

# 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 DR1HELPH and DR2HELPH, which indicate the person whom helped with the interview, were deleted. The new variables DR1MRESP, DR2MRESP, DR1HELPH, and DR2HELPH 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**

<b>Code</b>	<b>Description</b>
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**

<b>Code</b>	<b>Description</b>
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**

<b>Combination Type</b>	<b>Code</b>	<b>Examples of Combination Type</b>	<b>% Items</b>
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**

<b>Combination Coding</b>	<b>Variable Name, Day 1</b>	<b>Variable Name, Day 2</b>
Combination food type	DR1CCMTX	DR2CCMTX
Combination food number	DR1CCNMN	DR2CCNMN

**The What We Eat in America Food Categories**, available on the [FSRG website \(http://www.ars.usda.gov/nea/bhnrc/fsrg\)](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.

## References

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Codebook and Frequencies

SEQN - Respondent sequence number

<b>Variable Name:</b>	SEQN
<b>SAS Label:</b>	Respondent sequence number
<b>English Text:</b>	Respondent sequence number.
<b>Target:</b>	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	

## WTDR2D - Dietary two-day sample weight

**Variable Name:** WTDR2D  
**SAS Label:** Dietary two-day sample weight  
**English Text:** Dietary two-day sample weight  
**Target:** Both males and females 0 YEARS - 150 YEARS

Code or Value	Value Description	Count	Cumulative	Skip to Item
1663.514111 to 579148.95623	Range of Values	7027	7027	
0	Day 2 dietary recall not done/incomplete	1479	8506	
.	Missing	1038	9544	

## DR1DRSTZ - Dietary recall status

**Variable Name:** DR1DRSTZ

**SAS Label:** Dietary recall status

**English Text:** Dietary recall status

**Target:** Both males and females 0 YEARS - 150 YEARS

Code or Value	Value Description	Count	Cumulative	Skip to Item
1	Reliable and met the minimum criteria	8327	8327	
2	Not reliable or not met the minimum criteria	110	8437	
4	Reported consuming breast-milk	179	8616	
5	Not done	928	9544	
.	Missing	0	9544	

## DR1EXMER - Interviewer ID code

**Variable Name:** DR1EXMER

**SAS Label:** Interviewer ID code

**English Text:** Interviewer ID code

**Target:** Both males and females 0 YEARS - 150 YEARS

Code or Value	Value Description	Count	Cumulative	Skip to Item
14 to 91	Range of Values	8616	8616	
.	Missing	928	9544	

## DRABF - Breast-fed infant (either day)

**Variable Name:** DRABF

**SAS Label:** Breast-fed infant (either day)

**English Text:** Indicates whether the sample person was an infant who was breast-fed on either of the two recall days.

**Target:** Both males and females 0 YEARS - 150 YEARS

Code or Value	Value Description	Count	Cumulative	Skip to Item
1	Yes	180	180	
2	No	8326	8506	
.	Missing	1038	9544	



## DRDINT - Number of days of intake

**Variable Name:** DRDINT

**SAS Label:** Number of days of intake

**English Text:** Indicates whether the sample person has intake data for one or two days.

**Target:** Both males and females 0 YEARS - 150 YEARS

Code or Value	Value Description	Count	Cumulative	Skip to Item
1	Day 1 only	1479	1479	
2	Day 1 and day 2	7027	8506	
.	Missing	1038	9544	

## DR1DBIH - # of days b/w intake and HH interview

**Variable Name:** DR1DBIH

**SAS Label:** # of days b/w intake and HH interview

**English Text:** Number of days between intake day and the day of family questionnaire administered in the household.

**Target:** Both males and females 0 YEARS - 150 YEARS

Code or Value	Value Description	Count	Cumulative	Skip to Item
-32 to 70	Range of Values	8413	8413	
.	Missing	1131	9544	

