National Health and Nutrition Examination Survey

2017-March 2020 Data Documentation, Codebook, and Frequencies

Dietary Interview Technical Support File - Food Codes (P_DRXFCD)

Data File: P_DRXFCD.xpt

First Published: July 2022

Last Revised: NA

Component Description

The NHANES program suspended field operations in March 2020 due to the coronavirus disease 2019 (COVID-19) pandemic. As a result, data collection for the NHANES 2019-2020 cycle was not completed and the collected data are not nationally representative. Therefore, data collected from 2019 to March 2020 were combined with data from the NHANES 2017-2018 cycle to form a nationally representative sample of NHANES 2017-March 2020 pre-pandemic data. These data are available to the public. Please refer to the Analytic Notes section for more details on the use of the data.

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 Dietary Interview Procedure Manuals (cdc.gov) 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 2017-March 2020 pre-pandemic survey cycle: Individual Foods files and Total Nutrient Intakes files.

What's New with the 2017-March 2020 pre-pandemic WWEIA Release:

New variables for dietary weights are included in the 2017-March 2020 pre-pandemic WWEIA release: WTDRD1PP and WTDR2DPP. **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	P_DR1IFF	P_DR2IFF
Total Nutrient Intakes File	P_DR1TOT	P_DR2TOT

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 2017-March 2020 Pre-Pandemic Dietary Data (cdc.gov) page.

Individual Foods Files (P_DR1IFF and P_DR2IFF): 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 Food and Nutrient Database for Dietary Studies (FNDDS) code identifying the food/beverage;
- Amount of food/beverage consumed, in grams; and
- 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 2017-2018 and 2019-2020 (FNDDS 2017-2018 and FNDDS 2019-2020). NOTE: FNDDS 2017-2018 was used to calculate food/beverages reported by participants in 2017-2018 and FNDDS 2019-2020 was used to calculate food/beverages reported by participants in 2019-March 2020.

Descriptions for the USDA FNDDS food codes are provided in the Food Code Description file (P_DRXFCD). The P_DRXFCD file includes abbreviated descriptions (up to 60 characters) and complete descriptions (up to 200 characters) associated with each USDA food code in both the FNDDS 2017-2018 and FNDDS 2019-2020. If the short or long description changed between the 2017-2018 and 2019-2020 FNDDS versions, both the current (DRXFCSD and DRXFCLD) and former descriptions (DRXFFCSD and DRXFFDLD) were included. Both the description and nutrient calculations may differ between the 2017-2018 and 2019-2020 FNDDS versions. The FNDDS 2019-2020 Documentation provides insight into the changes made to both food code descriptions and nutrient profiles for foods and beverages reported by participants beginning in 2019. **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 (P_DR1TOT and P_DR2TOT): 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 participant. 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 2017-2018 and 2019-2020 (FNDDS 2017-2018 and 2019-2020); Note: nutrient intakes for foods and beverages reported in 2017-2018 were calculated using FNDDS 2017-2018, and FNDDS 2019-2020 for foods and beverages reported in 2019-March 2020.
- 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; and
- Frequency of fish and shellfish consumption in the past 30 days (participants one year or older, Day 1 file only).

Eligible Sample

All participants in the 2017-March 2020 pre-pandemic sample were eligible. However, only participants aged 1 year or older were 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 2017-2018 and 2019-2020 dietary interviewer procedures manuals (in-person interview and phone follow-up interview).

Interviews were conducted with a proxy for participants less than six years of age (who was generally the person most knowledgeable about the participant's intake). Interviews of children aged 6 to 8 were conducted with a proxy and the child was present to assist in reporting intake information. Interviews of children aged 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=99) 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), available at: 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., 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 et. al., 2008, and colleagues found that mean EIs were accurately reported for a sample of 12 adult males.

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 visit the NHANES 2017-March 2020 Pre-Pandemic Dietary Data (cdc.gov) page.

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, which were conducted for approximately 5% of each interviewer's work.
- Quality control of interviews, which 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) 2017-2018 and FNDDS 2019-2020 were used to process the intakes reported by the 2017-March 2020 pre-pandemic sample (Agricultural Research Service, 2017-2018). Intakes were processed separately using FNDDS 2019-2020 for foods/beverages reported by participants in 2019-March 2020 and then merged with data from NHANES 2017-2018. The FNDDS includes comprehensive information that can be used to code individual foods/beverages and portion sizes reported by participants and includes nutrient values for calculating nutrient intakes. FNDDS nutrient values as well as food codes and portion sizes are updated for every 2-year WWEIA, NHANES release cycle. The basis for the nutrient values as well as food codes and portion weights in FNDDS are detailed in the documentation for FNDDS 2017-2018 and FNDDS 2019-2020 available at http://www.ars.usda.gov/nea/bhnrc/fsrg. FNDDS 2019-2020 includes extensive updates.

