unequal probability of selection design was implemented. Beginning with the 2011-2012 data collection the NHANES sample design includes an oversample of Asian Americans.

Sample weights are constructed that encompass the unequal probabilities of selection, as well as adjustments for non-participation by selected sample persons. In order to produce national, representative estimates, **the appropriate sample weights must be used**.

For NHANES 2015-2016, there were 15,327 persons selected; of these 9,544 were considered participants to the MEC examination and data collection. A total of 8,506 MEC participants provided complete dietary intakes for Day 1, and of those providing the Day 1 data, 7,027 provided complete dietary intakes for Day 2.

Most analyses of NHANES data use data collected in the MEC and the variable WTMEC2YR should be used for the sample weights. However, for the WWEIA dietary data, different sample weights are recommended for analysis. Although attempts are made to schedule MEC exams uniformly throughout the week, proportionally more exams occur on weekend days than on weekdays. Because food intake can vary by weekdays and weekends, use of the MEC weights disproportionately represents intakes on weekends.

A set of weights (WTDRD1) is provided that should be used when an analysis uses the Day 1 dietary recall data (either alone or when Day 1 nutrient data are used in conjunction with MEC data). The set of weights (WTDRD1) is applicable to the 8,506 participants with Day 1 data. Day 1 weights were constructed by taking the MEC sample weights (WTMEC2YR) and further adjusting for (a) the additional non-response and (b) the differential allocation by weekdays (Monday through Thursday), Fridays, Saturdays and Sundays for the dietary intake data collection. These Day 1 weights are more variable than the MEC weights, and the sample size is smaller, so estimated standard errors using Day 1 data and Day 1 weights might be larger than standard errors for similar estimates based on MEC weights.

When analysis is based on both days of dietary intake, only 7,027 sample participants have complete data. The NHANES protocol requires an attempt to collect the second day of dietary data at least 3 days after the first day, but the actual number of days between the two interviews is variable. A set of adjusted weights, WTDR2D, is to be used when an analysis uses the smaller sample with completed Day 1 and Day 2 dietary data. This two-day weight was constructed for the 7,027 participants by taking the Day 1 weights (WTDRD1) and further adjusting for (a) the additional non-response for the second recall and (b) for the proportion of weekend (Friday through Sunday) and weekday (Monday through Thursday) combinations of Day 1 and Day 2 recalls.

Note that all sample weights are person-level weights and each set of dietary weights should sum to the same overall population control total as the MEC weights (WTMEC2YR). In addition, the MEC weights (WTMEC2YR) are appropriate for use in the analysis of the fish and shellfish consumption data (i.e., variables DRD340, DRD350A-K, DRD350AQ-JQ DRD360, DRD370A-V, and DRD370AQ-UQ) located in the Day 1 Total Nutrient Intake File (DR1TOT_H), if no other dietary data are included in the analysis. Additional explanation of sample weights and appropriate uses are included in the **NHANES Analytic Guidelines**. Please also refer to the on-line **NHANES Tutorial** for further details on other analytic issues.

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- Sebastian RS, Enns CW, Steinfeldt LC, Goldman JD, Moshfegh AJ 2012. Discontinuation of data processing step: Salt adjustment on designated foods likely to be home prepared. Worldwide Web Site: Food Surveys Research Group. http://www.ars.usda.gov/Services/docs.htm?docid=18352

Codebook and Frequencies

SEQN - Respondent sequence number

Variable Name:	SEQN
SAS Label:	Respondent sequence number
English Text:	Respondent sequence number.
Target:	Both males and females 0 YEARS - 150 YEARS

WTDRD1 - Dietary day one sample weight

Variable Name: WTDRD1

SAS Label: Dietary day one sample weight

English Text: Dietary day one sample weight

Target: Both males and females 0 YEARS - 150 YEARS

Code or Value	Value Description	Count	Cumulative	Skip to Item
1974.178694 to 454277.71731	Range of Values	8506	8506	
0	Day 1 dietary recall not done/incomplete	1038	9544	
.	Missing	0	9544	

remove

DBQ095Z - Type of table salt used

binary

Variable Name: DBQ095Z

SAS Label: Type of table salt used

English Text: What type of salt {do you/does SP} usually add to {your/his /her/SP's} food at the table? Would you say . . .

English Instructions: CAPI INSTRUCTION: IF SP AGE <= 5, DISPLAY "DO YOU" FOR FIRST DISPLAY AND {SP'S} FOR SECOND DISPLAY.

Target: Both males and females 0 YEARS - 150 YEARS

Code or Value	Value Description	Count	Cumulative	Skip to Item
1	Ordinary salt [includes regular iodized salt, sea salt and seasoning salts made with regular salt]	5138	5138	
2	Lite salt	258	5396	
3	Salt substitute	85	5481	
4	Doesn't use or add salt products at the table	2970	8451	DRQSPREP
91	Other	0	8451	
99	Don't know	165	8616	DRQSPREP
.	Missing	928	9544	

DBD100 - How often add salt to food at table

Variable Name: DBD100

SAS Label: How often add salt to food at table

English Text: How often {do you/does SP} add ordinary salt to {your/his /her/SP's} food at the table? Would you say . . .

English Instructions: CAPI INSTRUCTION: IF SP AGE <= 5, DISPLAY "DO YOU" FOR FIRST DISPLAY AND {SP'S} FOR SECOND DISPLAY.

Target: Both males and females 0 YEARS - 150 YEARS

Code or Value	Value Description	Count	Cumulative	Skip to Item
1	Rarely	2974	2974	
2	Occasionally	1571	4545	
3	Very often	922	5467	
7	Refused	0	5467	
9	Don't know	14	5481	
.	Missing	4063	9544	

DRQSPREP - Salt used in preparation?

Variable Name: DRQSPREP

SAS Label: Salt used in preparation?

English Text: How often is ordinary salt or seasoned salt added in cooking or preparing foods in your household? Is it never, rarely, occasionally, or very often?

Target: Both males and females 0 YEARS - 150 YEARS

Code or Value	Value Description	Count	Cumulative	Skip to Item
1	Never	523	523	
2	Rarely	1493	2016	
3	Occasionally	2875	4891	
4	Very Often	3567	8458	
9	Don't know	158	8616	
.	Missing	928	9544	

DR1STY - Salt used at table yesterday?

Variable Name: DR1STY

SAS Label: Salt used at table yesterday?

English Text: Did {you/SP} add any salt to {your/her/his} food at the table yesterday? Salt includes ordinary or seasoned salt, lite salt, or a salt substitute.