## DR1DAY - Intake day of the week

**Variable Name:** DR1DAY

**SAS Label:** Intake day of the week

**English Text:** Intake day of the week

**Target:** Both males and females 0 YEARS - 150 YEARS

Code or Value	Value Description	Count	Cumulative	Skip to Item
1	Sunday	1477	1477	
2	Monday	602	2079	
3	Tuesday	814	2893	
4	Wednesday	705	3598	
5	Thursday	664	4262	
6	Friday	2340	6602	
7	Saturday	2014	8616	
.	Missing	928	9544	

## DR1LANG - Language respondent used mostly

**Variable Name:** DR1LANG

**SAS Label:** Language respondent used mostly

**English Text:** The respondent spoke mostly:

**Target:** Both males and females 0 YEARS - 150 YEARS

Code or Value	Value Description	Count	Cumulative	Skip to Item
1	English	7401	7401	
2	Spanish	1007	8408	
3	English and Spanish	76	8484	
4	Other	47	8531	
5	Asian Languages	54	8585	
6	Asian Languages and English	43	8628	
.	Missing	916	9544	

## DR1MRESP - Main respondent for this interview

**Variable Name:** DR1MRESP  
**SAS Label:** Main respondent for this interview  
**English Text:** Who was the main respondent for this interview?  
**Target:** Both males and females 0 YEARS - 150 YEARS

Code or Value	Value Description	Count	Cumulative	Skip to Item
1	SP	6575	6575	
2	Mother of SP	1575	8150	
3	Father of SP	213	8363	
5	Spouse of SP	14	8377	
6	Child of SP	19	8396	
7	Grandparent of SP	50	8446	
8	Friend, Partner, Non Relative	2	8448	
9	Translator, not a HH member	3	8451	
10	Child care provider, Caretaker	12	8463	
11	Other Relative	40	8503	
77	Refused	0	8503	
99	Don't know	0	8503	
.	Missing	1041	9544	

## DR1HELP - Helped in responding for this interview

**Variable Name:** DR1HELP  
**SAS Label:** Helped in responding for this interview  
**English Text:** Who helped in responding for this interview  
**Target:** Both males and females 0 YEARS - 150 YEARS

Code or Value	Value Description	Count	Cumulative	Skip to Item
1	SP	627	627	
4	Parent of SP	482	1109	
5	Spouse of SP	16	1125	
6	Child of SP	13	1138	
7	Grandparent of SP	20	1158	
8	Friend, Partner, Non Relative	3	1161	
9	Translator, not a HH member	71	1232	
10	Child care provider, Caretaker	1	1233	
11	Other Relative	48	1281	
12	No One	7212	8493	
77	Refused	0	8493	
99	Don't know	0	8493	
.	Missing	1051	9544	

## DBQ095Z - Type of table salt used

**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	

## DR1SKY - Type of salt used yesterday

**Variable Name:** DR1SKY

**SAS Label:** Type of salt used yesterday

**English Text:** What type of salt was it? (Was it 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	Ordinary, sea, seasoned, or other flavored salt	1335	1335	
2	Lite salt	47	1382	
3	Salt substitute	23	1405	
91	Other	0	1405	
99	Don't know	17	1422	
.	Missing	8122	9544	

## DRQSDIET - On special diet?

**Variable Name:** DRQSDIET

**SAS Label:** On special diet?

**English Text:** Are you currently on any kind of diet, either to lose weight or for some other health-related reason?

**Target:** Both males and females 0 YEARS - 150 YEARS

Code or Value	Value Description	Count	Cumulative	Skip to Item
1	Yes	906	906	
2	No	7655	8561	DR1TNUMF
9	Don't know	55	8616	DR1TNUMF
.	Missing	928	9544	

## DRQSDT1 - Weight loss/Low calorie diet

**Variable Name:** DRQSDT1

**SAS Label:** Weight loss/Low calorie diet

**English Text:** What kind of diet are you on? (Is it a weight loss or low calorie diet: low fat or cholesterol diet; low salt or sodium diet; sugar free or low sugar diet; low fiber diet; high fiber diet; diabetic diet; or another type of diet?)