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

The COVID-19 pandemic required suspension of NHANES 2019-2020 field operations in March 2020 after data were collected in 18 of the 30 survey locations in the 2019-2020 sample. Data collection was cancelled for the remaining 12 locations. Because the collected data from 18 locations were not nationally representative, these data were combined with data from the previous cycle (2017-2018) to create a 2017-March 2020 pre-pandemic data file. A special weighting process was applied to the 2017-March 2020 pre-pandemic data file. The resulting dietary weights should be used to calculate estimates from the combined cycles. These dietary weights are not appropriate for independent analyses of the 2019-2020 data and will not yield nationally representative results for either the 2017-2018 data alone or the 2019-March 2020 data alone. Please refer to the NHANES website for additional information for the NHANES 2017-March 2020 pre-pandemic data, and for the previous 2017-2018 public use data file with specific weights for that 2-year cycle.

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
WTDRD1PP	Dietary day one sample weight
WTDR2DPP	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 the 2017-March 2020 pre-pandemic sample, 12,634 participants provided complete dietary intakes for Day 1. Of those providing the Day 1 data, 10,830 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 1 year or older, the fish and shellfish questions in the P_DR1TOT 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 three databases that detail every food/beverage and dietary supplement reported in NHANES to identify exact determination used. The databases are:

- 2017-2018 Food and Nutrient Database for Dietary Studies
- 2019-2020 Food and Nutrient Database for Dietary Studies
- 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 2017-March 2020 pre-pandemic datasets, one in the Day 1 data and 4 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 2017- March 2020 pre-pandemic datasets, there are 2 individuals 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: 42 percent of foods and beverages reported in the WWEIA, NHANES 2017-March 2020 pre-pandemic sample 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; 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, 2017-March 2020 pre-pandemic sample, Day 1

Combination Type	Code	Examples of Combination Type	% Items
Not in combination	0	NA	58
Beverage w/ additions	1	Coffee, tea with: milk, cream, sugar. Infant formula with: baby cereal*.	9
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.	8
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

*Participant reports of infant formula with baby cereal and baby cereal with additions may be coded as “Other mixtures”.

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

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 dietary weights are appropriate and should be used for NHANES 2017-March 2020 pre-pandemic dietary data analyses. 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.

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 the NHANES 2017-March 2020 pre-pandemic sample, there were 27,066 persons selected; of these 14,300 were considered participants to the MEC examination and data collection. A total of 12,634 MEC participants provided complete dietary intakes for Day 1, and of those providing the Day 1 data, 10,830 provided complete dietary intakes for Day 2.

Most analyses of NHANES data use data collected in the MEC and the variable WTMECPRP 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 (WTDRD1PP) 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 (WTDRD1PP) is applicable to the 12,634 participants with Day 1 data. Day 1 weights were constructed by taking the MEC sample weights (WTMECPRP) 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 10,830 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, WTDR2DPP, 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 10,830 participants by taking the Day 1 weights (WTDRD1PP) 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: 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 (WTMECPRP). In addition, the MEC weights (WTMECPRP) 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 (P_DR1TOT), 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.

References

- Agricultural Research Service, Beltsville Human Nutrition Research Center, Food Surveys Research Group, Beltsville, MD. USDA Food and Nutrient Database for Dietary Studies 2017-2018. https://www.ars.usda.gov/nea/bhnrc/fsrg
- Agricultural Research Service, Beltsville Human Nutrition Research Center, Food Surveys Research Group, Beltsville, MD. USDA Automated Multiple-Pass Method for Dietary Recalls. https://www.ars.usda.gov/nea/bhnrc/fsrg
- Blanton CA, Moshfegh AJ, Baer DJ, Kretsch MJ. The USDA Automated Multiple-Pass Method accurately estimates group total energy and nutrient intake. J Nutr 2006 Oct; 136(10):2594-9. https://pubag.nal.usda.gov/catalog/10039
- Moshfegh AJ, Rhodes DG, Baer DJ, Murayi T, Clemens JC, Rumpler WV, Paul DR, Sebastian RS, Kuczynski KC, Ingwersen LA, Staples RC, Cleveland LC. The USDA Automated Multiple-Pass Method reduces bias in the collection of energy intakes. Am J Clin Nutr 2008; 88:324-332. https://pubag.nal.usda.gov/catalog/21951
- Raper N, Perloff B, Ingwersen L, Steinfeldt L, Anand J. An overview of USDA's dietary intake data

system. J. Food Compos. Anal. 2004; 17(3-4):545-55. https://pubag.nal.usda.gov/catalog/20984

- Rhodes DG, Murayi T, Clemens JC, Baer DJ, Sebastian RS, Moshfegh AJ. The USDA Automated Multiple-Pass Method accurately assesses population sodium intakes. Am J Clin Nutr 2013; 97:958-64. https://academic.oup.com/ajcn/article/97/5/958/4577218
- Rumpler WV, Kramer M, Rhodes DG, Moshfegh AJ, Paul DR, Kramer M. Identifying sources of reporting error using measured food intake. Eur J Clin Nutr 2008; 62:544-52. https://pubag.nal.usda.gov/catalog/16546

Appendix 1. Changes between WWEIA survey cycles 2011-2012 thru the 2017-March 2020 pre-pandemic sample

