



KEY POINTS IN USING *What We Eat In America, NHANES 2015-2016*

READ THE DOCUMENTATION provided with each WWEIA, NHANES release. It includes extensive information about data collection and processing and details changes from past releases.

DIETARY INTERVIEW FILES

- DR1IFF_I -- Individual Foods File, Day 1 intakes -- contains one record for each food/beverage consumed. Variables SEQN and DR1ILINE uniquely identify a record in this file.
- DR2IFF_I -- Individual Foods File, Day 2 intakes -- contains one record for each food/beverage consumed. Variables SEQN and DR2ILINE uniquely identify a record in this file.
- DR1TOT_I -- Total Nutrient Intakes File, Day 1 intakes -- contains one record for each participant. Variable SEQN uniquely identifies a record in this file.
- DR2TOT_I -- Total Nutrient Intake File, Day 2 intakes -- contains one record for each participant. Variable SEQN uniquely identifies a record in this file.

SEQN -- RESPONDENT SEQUENCE NUMBER

The respondent sequence number variable SEQN links all NHANES data files. Each participant has a unique SEQN. The SEQN is unique across all survey data releases.

COMPLETE AND RELIABLE RECORDS

Only records from complete and reliable intakes are included in the Individual Foods files. The dietary recall status variables DR1DRSTZ and DR2DRSTZ in the day 1 and day 2 intake files respectively, identifies complete and reliable records.

The dietary recall status codes in the Individual Foods files for variables DR1DRSTZ and DR2DRSTZ:

- 1 -- reliable and met the following minimum criteria:
 - first 4 steps of 5-step AMPM completed
 - food/beverages consumed for each reported eating occasion identified
- 4 -- reported consuming breast milk

The dietary recall status codes in the Total Nutrient files for variables DR1DRSTZ and DR2DRSTZ:

- 1 -- reliable and met the minimum criteria (see above)
- 2 -- not reliable or did not meet minimum criteria, no data provided on nutrient intakes
- 4 -- reported consuming breast milk
- 5 -- not done

INTAKES WITH ONLY WATER REPORTED

All water, including tap and bottled water, was collected during the 24-hour recall and is listed on the Individual Foods files. (Prior to 2005-2006, plain water was collected after the 24-hour recall as a total amount for the day.)

There are 5 intakes comprised of only water in the 2015-2016 dataset. These intakes are considered complete and reliable and are coded as "1". They have zero totals for energy and most other dietary components.

- 0 in day 1
- 5 in day 2

INTAKES WITH NO FOOD, BEVERAGES OR WATER REPORTED

There can be participants whose intakes are determined to be complete even though they reported no water, food, or other beverages for the day.

In the 2015-2016 dataset, there is 1 intake in day 1. For this participant, there are no records in the Individual Foods file but their dietary recall status is coded as “1” complete and reliable and the Total Nutrients file will include records with zero values for all nutrients.

INTAKES WITH HUMAN MILK REPORTED

- For infants and children who consumed human milk, there is a record in the Individual Foods files for each report of human milk.
- The amounts of human milk intake are not quantified; and the records contain missing values for the amount consumed, the amounts of energy and nutrients from human milk, the food source, and eaten at home variables in the Individual Foods files.
- Records for any other food/beverage 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.
- While the dietary status variables identify children reporting human milk, and thus identifying individuals for whom total nutrient data are unavailable, the variable DRABF, which identifies children for whom human milk was reported on either day, is the preferred identifier of breastfeeding children.

SAMPLING WEIGHTS

In most situations, the sampling weights to use for analysis using day 1 intakes are the day one dietary sampling weights WTDRD1. For analysis using both days of intakes, use the two-day dietary sampling weights WTDR2D. See the NHANES Analytic Guidelines for more information.

DAYS BETWEEN INTAKE DAY AND DAY OF FAMILY QUESTIONNAIRE

A variable (DR1DBIH, day 1 files and DR2DBIH, day 2 files) was added to the four dietary interview files beginning in 2007-2008 to indicate the number of days between the intake day and the day the family questionnaire was administered in the household. NHANES has collected information on the receipt of SNAP benefits, including the last benefit received date as part of the family interview.

DIETARY SUPPLEMENT AND ANTACID USE

Dietary supplement and antacid use for the previous 24 hours was collected beginning in 2007-2008 to provide data of the same timeframe as the food and beverage intake. This 24-hour dietary supplement interview was collected following the 24-hour dietary recall. Information is obtained on all vitamins, minerals, herbals and other dietary supplements that were consumed during a 24-hour time period (midnight to midnight), including the name and the amount of dietary supplement taken. These data are in addition to the collection of data on study participants' use of dietary supplements in the past 30 days, during the Dietary Supplements Section (DSQ) in the household interview.