**Target:** Both males and females 0 YEARS - 150 YEARS

Code or Value	Value Description	Count	Cumulative	Skip to Item
1	Weight loss or low calorie diets	469	469	
.	Missing	9075	9544	

## DRQSDT2 - Low fat/Low cholesterol diet

**Variable Name:** DRQSDT2

**SAS Label:** Low fat/Low cholesterol diet

**English Text:** What kind of diet are you on? (Is it a weight loss or low calorie diet: low fat or cholesterol diet; low salt or sodium diet; sugar free or low sugar diet; low fiber diet; high fiber diet; diabetic diet; or another type of diet?)

**Target:** Both males and females 0 YEARS - 150 YEARS

Code or Value	Value Description	Count	Cumulative	Skip to Item
2	Low fat or low cholesterol diet	116	116	
.	Missing	9428	9544	

## DRQSDT3 - Low salt/Low sodium diet

**Variable Name:** DRQSDT3

**SAS Label:** Low salt/Low sodium diet

**English Text:** What kind of diet are you on? (Is it a weight loss or low calorie diet: low fat or cholesterol diet; low salt or sodium diet; sugar free or low sugar diet; low fiber diet; high fiber diet; diabetic diet; or another type of diet?)

**Target:** Both males and females 0 YEARS - 150 YEARS

Code or Value	Value Description	Count	Cumulative	Skip to Item
3	Low salt or low sodium diet (including diet to lower blood pressure or hypertension)	122	122	
.	Missing	9422	9544	

## DRQSDT4 - Sugar free/Low sugar diet

**Variable Name:** DRQSDT4

**SAS Label:** Sugar free/Low sugar diet

**English Text:** What kind of diet are you on? (Is it a weight loss or low calorie diet: low fat or cholesterol diet; low salt or sodium diet; sugar free or low sugar diet; low fiber diet; high fiber diet; diabetic diet; or another type of diet?)

**Target:** Both males and females 0 YEARS - 150 YEARS

Code or Value	Value Description	Count	Cumulative	Skip to Item
4	Sugar free or low sugar diet	46	46	
.	Missing	9498	9544	



## DRQSDT5 - Low fiber diet

**Variable Name:** DRQSDT5

**SAS Label:** Low fiber diet

**English Text:** What kind of diet are you on? (Is it a weight loss or low calorie diet: low fat or cholesterol diet; low salt or sodium diet; sugar free or low sugar diet; low fiber diet; high fiber diet; diabetic diet; or another type of diet?)

**Target:** Both males and females 0 YEARS - 150 YEARS

Code or Value	Value Description	Count	Cumulative	Skip to Item
5	Low fiber or low residue diet	2	2	
.	Missing	9542	9544	

## DRQSDT6 - High fiber diet

**Variable Name:** DRQSDT6

**SAS Label:** High fiber diet

**English Text:** What kind of diet are you on? (Is it a weight loss or low calorie diet: low fat or cholesterol diet; low salt or sodium diet; sugar free or low sugar diet; low fiber diet; high fiber diet; diabetic diet; or another type of diet?)

**Target:** Both males and females 0 YEARS - 150 YEARS

Code or Value	Value Description	Count	Cumulative	Skip to Item
6	High fiber or high residue diet	7	7	
.	Missing	9537	9544	

## DRQSDT7 - Diabetic diet

**Variable Name:** DRQSDT7

**SAS Label:** Diabetic diet

**English Text:** What kind of diet are you on? (Is it a weight loss or low calorie diet: low fat or cholesterol diet; low salt or sodium diet; sugar free or low sugar diet; low fiber diet; high fiber diet; diabetic diet; or another type of diet?)

**Target:** Both males and females 0 YEARS - 150 YEARS

Code or Value	Value Description	Count	Cumulative	Skip to Item
7	Diabetic diet (including gestational diabetic diets)	148	148	
.	Missing	9396	9544	

## DRQSDT8 - Weight gain/Muscle building diet

**Variable Name:** DRQSDT8

**SAS Label:** Weight gain/Muscle building diet

**English Text:** What kind of diet are you on? (Is it a weight loss or low calorie diet: low fat or cholesterol diet; low salt or sodium diet; sugar free or low sugar diet; low fiber diet; high fiber diet; diabetic diet; or another type of diet?)