Target: Both males and females 0 YEARS - 150 YEARS

Code or Value	Value Description	Count	Cumulative	Skip to Item
1	Yes	1422	1422	
2	No	7131	8553	DRQSDIET
9	Don't know	63	8616	DRQSDIET
.	Missing	928	9544	

DR1TPROT - Protein (gm)

Variable Name: DR1TPROT

SAS Label: Protein (gm)

English Text: Protein (gm)

Target: Both males and females 0 YEARS - 150 YEARS

Code or Value	Value Description	Count	Cumulative	Skip to Item
0 to 499.62	Range of Values	8327	8327	
.	Missing	1217	9544	

DR1TCARB - Carbohydrate (gm)

Variable Name: DR1TCARB

SAS Label: Carbohydrate (gm)

English Text: Carbohydrate (gm)

Target: Both males and females 0 YEARS - 150 YEARS

Code or Value	Value Description	Count	Cumulative	Skip to Item
0 to 1222.34	Range of Values	8327	8327	
.	Missing	1217	9544	

DR1TSUGR - Total sugars (gm)

Variable Name: DR1TSUGR

SAS Label: Total sugars (gm)

English Text: Total sugars (gm)

Target: Both males and females 0 YEARS - 150 YEARS

Code or Value	Value Description	Count	Cumulative	Skip to Item
0 to 980.92	Range of Values	8327	8327	
.	Missing	1217	9544	

DR1TFIBE - Dietary fiber (gm)

Variable Name: DR1TFIBE

SAS Label: Dietary fiber (gm)

English Text: Dietary fiber (gm)

Target: Both males and females 0 YEARS - 150 YEARS

Code or Value	Value Description	Count	Cumulative	Skip to Item
0 to 107.6	Range of Values	8327	8327	
.	Missing	1217	9544	

DR1TTFAT - Total fat (gm)

Variable Name: DR1TTFAT

SAS Label: Total fat (gm)

English Text: Total fat (gm)

Target: Both males and females 0 YEARS - 150 YEARS

Code or Value	Value Description	Count	Cumulative	Skip to Item
0 to 498.63	Range of Values	8327	8327	
.	Missing	1217	9544	

DR1TSFAT - Total saturated fatty acids (gm)

Variable Name: DR1TSFAT

SAS Label: Total saturated fatty acids (gm)

English Text: Total saturated fatty acids (gm)

Target: Both males and females 0 YEARS - 150 YEARS

Code or Value	Value Description	Count	Cumulative	Skip to Item
0 to 223.759	Range of Values	8327	8327	
.	Missing	1217	9544	

DR1TMFAT - Total monounsaturated fatty acids (gm)

Variable Name: DR1TMFAT

SAS Label: Total monounsaturated fatty acids (gm)

English Text: Total monounsaturated fatty acids (gm)

Target: Both males and females 0 YEARS - 150 YEARS

Code or Value	Value Description	Count	Cumulative	Skip to Item
0 to 169.376	Range of Values	8327	8327	
.	Missing	1217	9544	

DR1TPFAT - Total polyunsaturated fatty acids (gm)

Variable Name: DR1TPFAT

SAS Label: Total polyunsaturated fatty acids (gm)

English Text: Total polyunsaturated fatty acids (gm)

Target: Both males and females 0 YEARS - 150 YEARS

Code or Value	Value Description	Count	Cumulative	Skip to Item
0 to 164.425	Range of Values	8327	8327	
.	Missing	1217	9544	

DR1TCHOL - Cholesterol (mg)

Variable Name: DR1TCHOL

SAS Label: Cholesterol (mg)

English Text: Cholesterol (mg)

Target: Both males and females 0 YEARS - 150 YEARS

Code or Value	Value Description	Count	Cumulative	Skip to Item
0 to 2968	Range of Values	8327	8327	
.	Missing	1217	9544	

DR1TATOC - Vitamin E as alpha-tocopherol (mg)

Variable Name: DR1TATOC

SAS Label: Vitamin E as alpha-tocopherol (mg)

English Text: Vitamin E as alpha-tocopherol (mg)

Target: Both males and females 0 YEARS - 150 YEARS

Code or Value	Value Description	Count	Cumulative	Skip to Item
0 to 112.33	Range of Values	8327	8327	
.	Missing	1217	9544	

DR1TATOA - Added alpha-tocopherol (Vitamin E) (mg)

Variable Name: DR1TATOA

SAS Label: Added alpha-tocopherol (Vitamin E) (mg)

English Text: Added alpha-tocopherol (Vitamin E) (mg)

Target: Both males and females 0 YEARS - 150 YEARS

Code or Value	Value Description	Count	Cumulative	Skip to Item
0 to 62.7	Range of Values	8327	8327	
.	Missing	1217	9544	

DR1TRET - Retinol (mcg)

Variable Name: DR1TRET

SAS Label: Retinol (mcg)

English Text: Retinol (mcg)

Target: Both males and females 0 YEARS - 150 YEARS

Code or Value	Value Description	Count	Cumulative	Skip to Item
0 to 12335	Range of Values	8327	8327	
.	Missing	1217	9544	

DR1TVARA - Vitamin A, RAE (mcg)

Variable Name: DR1TVARA

SAS Label: Vitamin A, RAE (mcg)

English Text: Vitamin A as retinol activity equivalents (mcg)

Target: Both males and females 0 YEARS - 150 YEARS

Code or Value	Value Description	Count	Cumulative	Skip to Item
0 to 13024	Range of Values	8327	8327	
.	Missing	1217	9544	

DR1TACAR - Alpha-carotene (mcg)

Variable Name: DR1TACAR

SAS Label: Alpha-carotene (mcg)

English Text: Alpha-carotene (mcg)

Target: Both males and females 0 YEARS - 150 YEARS

Code or Value	Value Description	Count	Cumulative	Skip to Item
0 to 48964	Range of Values	8327	8327	
.	Missing	1217	9544	

DR1TBCAR - Beta-carotene (mcg)

Variable Name: DR1TBCAR

SAS Label: Beta-carotene (mcg)

English Text: Beta-carotene (mcg)

Target: Both males and females 0 YEARS - 150 YEARS

Code or Value	Value Description	Count	Cumulative	Skip to Item
0 to 116313	Range of Values	8327	8327	
.	Missing	1217	9544	

DR1TCRYP - Beta-cryptoxanthin (mcg)

Variable Name: DR1TCRYP

SAS Label: Beta-cryptoxanthin (mcg)

English Text: Beta-cryptoxanthin (mcg)

Target: Both males and females 0 YEARS - 150 YEARS

Code or Value	Value Description	Count	Cumulative	Skip to Item
0 to 7331	Range of Values	8327	8327	
.	Missing	1217	9544	

DR1TLYCO - Lycopene (mcg)

Variable Name: DR1TLYCO

SAS Label: Lycopene (mcg)

English Text: Lycopene (mcg)

Target: Both males and females 0 YEARS - 150 YEARS

Code or Value	Value Description	Count	Cumulative	Skip to Item
0 to 112942	Range of Values	8327	8327	
.	Missing	1217	9544	

DR1TLZ - Lutein + zeaxanthin (mcg)

Variable Name: DR1TLZ

SAS Label: Lutein + zeaxanthin (mcg)

English Text: Lutein + zeaxanthin (mcg)

Target: Both males and females 0 YEARS - 150 YEARS

Code or Value	Value Description	Count	Cumulative	Skip to Item
0 to 90057	Range of Values	8327	8327	
.	Missing	1217	9544	

DR1TVB1 - Thiamin (Vitamin B1) (mg)

Variable Name: DR1TVB1

SAS Label: Thiamin (Vitamin B1) (mg)

English Text: Thiamin (Vitamin B1) (mg)

Target: Both males and females 0 YEARS - 150 YEARS

Code or Value	Value Description	Count	Cumulative	Skip to Item
0 to 10.404	Range of Values	8327	8327	
.	Missing	1217	9544	

DR1TVB2 - Riboflavin (Vitamin B2) (mg)

Variable Name: DR1TVB2

SAS Label: Riboflavin (Vitamin B2) (mg)

English Text: Riboflavin (Vitamin B2) (mg)

Target: Both males and females 0 YEARS - 150 YEARS

Code or Value	Value Description	Count	Cumulative	Skip to Item
0 to 15.019	Range of Values	8327	8327	
.	Missing	1217	9544	

DR1TNIAC - Niacin (mg)

Variable Name: DR1TNIAC

SAS Label: Niacin (mg)

English Text: Niacin (mg)

Target: Both males and females 0 YEARS - 150 YEARS

Code or Value	Value Description	Count	Cumulative	Skip to Item
0 to 191.967	Range of Values	8327	8327	
.	Missing	1217	9544	