Variable or feature	WWEIA 2011-2012	WWEIA 2013-2014	WWEIA 2015-2016	WWEIA 2017-2018	WWEIA 2017-March 2020 Pre-Pandemic
Dietary day one sample weight	WTDRD1	WTDRD1	WTDRD1	WTDRD1	WTDRD1PP
Dietary two-day sample weight	WTDR2D	WTDR2D	WTDR2D	WTDR2D	WTDR2DPP
Number of days of intake data per respondent	2 days	2 days	2 days	2 days	2 days
Nutrients included	Same as 2007-2008	Same as 2007-2008	Same as 2007-2008	Same as 2007-2008	Same as 2007-2008
Food source (where food was obtained)	"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	Same as 2013-2014	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: Gluten-free/Celiac diet and Renal/ Kidney.	Same as 2011-2012	Same as 2011-2012	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	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.	2 intakes (all in Day 2 data), records are included in Individual Foods file.	5 intakes (1 in Day 1, 4 in Day 2 data), records are included in Individual Foods file.
Number of intakes that include no water or food consumption for the day	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.	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.	2 intakes in Day 1 with no food or water records for the day. Record is not included in the Individual Foods File for these intakes.
Tap water source	Same as 2003-2004	Same as 2003-2004	Same as 2003-2004	Response category changed	Same as 2017-2018
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

Variable or feature	WWEIA 2011-2012	WWEIA 2013-2014	WWEIA 2015-2016	WWEIA 2017-2018	WWEIA 2017-March 2020 Pre-Pandemic
Number of days between the intake day and the day of family interview	Same as 2007-2008	Same as 2007-2008	Same as 2007-2008	Same as 2007-2008	Same as 2007-2008
Data processing step on salt adjustment	Same as 2009-2010	Same as 2009-2010	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	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	No modification codes	No modification codes
Salt use at the table and in cooking or preparing foods and type	Same as 2003-2004	Same as 2003-2004	Same as 2003-2004	Question wording changed slightly by removing, “seasoned salt”, and adding, “sea salt”.	Same as 2017-2018
Salt used at the table yesterday and type	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	Question wording changed slightly by removing, “seasoned salt”, and adding, “sea salt”.	Same as 2017-2018
Main respondent and person whom helped in responding for the interview	Same as 2003-2004	Same as 2003-2004	Response category changed	Same as 2015-2016	Same as 2015-2016

Appendix 2. Variables in the Individual Foods Files (P_DR1IFF and P_DR2IFF) by Position

Day1 Name	Day2 Name	Variable Label
SEQN	SEQN	Respondent sequence number
WTDRD1PP	WTDRD1PP	Dietary day one sample weight
WTDR2DPP	WTDR2DPP	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)
DR1ILZ	DR2ILZ	Lutein + zeaxanthin (mcg)
DR1IVB1	DR2IVB1	Thiamin (Vitamin B1) (mg)
DR1IVB2	DR2IVB2	Riboflavin (Vitamin B2) (mg)

Day1 Name	Day2 Name	Variable Label
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)
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)

Day1 Name	Day2 Name	Variable Label
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 (P_DRXFCD).

The P_DRXFCD 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 P_DRXFCD contains food codes from both the 2017-2018 and 2019-2020 FNDDS. If the description was changed between the 2017-2018 and 2019-2020 FNDDS, both the current (DRXFCSD and DRXFCLD) and former (DRXFFCSD and DRXFFDLD) descriptions were included.

The Food Code Description file (P_DRXFCD) contains five variables:

DRXFDCD a numeric value corresponding to DR1IFDCD in the file P_DR1IFF or DR2IFDCD in the file P_DR2IFF;

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

DRXFCLD a long description (up to 200 characters) of the food code;

DRXFFCSD the former short description (up to 60 characters) of the food code;

DRXFFDLD the former 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 P_DR1IFF_PLUS as
  select iff.*, desc.DRXFCSD as DR1FCSD, desc.DRXFCLD as DR1FCLD,
desc.DRXFFCSD as DR1FFCSD, desc.DRXFFDLD as DR1FFDLD
  from NHANES.P_DR1IFF iff
  left join NHANES.P_DRXFCD 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.P_DRXFCD;
  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;
```

Appendix 5. Variables in the Total Nutrients Files (P_DR1TOT and P_DR2TOT) by Position

Day1 Name	Day2 Name	Variable Label
SEQN	SEQN	Respondent sequence number
WTDRD1PP	WTDRD1PP	Dietary day one sample weight
WTDR2DPP	WTDR2DPP	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)
DR1TTFAT	DR2TTFAT	Total fat (gm)
DR1TSFAT	DR2TSFAT	Total saturated fatty acids (gm)
DR1TMFAT	DR2TMFAT	Total monounsaturated fatty acids (gm)

Day1 Name	Day2 Name	Variable Label
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)
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)

Day1 Name	Day2 Name	Variable Label
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)
DR1TWSZ	DR2TWSZ	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
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

Day1 Name	Day2 Name	Variable Label
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
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

Day1 Name	Day2 Name	Variable Label
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