**Target:** Both males and females 0 YEARS - 150 YEARS

Code or Value	Value Description	Count	Cumulative	Skip to Item
8	Weight gain/Muscle building diet	29	29	
.	Missing	9515	9544	

## DRQSDT9 - Low carbohydrate diet

**Variable Name:** DRQSDT9

**SAS Label:** Low carbohydrate diet

**English Text:** What kind of diet are you on? (Is it a weight loss or low calorie diet: low fat or cholesterol diet; low salt or sodium diet; sugar free or low sugar diet; low fiber diet; high fiber diet; diabetic diet; or another type of diet?)

**Target:** Both males and females 0 YEARS - 150 YEARS

Code or Value	Value Description	Count	Cumulative	Skip to Item
9	Low carbohydrate diet	65	65	
.	Missing	9479	9544	

## DRQSDT10 - High protein diet

**Variable Name:** DRQSDT10

**SAS Label:** High protein diet

**English Text:** What kind of diet are you on? (Is it a weight loss or low calorie diet: low fat or cholesterol diet; low salt or sodium diet; sugar free or low sugar diet; low fiber diet; high fiber diet; diabetic diet; or another type of diet?)

**Target:** Both males and females 0 YEARS - 150 YEARS

Code or Value	Value Description	Count	Cumulative	Skip to Item
10	High protein diet	18	18	
.	Missing	9526	9544	

## DRQSDT11 - Gluten-free/Celiac diet

**Variable Name:** DRQSDT11

**SAS Label:** Gluten-free/Celiac diet

**English Text:** What kind of diet are you on? (Is it a weight loss or low calorie diet: low fat or cholesterol diet; low salt or sodium diet; sugar free or low sugar diet; low fiber diet; high fiber diet; diabetic diet; or another type of diet?)

**Target:** Both males and females 0 YEARS - 150 YEARS

Code or Value	Value Description	Count	Cumulative	Skip to Item
11	Gluten-free/Celiac diet	14	14	
.	Missing	9530	9544	

## DRQSDT12 - Renal/Kidney diet

**Variable Name:** DRQSDT12

**SAS Label:** Renal/Kidney diet

**English Text:** What kind of diet are you on? (Is it a weight loss or low calorie diet: low fat or cholesterol diet; low salt or sodium diet; sugar free or low sugar diet; low fiber diet; high fiber diet; diabetic diet; or another type of diet?)

**Target:** Both males and females 0 YEARS - 150 YEARS

Code or Value	Value Description	Count	Cumulative	Skip to Item
12	Renal/Kidney diet	5	5	
.	Missing	9539	9544	



## DRQSDT91 - Other special diet

**Variable Name:** DRQSDT91

**SAS Label:** Other special diet

**English Text:** What kind of diet are you on? (Is it a weight loss or low calorie diet: low fat or cholesterol diet; low salt or sodium diet; sugar free or low sugar diet; low fiber diet; high fiber diet; diabetic diet; or another type of diet?)

**Target:** Both males and females 0 YEARS - 150 YEARS

Code or Value	Value Description	Count	Cumulative	Skip to Item
91	Other special diet	25	25	
.	Missing	9519	9544	

## DR1TNUMF - Number of foods/beverages reported

**Variable Name:** DR1TNUMF

**SAS Label:** Number of foods/beverages reported

**English Text:** Total number of foods/beverages reported in the individual foods file

**Target:** Both males and females 0 YEARS - 150 YEARS

Code or Value	Value Description	Count	Cumulative	Skip to Item
0 to 45	Range of Values	8506	8506	
.	Missing	1038	9544	

## DR1TKCAL - Energy (kcal)

**Variable Name:** DR1TKCAL

**SAS Label:** Energy (kcal)

**English Text:** Energy (kcal)

**Target:** Both males and females 0 YEARS - 150 YEARS

Code or Value	Value Description	Count	Cumulative	Skip to Item
0 to 10126	Range of Values	8327	8327	
.	Missing	1217	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
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