DR1TVB6 - Vitamin B6 (mg)

Variable Name: DR1TVB6

SAS Label: Vitamin B6 (mg)

English Text: Vitamin B6 (mg)

Target: Both males and females 0 YEARS - 150 YEARS

Code or Value	Value Description	Count	Cumulative	Skip to Item
0 to 40.357	Range of Values	8327	8327	
.	Missing	1217	9544	

DR1TFOLA - Total folate (mcg)

Variable Name: DR1TFOLA

SAS Label: Total folate (mcg)

English Text: Total folate (mcg)

Target: Both males and females 0 YEARS - 150 YEARS

Code or Value	Value Description	Count	Cumulative	Skip to Item
0 to 3122	Range of Values	8327	8327	
.	Missing	1217	9544	

DR1TFA - Folic acid (mcg)

Variable Name: DR1TFA

SAS Label: Folic acid (mcg)

English Text: Folic acid (mcg)

Target: Both males and females 0 YEARS - 150 YEARS

Code or Value	Value Description	Count	Cumulative	Skip to Item
0 to 2852	Range of Values	8327	8327	
.	Missing	1217	9544	

DR1TFF - Food folate (mcg)

Variable Name: DR1TFF

SAS Label: Food folate (mcg)

English Text: Food folate (mcg)

Target: Both males and females 0 YEARS - 150 YEARS

Code or Value	Value Description	Count	Cumulative	Skip to Item
0 to 2505	Range of Values	8327	8327	
.	Missing	1217	9544	

DR1TFDFE - Folate, DFE (mcg)

Variable Name: DR1TFDFE

SAS Label: Folate, DFE (mcg)

English Text: Folate as dietary folate equivalents (mcg)

Target: Both males and females 0 YEARS - 150 YEARS

Code or Value	Value Description	Count	Cumulative	Skip to Item
0 to 5118	Range of Values	8327	8327	
.	Missing	1217	9544	

DR1TCHL - Total choline (mg)

Variable Name: DR1TCHL

SAS Label: Total choline (mg)

English Text: Total choline (mg)

Target: Both males and females 0 YEARS - 150 YEARS

Code or Value	Value Description	Count	Cumulative	Skip to Item
0 to 1997.9	Range of Values	8327	8327	
.	Missing	1217	9544	

DR1TVB12 - Vitamin B12 (mcg)

Variable Name: DR1TVB12

SAS Label: Vitamin B12 (mcg)

English Text: Vitamin B12 (mcg)

Target: Both males and females 0 YEARS - 150 YEARS

Code or Value	Value Description	Count	Cumulative	Skip to Item
0 to 104.5	Range of Values	8327	8327	
.	Missing	1217	9544	

DR1TB12A - Added vitamin B12 (mcg)

Variable Name: DR1TB12A

SAS Label: Added vitamin B12 (mcg)

English Text: Added vitamin B12 (mcg)

Target: Both males and females 0 YEARS - 150 YEARS

Code or Value	Value Description	Count	Cumulative	Skip to Item
0 to 49.65	Range of Values	8327	8327	
.	Missing	1217	9544	

DR1TVC - Vitamin C (mg)

Variable Name: DR1TVC

SAS Label: Vitamin C (mg)

English Text: Vitamin C (mg)

Target: Both males and females 0 YEARS - 150 YEARS

Code or Value	Value Description	Count	Cumulative	Skip to Item
0 to 1014.5	Range of Values	8327	8327	
.	Missing	1217	9544	

DR1TVD - Vitamin D (D2 + D3) (mcg)

Variable Name: DR1TVD

SAS Label: Vitamin D (D2 + D3) (mcg)

English Text: Vitamin D (D2 + D3) (mcg)

Target: Both males and females 0 YEARS - 150 YEARS

Code or Value	Value Description	Count	Cumulative	Skip to Item
0 to 78.1	Range of Values	8327	8327	
.	Missing	1217	9544	

DR1TVK - Vitamin K (mcg)

Variable Name: DR1TVK

SAS Label: Vitamin K (mcg)

English Text: Vitamin K (mcg)

Target: Both males and females 0 YEARS - 150 YEARS

Code or Value	Value Description	Count	Cumulative	Skip to Item
0 to 3959.3	Range of Values	8327	8327	
.	Missing	1217	9544	

DR1TCALC - Calcium (mg)

Variable Name: DR1TCALC

SAS Label: Calcium (mg)

English Text: Calcium (mg)

Target: Both males and females 0 YEARS - 150 YEARS

Code or Value	Value Description	Count	Cumulative	Skip to Item
0 to 8470	Range of Values	8327	8327	
.	Missing	1217	9544	

DR1TPHOS - Phosphorus (mg)

Variable Name: DR1TPHOS

SAS Label: Phosphorus (mg)

English Text: Phosphorus (mg)

Target: Both males and females 0 YEARS - 150 YEARS

Code or Value	Value Description	Count	Cumulative	Skip to Item
0 to 7971	Range of Values	8327	8327	
.	Missing	1217	9544	

DR1TMAGN - Magnesium (mg)

Variable Name: DR1TMAGN

SAS Label: Magnesium (mg)

English Text: Magnesium (mg)

Target: Both males and females 0 YEARS - 150 YEARS

Code or Value	Value Description	Count	Cumulative	Skip to Item
0 to 1937	Range of Values	8327	8327	
.	Missing	1217	9544	

DR1TIRON - Iron (mg)

Variable Name: DR1TIRON

SAS Label: Iron (mg)

English Text: Iron (mg)

Target: Both males and females 0 YEARS - 150 YEARS

Code or Value	Value Description	Count	Cumulative	Skip to Item
0 to 88.32	Range of Values	8327	8327	
.	Missing	1217	9544	

DR1TZINC - Zinc (mg)

Variable Name: DR1TZINC

SAS Label: Zinc (mg)

English Text: Zinc (mg)

Target: Both males and females 0 YEARS - 150 YEARS

Code or Value	Value Description	Count	Cumulative	Skip to Item
0 to 196.92	Range of Values	8327	8327	
.	Missing	1217	9544	

DR1TCOPP - Copper (mg)

Variable Name: DR1TCOPP

SAS Label: Copper (mg)

English Text: Copper (mg)

Target: Both males and females 0 YEARS - 150 YEARS

Code or Value	Value Description	Count	Cumulative	Skip to Item
0 to 18.571	Range of Values	8327	8327	
.	Missing	1217	9544	

DR1TSODI - Sodium (mg)

Variable Name: DR1TSODI

SAS Label: Sodium (mg)

English Text: Sodium (mg)

Target: Both males and females 0 YEARS - 150 YEARS

Code or Value	Value Description	Count	Cumulative	Skip to Item
0 to 16570	Range of Values	8327	8327	
.	Missing	1217	9544	

DR1TPOTA - Potassium (mg)

Variable Name: DR1TPOTA

SAS Label: Potassium (mg)

English Text: Potassium (mg)

Target: Both males and females 0 YEARS - 150 YEARS

Code or Value	Value Description	Count	Cumulative	Skip to Item
0 to 10385	Range of Values	8327	8327	
.	Missing	1217	9544	

DR1TSELE - Selenium (mcg)

Variable Name: DR1TSELE

SAS Label: Selenium (mcg)

English Text: Selenium (mcg)

Target: Both males and females 0 YEARS - 150 YEARS

Code or Value	Value Description	Count	Cumulative	Skip to Item
0 to 797.6	Range of Values	8327	8327	
.	Missing	1217	9544	

DR1TCAFF - Caffeine (mg)

Variable Name: DR1TCAFF

SAS Label: Caffeine (mg)

English Text: Caffeine (mg)