**EATING OCCASION
TIME OF OCCASION**

The names of eating occasions are selected from a list available to participants. The codes and list of the eating occasions are provided in Table 1.

Table 1. Code and Descriptions for Eating Occasion Variable
WWEIA, NHANES 2015-2016

Code	Eating Occasion Name
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

The time a participant reported consuming the food/beverage items at an eating occasion was also collected. Any meal can be reported at any time of day. The midday meal may be called lunch or dinner, and the evening meal may be called supper or dinner. It may be helpful to also look at time of eating occasion when doing analysis of eating occasion. The Spanish meal names should also be reviewed as they may have different meaning for participants from different countries.

Tables 13 - 36 on the FSRG web site (www.ars.usda.gov/nea/bhnrc/fsrg) listed below provide results by eating occasions. A list of all data tables for WWEIA, NHANES 2015-2016 is provided on pages 7 and 8.

EXTENDED CONSUMPTION

One of the eating occasion options is *'extended consumption'*. As the name implies, this is a food or beverage consumed over a period of time. It is used when the participant is unable to distinguish a finite quantity consumed at a specific time. For example: a participant made a 6-cup pot of coffee, started drinking at 7:00 am and continued throughout the morning. Because one can report the total quantity consumed, but not the time each cup was consumed, the eating occasion is designated as *'extended consumption'* and the time it began. About 3 percent of 2015-2016 day 1 food records were coded as *'extended consumption'*. Of those, about three-fourths were water.

FOOD SOURCE

'Food source' (where obtained) is collected for each food/beverage reported. Table 2 provides the code and source descriptions. Beginning in 2011-2012, a response code of 'store' was separated into three separate codes:

- *code 1 store – grocery/supermarket*
- *code 27 store – convenience type*
- *code 28 store – no additional information*

Table 2. Code Descriptions for Source of Food Variable
WWEIA, NHANES 2015-2016

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

AT HOME OR AWAY FROM HOME

For every eating occasion reported, participants are asked if the meal/snack was consumed at home. This information is in addition to the source (where obtained) for each food/beverage item. For example, a food could be obtained from a restaurant and consumed at home.

FOODS AND BEVERAGES CODED AS PART OF A COMBINATION

Thirty-nine percent of foods and beverages reported in WWEIA, NHANES 2015-2016 on day 1 were identified as items consumed together as combinations. Items consumed as a combination were identified by one of fifteen unique 'combination food types'. Food/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.

Table 3 provides the combination types and their code, examples of the combinations, and the percentage of 2015-2016 day 1 foods and beverages coded by combination type.

Table 3. Combination Type, Code, Examples, and Percent of Items Reported by Type
WWEIA, NHANES 2015-2016, Day 1

Combination Type	Code	Examples of Combination Type	% of Items
Not in combination	0	n/a	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 or tortillas that do not have a single code in FNDDS. It may also designate additional items added to single code tacos or tortillas.	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, the '*combination food number*', is unique to a specific combination within an individual's intake. Table 2 provides the variable names on the 2015-2016 WWEIA, NHANES data files for the combination food type and the sequential combination food number.

Table 2. Variable Names for Combination Coding
WWEIA, NHANES 2015-2016 Data Files

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

FOOD AND NUTRIENT DATABASE FOR DIETARY STUDIES (FNDDS) 2015-2016

The USDA FNDDS 2015-2016 converts food/beverages consumed in WWEIA, NHANES 2015-2016 into gram amounts and determines nutrient value. It was used to generate the nutrient intake data files.

FNDDS is made available on the FSRG web site for researchers to review the nutrient profiles for specific foods and beverages that were consumed as well as their associated portions and recipe calculations. Such detailed information makes it possible to conduct enhanced analysis of dietary intakes.

If you are considering combining dietary data from 2015-2016 and prior dietary data, carefully consider that between survey time periods, nutrient values for many foods and beverages were revised. The FNDDS version used to calculate nutrient intakes for each release of WWEIA, NHANES is listed below. Each data release is based on the most up-to-date food composition values available for the specific timeframe. Thus, analyzing merged intake data for two data sets should be carefully considered for each nutrient.