Target: Both males and females 0 YEARS - 150 YEARS

Code or Value	Value Description	Count	Cumulative	Skip to Item
0 to 4530	Range of Values	8327	8327	
.	Missing	1217	9544	

DR1TTHEO - Theobromine (mg)

Variable Name: DR1TTHEO

SAS Label: Theobromine (mg)

English Text: Theobromine (mg)

Target: Both males and females 0 YEARS - 150 YEARS

Code or Value	Value Description	Count	Cumulative	Skip to Item
0 to 1372	Range of Values	8327	8327	
.	Missing	1217	9544	

DR1TALCO - Alcohol (gm)

Variable Name: DR1TALCO

SAS Label: Alcohol (gm)

English Text: Alcohol (gm)

Target: Both males and females 0 YEARS - 150 YEARS

Code or Value	Value Description	Count	Cumulative	Skip to Item
0 to 831.6	Range of Values	8327	8327	
.	Missing	1217	9544	

DR1TMOIS - Moisture (gm)

Variable Name: DR1TMOIS

SAS Label: Moisture (gm)

English Text: Moisture (gm)

Target: Both males and females 0 YEARS - 150 YEARS

Code or Value	Value Description	Count	Cumulative	Skip to Item
0 to 18266.25	Range of Values	8327	8327	
.	Missing	1217	9544	

DR1TS040 - SFA 4:0 (Butanoic) (gm)

Variable Name: DR1TS040

SAS Label: SFA 4:0 (Butanoic) (gm)

English Text: SFA 4:0 (Butanoic) (gm)

Target: Both males and females 0 YEARS - 150 YEARS

Code or Value	Value Description	Count	Cumulative	Skip to Item
0 to 5.797	Range of Values	8327	8327	
.	Missing	1217	9544	

DR1TS060 - SFA 6:0 (Hexanoic) (gm)

Variable Name: DR1TS060

SAS Label: SFA 6:0 (Hexanoic) (gm)

English Text: SFA 6:0 (Hexanoic) (gm)

Target: Both males and females 0 YEARS - 150 YEARS

Code or Value	Value Description	Count	Cumulative	Skip to Item
0 to 4.694	Range of Values	8327	8327	
.	Missing	1217	9544	

DR1TS080 - SFA 8:0 (Octanoic) (gm)

Variable Name: DR1TS080

SAS Label: SFA 8:0 (Octanoic) (gm)

English Text: SFA 8:0 (Octanoic) (gm)

Target: Both males and females 0 YEARS - 150 YEARS

Code or Value	Value Description	Count	Cumulative	Skip to Item
0 to 16.081	Range of Values	8327	8327	
.	Missing	1217	9544	

DR1TS100 - SFA 10:0 (Decanoic) (gm)

Variable Name: DR1TS100

SAS Label: SFA 10:0 (Decanoic) (gm)

English Text: SFA 10:0 (Decanoic) (gm)

Target: Both males and females 0 YEARS - 150 YEARS

Code or Value	Value Description	Count	Cumulative	Skip to Item
0 to 7.815	Range of Values	8327	8327	
.	Missing	1217	9544	

DR1TS120 - SFA 12:0 (Dodecanoic) (gm)

Variable Name: DR1TS120

SAS Label: SFA 12:0 (Dodecanoic) (gm)

English Text: SFA 12:0 (Dodecanoic) (gm)

Target: Both males and females 0 YEARS - 150 YEARS

Code or Value	Value Description	Count	Cumulative	Skip to Item
0 to 41.422	Range of Values	8327	8327	
.	Missing	1217	9544	

DR1TS140 - SFA 14:0 (Tetradecanoic) (gm)

Variable Name: DR1TS140

SAS Label: SFA 14:0 (Tetradecanoic) (gm)

English Text: SFA 14:0 (Tetradecanoic) (gm)

Target: Both males and females 0 YEARS - 150 YEARS

Code or Value	Value Description	Count	Cumulative	Skip to Item
0 to 27.79	Range of Values	8327	8327	
.	Missing	1217	9544	

DR1TS160 - SFA 16:0 (Hexadecanoic) (gm)

Variable Name: DR1TS160

SAS Label: SFA 16:0 (Hexadecanoic) (gm)

English Text: SFA 16:0 (Hexadecanoic) (gm)

Target: Both males and females 0 YEARS - 150 YEARS

Code or Value	Value Description	Count	Cumulative	Skip to Item
0 to 113.98	Range of Values	8327	8327	
.	Missing	1217	9544	

DR1TS180 - SFA 18:0 (Octadecanoic) (gm)

Variable Name: DR1TS180

SAS Label: SFA 18:0 (Octadecanoic) (gm)

English Text: SFA 18:0 (Octadecanoic) (gm)

Target: Both males and females 0 YEARS - 150 YEARS

Code or Value	Value Description	Count	Cumulative	Skip to Item
0 to 47.662	Range of Values	8327	8327	
.	Missing	1217	9544	

DR1TM161 - MFA 16:1 (Hexadecenoic) (gm)

Variable Name: DR1TM161

SAS Label: MFA 16:1 (Hexadecenoic) (gm)

English Text: MFA 16:1 (Hexadecenoic) (gm)

Target: Both males and females 0 YEARS - 150 YEARS

Code or Value	Value Description	Count	Cumulative	Skip to Item
0 to 12.502	Range of Values	8327	8327	
.	Missing	1217	9544	

DR1TM181 - MFA 18:1 (Octadecenoic) (gm)

Variable Name: DR1TM181

SAS Label: MFA 18:1 (Octadecenoic) (gm)

English Text: MFA 18:1 (Octadecenoic) (gm)

Target: Both males and females 0 YEARS - 150 YEARS

Code or Value	Value Description	Count	Cumulative	Skip to Item
0 to 163.226	Range of Values	8327	8327	
.	Missing	1217	9544	

DR1TM201 - MFA 20:1 (Eicosenoic) (gm)

Variable Name: DR1TM201

SAS Label: MFA 20:1 (Eicosenoic) (gm)

English Text: MFA 20:1 (Eicosenoic) (gm)

Target: Both males and females 0 YEARS - 150 YEARS

Code or Value	Value Description	Count	Cumulative	Skip to Item
0 to 3.499	Range of Values	8327	8327	
.	Missing	1217	9544	

DR1TM221 - MFA 22:1 (Docosenoic) (gm)

Variable Name: DR1TM221

SAS Label: MFA 22:1 (Docosenoic) (gm)

English Text: MFA 22:1 (Docosenoic) (gm)

Target: Both males and females 0 YEARS - 150 YEARS

Code or Value	Value Description	Count	Cumulative	Skip to Item
0 to 2.107	Range of Values	8327	8327	
.	Missing	1217	9544	

DR1TP182 - PFA 18:2 (Octadecadienoic) (gm)

Variable Name: DR1TP182

SAS Label: PFA 18:2 (Octadecadienoic) (gm)

English Text: PFA 18:2 (Octadecadienoic) (gm)

Target: Both males and females 0 YEARS - 150 YEARS

Code or Value	Value Description	Count	Cumulative	Skip to Item
0 to 142.502	Range of Values	8327	8327	
.	Missing	1217	9544	

DR1TP183 - PFA 18:3 (Octadecatrienoic) (gm)

Variable Name: DR1TP183

SAS Label: PFA 18:3 (Octadecatrienoic) (gm)

English Text: PFA 18:3 (Octadecatrienoic) (gm)

Target: Both males and females 0 YEARS - 150 YEARS

Code or Value	Value Description	Count	Cumulative	Skip to Item
0 to 20.847	Range of Values	8327	8327	
.	Missing	1217	9544	

DR1TP184 - PFA 18:4 (Octadecatetraenoic) (gm)

Variable Name: DR1TP184

SAS Label: PFA 18:4 (Octadecatetraenoic) (gm)

English Text: PFA 18:4 (Octadecatetraenoic) (gm)

Target: Both males and females 0 YEARS - 150 YEARS

Code or Value	Value Description	Count	Cumulative	Skip to Item
0 to 0.539	Range of Values	8327	8327	
.	Missing	1217	9544	

DR1TP204 - PFA 20:4 (Eicosatetraenoic) (gm)

Variable Name: DR1TP204

SAS Label: PFA 20:4 (Eicosatetraenoic) (gm)

English Text: PFA 20:4 (Eicosatetraenoic) (gm)

Target: Both males and females 0 YEARS - 150 YEARS

Code or Value	Value Description	Count	Cumulative	Skip to Item
0 to 1.99	Range of Values	8327	8327	
.	Missing	1217	9544	

DR1TP205 - PFA 20:5 (Eicosapentaenoic) (gm)

Variable Name: DR1TP205

SAS Label: PFA 20:5 (Eicosapentaenoic) (gm)

English Text: PFA 20:5 (Eicosapentaenoic) (gm)

Target: Both males and females 0 YEARS - 150 YEARS

Code or Value	Value Description	Count	Cumulative	Skip to Item
0 to 1.775	Range of Values	8327	8327	
.	Missing	1217	9544	

DR1TP225 - PFA 22:5 (Docosapentaenoic) (gm)

Variable Name: DR1TP225

SAS Label: PFA 22:5 (Docosapentaenoic) (gm)

English Text: PFA 22:5 (Docosapentaenoic) (gm)

Target: Both males and females 0 YEARS - 150 YEARS

Code or Value	Value Description	Count	Cumulative	Skip to Item
0 to 1.221	Range of Values	8327	8327	
.	Missing	1217	9544	

DR1TP226 - PFA 22:6 (Docosahexaenoic) (gm)

Variable Name: DR1TP226

SAS Label: PFA 22:6 (Docosahexaenoic) (gm)

English Text: PFA 22:6 (Docosahexaenoic) (gm)

Target: Both males and females 0 YEARS - 150 YEARS

Code or Value	Value Description	Count	Cumulative	Skip to Item
0 to 3.336	Range of Values	8327	8327	
.	Missing	1217	9544	

DR1_320Z - Total plain water drank yesterday (gm)

Variable Name: DR1_320Z

SAS Label: Total plain water drank yesterday (gm)

English Text: Total plain water drank yesterday - including plain tap water, water from a drinking fountain, water from a water cooler, bottled water, and spring water.

English Instructions: Calculated from water consumption records reported as part of the 24-hour dietary recall interview.

Target: Both males and females 0 YEARS - 150 YEARS

Code or Value	Value Description	Count	Cumulative	Skip to Item
0 to 11520	Range of Values	8506	8506	
.	Missing	1038	9544	

DR1_330Z - Total tap water drank yesterday (gm)

Variable Name: DR1_330Z

SAS Label: Total tap water drank yesterday (gm)

English Text: Total tap water drank yesterday - including filtered tap water and water from a drinking fountain.

English Instructions: Calculated from tap water consumption records reported as part of the 24-hour dietary recall interview.

Target: Both males and females 0 YEARS - 150 YEARS

Code or Value	Value Description	Count	Cumulative	Skip to Item
0 to 11520	Range of Values	8506	8506	
.	Missing	1038	9544	

DR1BWATZ - Total bottled water drank yesterday (gm)

Variable Name: DR1BWATZ

SAS Label: Total bottled water drank yesterday (gm)

English Text: Total bottled water drank yesterday (gm)

English Instructions: Calculated from bottle water consumption records reported as part of the 24-hour dietary recall interview.

Target: Both males and females 0 YEARS - 150 YEARS

Code or Value	Value Description	Count	Cumulative	Skip to Item
0 to 9630	Range of Values	8506	8506	
.	Missing	1038	9544	

Variable or feature	WWEIA 2007-2008	WWEIA 2009-2010	WWEIA 2011-2012	WWEIA 2013-2014	WWEIA 2015-2016
Number of days of intake data per respondent	2 days	2 days	2 days	2 days	2 days
Nutrients included	Food energy and 64 nutrients/food components. Vitamin D added.	Same as 2007-2008	Same as 2007-2008	Same as 2007-2008	Same as 2007-2008
Food source (where food was obtained)	Same as 2005-2006	Same as 2005-2006	"Store" (value=1) has been split into three values – 1, 27 and 28. Codes 6 and 7 for cafeterias have revised descriptions.	Codes 8 and 9 revised descriptions.	Same as 2013-2014
Combination food types	Same as 2003-2004	Same as 2003-2004	Same as 2003-2004	Same as 2003-2004	Same as 2003-2004
Eating occasion names	Same as 2003-2004	Same as 2003-2004	Same as 2003-2004	Same as 2003-2004	Same as 2003-2004
Special diet variables	Collected and released; 2 new codes: Low carbohydrate diet and High protein diet.	Same as 2007-2008	Collected and released 2 new codes: Gluten-free/Celiac diet and Renal/Kidney.	Same as 2011-2012	Same as 2011-2012
Plain drinking water collected in same manner as other foods and beverages	Same as 2005-2006	Same as 2005-2006	Same as 2005-2006	Same as 2005-2006	Same as 2005-2006
Number of intakes that include only water consumption for the day	5 intakes (all in Day 2 data), records are included in Individual Foods file.	4 intakes (all in Day 2 data), records are included in Individual Foods file.	7 intakes (1 in Day 1, 6 in Day 2), records are included in Individual Foods file.	6 intakes (all in Day 2 data), records are included in Individual Foods file.	5 intakes (all in Day 2 data), records are included in Individual Foods file.
Number of intakes that include no water or food consumption for the day	2 intakes (1 intake in Day 1 and 1 intake in Day 2) with no food or water records for the day. Records are not included in the Individual Foods File for these intakes.	1 intake in Day 2 with no food or water records for the day. Record is not included in the Individual Foods File for this intake.	No such intake reported.	1 intake in Day 2 with no food or water records for the day. Record is not included in the Individual Foods File for this intake.	1 intake in Day 1 with no food or water records for the day. Record is not included in the Individual Foods File for this intake.

Variable or feature	WWEIA 2007-2008	WWEIA 2009-2010	WWEIA 2011-2012	WWEIA 2013-2014	WWEIA 2015-2016
Eligible sample for questions on fish/ shellfish consumption in the past 30 days	Same as 2005-2006	Same as 2005-2006	Same as 2005-2006	Same as 2005-2006	Same as 2005-2006
Number of days between the intake day and the day of family interview	Calculated and released; 2 new continuous variables calculated for both Day 1 and Day 2.	Same as 2007-2008	Same as 2007-2008	Same as 2007-2008	Same as 2007-2008
Data processing step on salt adjustment	Applied	No longer applied (Sebastian et al., 2013).	Same as 2009-2010	Same as 2009-2010	Same as 2009-2010
Modification codes: DR1MC Day 2 Modification codes: DR2MC Modification Code Description file: DRXMCD	Same as 2005-2006	Same as 2005-2006	Some modification codes deleted; new food codes addressing modifications added in FNDDS 2011-2012.	All remaining modification codes deleted; new food codes addressing modifications added in FNDDS 2013-2014.	No modification codes
Salt used at the table yesterday and type	Not asked.	Not asked.	Not asked.	Question asked about salt use at the table yesterday and kind of salt to coincide with 24-hour recall.	Same as 2013-2014
Main respondent and person whom helped in responding for the interview	Same as 2003-2004	Same as 2003-2004	Same as 2003-2004	Same as 2003-2004	There are new variables for the main respondent and whom helped with the interview.