Survey Release	FNDDS Version
WWEIA, NHANES 2001-2002	FNDDS1.0
WWEIA, NHANES 2003-2004	FNDDS 2.0
WWEIA, NHANES 2005-2006	FNDDS 3.0
WWEIA, NHANES 2007-2008	FNDDS 4.1
WWEIA, NHANES 2009-2010	FNDDS 5.0
WWEIA, NHANES 2011-2012	FNDDS 2011-2012
WWEIA, NHANES 2013-2014	FNDDS 2013-2014
WWEIA, NHANES 2015-2016	FNDDS 2015-2016

SALT

- WWEIA, NHANES estimations of sodium intake include salt added in food preparation and are reflected in FNDDS nutrient profiles. They do not include salt added at the table.
- The information collected, during the 24-hour recall, on participant salt use behavior at the table and in food preparation is not considered in sodium intake estimations.

DISCONTINUED CODES IN FNDDS

An extensive update resulted in a large number of food/beverage codes both added and discontinued between FNDDS 2013-2014 and FNDDS 2015-2016. For conducting trend analysis or using FNDDS to support other food intake databases, a crosswalk file is available that lists each of the 824 codes and main descriptions that were discontinued between FNDDS 2013-2014 and FNDDS 2015-2016 plus the rationale for discontinuation. If appropriate, the discontinued code is linked to a new/existing FNDDS 2015-2016 code.

WWEIA FOOD CATEGORIES

The WWEIA Food Categories, available on the FSRG web site, provide an application to analyze food/beverages as consumed in the American diet. Each food/beverage item in WWEIA, NHANES is placed in one of the mutually exclusive ~150 food categories that group similar items together based on usage and nutrient content.

FOOD SURVEYS LISTSERV

Sign up for the Food Surveys Listserv to receive notices about the dietary data and new FNDDS updates at www.ars.usda.gov/nea/bhnrc/fsrg .

List of Summarized Data Tables from WWEIA, NHANES 2015-2016
(available on the FSRG web site <http://www.ars.usda.gov/nea/bhnrc/fsrg>)

Nutrient Intakes: from Food and Beverages

1. by Gender and Age
2. by Race/Ethnicity
3. by Income (in Dollars)
4. by Income (as % of Federal Poverty Threshold)

Percent of Energy from Protein, Carbohydrate, Fat and Alcohol

5. by Gender and Age
6. by Race/Ethnicity
7. by Income (in Dollars)
8. by Income (as % of Federal Poverty Threshold)

Away from Home: Percent of Nutrients

9. by Gender and Age
10. by Race/Ethnicity
11. by Income (in Dollars)
12. by Income (as % of Federal Poverty Threshold)

Breakfast: Percent of Nutrients

13. by Gender and Age
14. by Race/Ethnicity
15. by Income (in Dollars)
16. by Income (as % of Federal Poverty Threshold)

Lunch: Percent of Nutrients

17. by Gender and Age
18. by Race/Ethnicity
19. by Income (in Dollars)
20. by Income (as % of Federal Poverty Threshold)

Dinner: Percent of Nutrients

21. by Gender and Age
22. by Race/Ethnicity
23. by Income (in Dollars)
24. by Income (as % of Federal Poverty Threshold)

Snacks: Percent of Nutrients

25. by Gender and Age
26. by Race/Ethnicity
27. by Income (in Dollars)
28. by Income (as % of Federal Poverty Threshold)

Snacks: Distribution of Snack Occasions

29. by Gender and Age
30. by Race/Ethnicity
31. by Income (in Dollars)
32. by Income (as % of Federal Poverty Threshold)

Meals and Snacks: Distribution of Meal Patterns and Snack Occasions

33. by Gender and Age
34. by Race/Ethnicity
35. by Income (in Dollars)
36. by Income (as % of Federal Poverty Threshold)

Nutrient Intakes: from Food/Beverages and Dietary Supplements

37. by Gender and Age
38. by Race/Ethnicity
39. by Income (in Dollars)
40. by Income (as % of Federal Poverty Threshold)

Nutrient Intakes per 1000 kcal: from Food and Beverages

41. by Gender and Age
42. by Race/Ethnicity
43. by Income (in Dollars)
44. by Income (as % of Federal Poverty Threshold)

Full Service Restaurants: Nutrient Intakes

- 45. by Gender and Age
- 46. by Race/Ethnicity
- 47. by Income (in Dollars)
- 48. by Income (as % of Federal Poverty Threshold)

Quick Service Restaurants: Nutrient Intakes

- 49. by Gender and Age
- 50. by Race/Ethnicity
- 51. by Income (in Dollars)
- 52. by Income (as % of Federal Poverty Threshold)

All Restaurants: Nutrient Intakes

- 53. by Gender and Age
- 54. by Race/Ethnicity
- 55. by Income (in Dollars)
- 56. by Income (as % of Federal Poverty Threshold)