Appendix 2. Variables in the Individual Foods Files (DR1IFF_I and DR2IFF_I) by Position

Day1 Name	Day2 Name	Variable Label
SEQN	SEQN	Respondent sequence number
WTDRD1	WTDRD1	Dietary day one sample weight
WTDR2D	WTDR2D	Dietary two-day sample weight
DR1ILINE	DR2ILINE	Food/Individual component number
DR1DRSTZ	DR2DRSTZ	Dietary recall status
DR1EXMER	DR2EXMER	Interviewer ID code
DRABF	DRABF	Breast-fed infant (either day)
DRDINT	DRDINT	Number of days of intake
DR1DBIH	DR2DBIH	# of days b/w intake and HH interview
DR1DAY	DR2DAY	Intake day of the week
DR1LANG	DR2LANG	Language respondent used mostly
DR1CCMNM	DR2CCMNM	Combination food number
DR1CCMTX	DR2CCMTX	Combination food type
DR1_020	DR2_020	Time of eating occasion (HH:MM)
DR1_030Z	DR2_030Z	Name of eating occasion
DR1FS	DR2FS	Source of food
DR1_040Z	DR2_040Z	Did you eat this meal at home?
DR1IFDCD	DR2IFDCD	USDA food code
DR1IGRMS	DR2IGRMS	Grams
DR1IKCAL	DR2IKCAL	Energy (kcal)
DR1IPROT	DR2IPROT	Protein (gm)
DR1ICARB	DR2ICARB	Carbohydrate (gm)
DR1ISUGR	DR2ISUGR	Total sugars (gm)
DR1IFIBE	DR2IFIBE	Dietary fiber (gm)
DR1ITFAT	DR2ITFAT	Total fat (gm)
DR1ISFAT	DR2ISFAT	Total saturated fatty acids (gm)
DR1IMFAT	DR2IMFAT	Total monounsaturated fatty acids (gm)
DR1IPFAT	DR2IPFAT	Total polyunsaturated fatty acids (gm)
DR1ICHOL	DR2ICHOL	Cholesterol (mg)
DR1IATOC	DR2IATOC	Vitamin E as alpha-tocopherol (mg)
DR1IATOA	DR2IATOA	Added alpha-tocopherol (Vitamin E) (mg)
DR1IRET	DR2IRET	Retinol (mcg)
DR1IVARA	DR2IVARA	Vitamin A, RAE (mcg)
DR1IACAR	DR2IACAR	Alpha-carotene (mcg)
DR1IBCAR	DR2IBCAR	Beta-carotene (mcg)
DR1ICRYP	DR2ICRYP	Beta-cryptoxanthin (mcg)
DR1ILYCO	DR2ILYCO	Lycopene (mcg)

Day1 Name	Day2 Name	Variable Label
DR1ILZ	DR2ILZ	Lutein + zeaxanthin (mcg)
DR1IVB1	DR2IVB1	Thiamin (Vitamin B1) (mg)
DR1IVB2	DR2IVB2	Riboflavin (Vitamin B2) (mg)
DR1INIAC	DR2INIAC	Niacin (mg)
DR1IVB6	DR2IVB6	Vitamin B6 (mg)
DR1IFOLA	DR2IFOLA	Total folate (mcg)
DR1IFA	DR2IFA	Folic acid (mcg)
DR1IFF	DR2IFF	Food folate (mcg)
DR1IFDFE	DR2IFDFE	Folate, DFE (mcg)
DR1ICHL	DR2ICHL	Total choline (mg)
DR1IVB12	DR2IVB12	Vitamin B12 (mcg)
DR1IB12A	DR2IB12A	Added vitamin B12 (mcg)
DR1IVC	DR2IVC	Vitamin C (mg)
DR1IVD	DR2IVD	Vitamin D (D2 + D3) (mcg)
DR1IVK	DR2IVK	Vitamin K (mcg)
DR1ICALC	DR2ICALC	Calcium (mg)
DR1IPHOS	DR2IPHOS	Phosphorus (mg)
DR1IMAGN	DR2IMAGN	Magnesium (mg)
DR1IIRON	DR2IIRON	Iron (mg)
DR1IZINC	DR2IZINC	Zinc (mg)
DR1ICOPP	DR2ICOPP	Copper (mg)
DR1ISODI	DR2ISODI	Sodium (mg)
DR1IPOTA	DR2IPOTA	Potassium (mg)
DR1ISELE	DR2ISELE	Selenium (mcg)
DR1ICAFF	DR2ICAFF	Caffeine (mg)
DR1ITHEO	DR2ITHEO	Theobromine (mg)
DR1IALCO	DR2IALCO	Alcohol (gm)
DR1IMOIS	DR2IMOIS	Moisture (gm)
DR1IS040	DR2IS040	SFA 4:0 (Butanoic) (gm)
DR1IS060	DR2IS060	SFA 6:0 (Hexanoic) (gm)
DR1IS080	DR2IS080	SFA 8:0 (Octanoic) (gm)
DR1IS100	DR2IS100	SFA 10:0 (Decanoic) (gm)
DR1IS120	DR2IS120	SFA 12:0 (Dodecanoic) (gm)
DR1IS140	DR2IS140	SFA 14:0 (Tetradecanoic) (gm)
DR1IS160	DR2IS160	SFA 16:0 (Hexadecanoic) (gm)
DR1IS180	DR2IS180	SFA 18:0 (Octadecanoic) (gm)
DR1IM161	DR2IM161	MFA 16:1 (Hexadecenoic) (gm)

Day1 Name	Day2 Name	Variable Label
DR1IM181	DR2IM181	MFA 18:1 (Octadecenoic) (gm)
DR1IM201	DR2IM201	MFA 20:1 (Eicosenoic) (gm)
DR1IM221	DR2IM221	MFA 22:1 (Docosenoic) (gm)
DR1IP182	DR2IP182	PFA 18:2 (Octadecadienoic) (gm)
DR1IP183	DR2IP183	PFA 18:3 (Octadecatrienoic) (gm)
DR1IP184	DR2IP184	PFA 18:4 (Octadecatetraenoic) (gm)
DR1IP204	DR2IP204	PFA 20:4 (Eicosatetraenoic) (gm)
DR1IP205	DR2IP205	PFA 20:5 (Eicosapentaenoic) (gm)
DR1IP225	DR2IP225	PFA 22:5 (Docosapentaenoic) (gm)
DR1IP226	DR2IP226	PFA 22:6 (Docosahexaenoic) (gm)

Appendix 3. List of Nutrients/Food Components (Unit)

Energy and Macronutrients

Food energy (kcal)
Protein (gm)
Carbohydrate (gm)
Fat, total (gm)
Alcohol (gm)

Sugars, total (gm)
Dietary fiber, total (gm)
Water (moisture) (gm)*

Saturated fatty acids, total (gm)
Monounsaturated fatty acids, total (gm)
Polyunsaturated fatty acids, total (gm)
Cholesterol (mg)

Individual fatty acids:
- 4:0 (gm)
- 6:0 (gm)
- 8:0 (gm)
- 10:0 (gm)
- 12:0 (gm)
- 14:0 (gm)
- 16:0 (gm)
- 18:0 (gm)
- 16:1 (gm)
- 18:1 (gm)
- 20:1 (gm)
- 22:1 (gm)
- 18:2 (gm)
- 18:3 (gm)
- 18:4 (gm)
- 20:4 (gm)
- 20:5 n-3 (gm)
- 22:5 n-3 (gm)
- 22:6 n-3 (gm)

Vitamins, Minerals, and Other Components

Vitamin A as retinol activity equivalents (mcg)
Retinol (mcg)
Carotenoids:
- Carotene, alpha (mcg)
- Carotene, beta (mcg)
- Cryptoxanthin, beta (mcg)
- Lycopene (mcg)
- Lutein + zeaxanthin (mcg)

Vitamin E as alpha-tocopherol (mg)
- Added vitamin E as alpha-tocopherol (mg)

Vitamin D (D2 + D3) (mcg)
Vitamin K as phylloquinone (mcg)
Vitamin C (mg)
Thiamin (mg)
Riboflavin (mg)
Niacin (mg)
Vitamin B-6 (mg)
Folate, total (mcg)
- Folate as dietary folate equivalents (mcg)

Folic acid (mcg)
Food folate (mcg)
Choline, total (mg)
Vitamin B-12 (mcg)
Added vitamin B-12 (mcg)

Calcium (mg)
Iron (mg)
Magnesium (mg)
Phosphorus (mg)
Potassium (mg)
Sodium (mg)
Zinc (mg)
Copper (mg)
Selenium (mcg)
Caffeine (mg)
Theobromine (mg)

** Value reflects moisture present in all foods, beverages, and water consumed as a beverage (variables DR1IMOIS, DR2IMOIS, DR1TMOIS, DR2TMOIS)*

Appendix 4. Adding Food Code Descriptions to Your Files

One supporting file is included with the Individual Foods files: the Food Code Description file (DRXFCD_I).

The DRXFCD_I file includes abbreviated descriptions (up to 60 characters) and complete descriptions (up to 200 characters) associated with each USDA food code included in the Individual Foods files.

The Food Code Description file (DRXFCD_I) contains three variables:

DRXFDCD a numeric value corresponding to DR1IFDCD in the file DR1IFF_I or DR2IFDCD in the file DR2IFF_I;

DRXFCSD a short description (up to 60 characters) of the food code;

DRXFDLD a long description (up to 200 characters) of the food code.

The following SQL code is an example of appending the shorter food code description (here renamed DR1IFCSD) to one of the Individual Foods files using PROC SQL from SAS®. Other SQL implementations may be different.

```
proc sql;
  create table DR1IFF_I_PLUS as
  select iff.*, desc.DRXFCSD as DR1IFCSD
  from NHANES.DR1IFF_I iff
  left join NHANES.DRXFCD_I desc
  on iff.DR1IFDCD = desc.DRXFDCD
  order by SEQN, DR1ILINE;
quit;
```

SAS® users may wish to use Proc Format to assign labels to the food codes. The following example generates and saves a picture format for food codes and a separate format for each food code that includes both the food code itself and the short food code description. It is assumed that the user has stored the Individual Foods files and the Food Code Description file in a library called NHANES and wishes to store the formats there as well.

```
options fmtsearch = (NHANES);

proc format library = library;
  picture foodcode
  low - high = '000-00000';
quit;

data tmp;
  set NHANES.DRXFCD_I;
  length cfoodcode $9 label $72;
  cfoodcode = put(DRXFDCD, foodcode.);
  label = cfoodcode || ' ' || DRXFCSD;
run;

data fmt (keep = fmtname start label);
  set tmp;
  retain fmtname 'DRXFDCD';
  rename DRXFDCD = start;
run;

proc format cntlin = fmt library = library;
run;
```

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Appendix 5. Variables in the Total Nutrients Files (DR1TOT_I and DR2TOT_I) by Position

Day1 Name	Day2 Name	Variable Label
SEQN	SEQN	Respondent sequence number
WTDRD1	WTDRD1	Dietary day one sample weight
WTDR2D	WTDR2D	Dietary two-day sample weight
DR1DRSTZ	DR2DRSTZ	Dietary recall status
DR1EXMER	DR2EXMER	Interviewer ID code
DRABF	DRABF	Breast-fed infant (either day)
DRDINT	DRDINT	Number of days of intake
DR1DBIH	DR2DBIH	# of days b/w intake and HH interview
DR1DAY	DR2DAY	Intake day of the week
DR1LANG	DR2LANG	Language respondent used mostly
DR1MRESP	DR2MRESP	Main respondent for this interview
DR1HELP	DR2HELP	Helped in responding for this interview
DBQ095Z	N/A	Type of table salt used
DBD100	N/A	How often add salt to food at table
DRQSPREP	N/A	Salt used in preparation?
DR1STY	DR2STY	Salt used at table yesterday?
DR1SKY	DR2SKY	Type of salt used yesterday
DRQSDIET	N/A	On special diet?
DRQSDT1	N/A	Weight loss/Low calorie diet
DRQSDT2	N/A	Low fat/Low cholesterol diet
DRQSDT3	N/A	Low salt/Low sodium diet
DRQSDT4	N/A	Sugar free/Low sugar diet
DRQSDT5	N/A	Low fiber diet
DRQSDT6	N/A	High fiber diet
DRQSDT7	N/A	Diabetic diet
DRQSDT8	N/A	Weight gain/Muscle building diet
DRQSDT9	N/A	Low carbohydrate diet
DRQSDT10	N/A	High protein diet
DRQSDT11	N/A	Gluten-free/Celiac diet
DRQSDT12	N/A	Renal/Kidney diet
DRQSDT91	N/A	Other special diet
DR1TNUMF	DR2TNUMF	Number of foods/beverages reported
DR1TKCAL	DR2TKCAL	Energy (kcal)
DR1TPROT	DR2TPROT	Protein (gm)
DR1TCARB	DR2TCARB	Carbohydrate (gm)
DR1TSUGR	DR2TSUGR	Total sugars (gm)
DR1TFIBE	DR2TFIBE	Dietary fiber (gm)

Day1 Name	Day2 Name	Variable Label
DR1TTFAT	DR2TTFAT	Total fat (gm)
DR1TSFAT	DR2TSFAT	Total saturated fatty acids (gm)
DR1TMFAT	DR2TMFAT	Total monounsaturated fatty acids (gm)
DR1TPFAT	DR2TPFAT	Total polyunsaturated fatty acids (gm)
DR1TCHOL	DR2TCHOL	Cholesterol (mg)
DR1TATOC	DR2TATOC	Vitamin E as alpha-tocopherol (mg)
DR1TATOA	DR2TATOA	Added alpha-tocopherol (Vitamin E) (mg)
DR1TRET	DR2TRET	Retinol (mcg)
DR1TVARA	DR2TVARA	Vitamin A, RAE (mcg)
DR1TACAR	DR2TACAR	Alpha-carotene (mcg)
DR1TBCAR	DR2TBCAR	Beta-carotene (mcg)
DR1TCRYP	DR2TCRYP	Beta-cryptoxanthin (mcg)
DR1TLYCO	DR2TLYCO	Lycopene (mcg)
DR1TLZ	DR2TLZ	Lutein + zeaxanthin (mcg)
DR1TVB1	DR2TVB1	Thiamin (Vitamin B1) (mg)
DR1TVB2	DR2TVB2	Riboflavin (Vitamin B2) (mg)
DR1TNIAC	DR2TNIAC	Niacin (mg)
DR1TVB6	DR2TVB6	Vitamin B6 (mg)
DR1TFOLA	DR2TFOLA	Total folate (mcg)
DR1TFA	DR2TFA	Folic acid (mcg)
DR1TFF	DR2TFF	Food folate (mcg)
DR1TFDFE	DR2TFDFE	Folate, DFE (mcg)
DR1TCHL	DR2TCHL	Total choline (mg)
DR1TVB12	DR2TVB12	Vitamin B12 (mcg)
DR1TB12A	DR2TB12A	Added vitamin B12 (mcg)
DR1TVC	DR2TVC	Vitamin C (mg)
DR1TVD	DR2TVD	Vitamin D (D2 + D3) (mcg)
DR1TVK	DR2TVK	Vitamin K (mcg)
DR1TCALC	DR2TCALC	Calcium (mg)
DR1TPHOS	DR2TPHOS	Phosphorus (mg)
DR1TMAGN	DR2TMAGN	Magnesium (mg)
DR1TIRON	DR2TIRON	Iron (mg)
DR1TZINC	DR2TZINC	Zinc (mg)
DR1TCOPP	DR2TCOPP	Copper (mg)
DR1TSODI	DR2TSODI	Sodium (mg)
DR1TPOTA	DR2TPOTA	Potassium (mg)
DR1TSELE	DR2TSELE	Selenium (mcg)

Day1 Name	Day2 Name	Variable Label
DR1TCAFF	DR2TCAFF	Caffeine (mg)
DR1TTHEO	DR2TTHEO	Theobromine (mg)
DR1TALCO	DR2TALCO	Alcohol (gm)
DR1TMOIS	DR2TMOIS	Moisture (gm)
DR1TS040	DR2TS040	SFA 4:0 (Butanoic) (gm)
DR1TS060	DR2TS060	SFA 6:0 (Hexanoic) (gm)
DR1TS080	DR2TS080	SFA 8:0 (Octanoic) (gm)
DR1TS100	DR2TS100	SFA 10:0 (Decanoic) (gm)
DR1TS120	DR2TS120	SFA 12:0 (Dodecanoic) (gm)
DR1TS140	DR2TS140	SFA 14:0 (Tetradecanoic) (gm)
DR1TS160	DR2TS160	SFA 16:0 (Hexadecanoic) (gm)
DR1TS180	DR2TS180	SFA 18:0 (Octadecanoic) (gm)
DR1TM161	DR2TM161	MFA 16:1 (Hexadecenoic) (gm)
DR1TM181	DR2TM181	MFA 18:1 (Octadecenoic) (gm)
DR1TM201	DR2TM201	MFA 20:1 (Eicosenoic) (gm)
DR1TM221	DR2TM221	MFA 22:1 (Docosenoic) (gm)
DR1TP182	DR2TP182	PFA 18:2 (Octadecadienoic) (gm)
DR1TP183	DR2TP183	PFA 18:3 (Octadecatrienoic) (gm)
DR1TP184	DR2TP184	PFA 18:4 (Octadecatetraenoic) (gm)
DR1TP204	DR2TP204	PFA 20:4 (Eicosatetraenoic) (gm)
DR1TP205	DR2TP205	PFA 20:5 (Eicosapentaenoic) (gm)
DR1TP225	DR2TP225	PFA 22:5 (Docosapentaenoic) (gm)
DR1TP226	DR2TP226	PFA 22:6 (Docosahexaenoic) (gm)
DR1_300	DR2_300	Compare food consumed yesterday to usual
DR1_320Z	DR2_320Z	Total plain water drank yesterday (gm)
DR1_330Z	DR2_330Z	Total tap water drank yesterday (gm)
DR1BWATZ	DR2BWATZ	Total bottled water drank yesterday (gm)
DR1TWS	DR2TWS	Tap water source
DRD340	N/A	Shellfish eaten during past 30 days
DRD350A	N/A	Clams eaten during past 30 days
DRD350AQ	N/A	# of times clams eaten in past 30 days
DRD350B	N/A	Crabs eaten during past 30 days
DRD350BQ	N/A	# of times crabs eaten in past 30 days
DRD350C	N/A	Crayfish eaten during past 30 days
DRD350CQ	N/A	# of times crayfish eaten past 30 days
DRD350D	N/A	Lobsters eaten during past 30 days
DRD350DQ	N/A	# of times lobsters eaten past 30 days

Day1 Name	Day2 Name	Variable Label
DRD350E	N/A	Mussels eaten during past 30 days
DRD350EQ	N/A	# of times mussels eaten in past 30 days
DRD350F	N/A	Oysters eaten during past 30 days
DRD350FQ	N/A	# of times oysters eaten in past 30 days
DRD350G	N/A	Scallops eaten during past 30 days
DRD350GQ	N/A	# of times scallops eaten past 30 days
DRD350H	N/A	Shrimp eaten during past 30 days
DRD350HQ	N/A	# of times shrimp eaten in past 30 days
DRD350I	N/A	Other shellfish eaten past 30 days
DRD350IQ	N/A	# of times other shellfish eaten
DRD350J	N/A	Other unknown shellfish eaten past 30 d
DRD350JQ	N/A	# of times other unknown shellfish eaten
DRD350K	N/A	Refused on shellfish eaten past 30 days
DRD360	N/A	Fish eaten during past 30 days
DRD370A	N/A	Breaded fish products eaten past 30 days
DRD370AQ	N/A	# of times breaded fish products eaten
DRD370B	N/A	Tuna eaten during past 30 days
DRD370BQ	N/A	# of times tuna eaten in past 30 days
DRD370C	N/A	Bass eaten during past 30 days
DRD370CQ	N/A	# of times bass eaten in past 30 days
DRD370D	N/A	Catfish eaten during past 30 days
DRD370DQ	N/A	# of times catfish eaten in past 30 days
DRD370E	N/A	Cod eaten during past 30 days
DRD370EQ	N/A	# of times cod eaten in past 30 days
DRD370F	N/A	Flatfish eaten during past 30 days
DRD370FQ	N/A	# of times flatfish eaten past 30 days
DRD370G	N/A	Haddock eaten during past 30 days
DRD370GQ	N/A	# of times haddock eaten in past 30 days
DRD370H	N/A	Mackerel eaten during past 30 days
DRD370HQ	N/A	# of times mackerel eaten past 30 days
DRD370I	N/A	Perch eaten during past 30 days
DRD370IQ	N/A	# of times perch eaten in past 30 days
DRD370J	N/A	Pike eaten during past 30 days
DRD370JQ	N/A	# of times pike eaten in past 30 days
DRD370K	N/A	Pollock eaten during past 30 days
DRD370KQ	N/A	# of times pollock eaten in past 30 days
DRD370L	N/A	Porgy eaten during past 30 days

Day1 Name	Day2 Name	Variable Label
DRD370LQ	N/A	# of times porgy eaten in past 30 days
DRD370M	N/A	Salmon eaten during past 30 days
DRD370MQ	N/A	# of times salmon eaten in past 30 days
DRD370N	N/A	Sardines eaten during past 30 days
DRD370NQ	N/A	# of times sardines eaten past 30 days
DRD370O	N/A	Sea bass eaten during past 30 days
DRD370OQ	N/A	# of times sea bass eaten past 30 days
DRD370P	N/A	Shark eaten during past 30 days
DRD370PQ	N/A	# of times shark eaten in past 30 days
DRD370Q	N/A	Swordfish eaten during past 30 days
DRD370QQ	N/A	# of times swordfish eaten past 30 days
DRD370R	N/A	Trout eaten during past 30 days
DRD370RQ	N/A	# of times trout eaten in past 30 days
DRD370S	N/A	Walleye eaten during past 30 days
DRD370SQ	N/A	# of times walleye eaten in past 30 days
DRD370T	N/A	Other fish eaten during past 30 days
DRD370TQ	N/A	# of times other fish eaten past 30 days
DRD370U	N/A	Other unknown fish eaten in past 30 days
DRD370UQ	N/A	# of times other unknown fish eaten
DRD370V	N/A	Refused on fish eaten past 30 days