



KEY POINTS USING *What We Eat In America*, NHANES 2017-2018

The following key points identify topics discussed in this factsheet. Content was selected from the Food Surveys Research Group (FSRG) and the NHANES websites; consult for more comprehensive topic details.

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READ THE DOCUMENTATION for each WWEIA, NHANES release. It includes extensive information about data collection and processing, and details changes between survey cycles.

https://wwwn.cdc.gov/NCHS/nhanes/2017-2018/DR1IFF_J.htm

https://wwwn.cdc.gov/NCHS/nhanes/2017-2018/DR1TOT_J.htm

4 DIETARY INTERVIEW FILES are available for a survey data release.

Table 1. Dietary Recall Data File Names and Contents

WWEIA, NHANES 2017-2018

File Names	Day 1	Day 2	Contents
Individual Foods File	DR1IFF_J	DR2IFF_J	<ul style="list-style-type: none"> contains one record for each food/beverage reported in complete and reliable intakes variables SEQN and DR1ILINE or DR2ILINE uniquely identifies a record
Total Nutrient Intakes File	DR1TOT_J	DR2TOT_J	<ul style="list-style-type: none"> contains one record for each respondent, including those not reliable or not done variable SEQN uniquely identifies a record

<https://www.ars.usda.gov/northeast-area/beltsville-md-bhnrc/beltsville-human-nutrition-research-center/food-surveys-research-group/docs/wweia-documentation-and-data-sets/>

SEQN -- RESPONDENT SEQUENCE NUMBER variable **SEQN** links all NHANES data files and is unique for each respondent across all survey data releases.

COMPLETE AND RELIABLE RECORDS

- The dietary recall status codes in the Individual Food Files for variables **DR1DRSTZ** and **DR2DRSTZ** identify complete and reliable records based on:
 - reliable** and met the following minimum criteria:
 - first 4 steps of 5-step AMPM completed
 - food/beverages consumed for each reported eating occasion identified
 - reported **consuming breast milk**
- The dietary recall status codes in the Total Nutrient Files for variables **DR1DRSTZ** and **DR2DRSTZ**:
 - reliable** and met the minimum criteria (see above)
 - not reliable** or did not meet minimum criteria, no data provided on nutrient intakes
 - reported **consuming breast milk**
 - not done**

INTAKES WITH DIETARY RECALL STATUS CODED AS '1' OR '4'

- Selected data are limited for three types of intakes – intakes with only water reported, intakes with no food, beverage or water reported, and intakes with human milk reported.

Table 2. Intakes with Dietary Recall Status Coded as '1' or '4'
WWEIA, NHANES 2017-2018

Intake Type	Number by		Data by File
	Day 1	Day 2	
only water reported	0	2	<ul style="list-style-type: none"> Individual Foods File - data for each report of water Total Nutrient Intakes File - values for nutrients in water
no food, beverage, or water reported	1	0	<ul style="list-style-type: none"> Individual Foods File - no data but recall considered reliable Total Nutrient Intakes File – zero values for all nutrients
human milk reported	157	137	<ul style="list-style-type: none"> Individual Foods File - data for each report of human milk, amounts not quantified, and no values for nutrients, food source, and eaten at home variables; if other foods/beverages reported, amounts and nutrient values included Total Nutrients File – no values for respondents with a recall status coded as '4'

INTAKES WITH ONLY WATER REPORTED

- All water was collected during the 24-hour recall and in the Individual Foods Files.
- In the 2017-2018 dataset, there are 2 intakes comprised of only water, both in *Day 2*. These intakes are considered complete and reliable and are coded as '1'. They have zero totals for energy and most other nutrients.
- Prior to 2005-2006, plain water was collected after the recall as a total amount for the day.

INTAKES WITH NO FOOD, BEVERAGES OR WATER REPORTED

- Intakes can be determined to be complete even though a respondent reported no food, beverages or water for the day.
- In the 2017-2018 dataset, there is 1 intake in *Day 1*. This intake is considered complete and reliable and is coded as '1'. There are no records in the Individual Foods File, and the Total Nutrients File includes records with zero values for all nutrients.

INTAKES WITH HUMAN MILK REPORTED

- There is a record in the Individual Foods Files for each report of human milk consumed by infants and children.
- Amounts of human milk intake are **not quantified**; records in the Individual Food Files **contain missing values** for the amount consumed, nutrient values from human milk, food source, and eaten at home variables.
- Records for any other food/beverage consumed by breast-fed infants and children **are included** in the Individual Foods Files along with amounts and nutrient values.
- Because of the missing amount or quantity for human milk, no total nutrient intakes (contained in the Total Nutrient Intakes Files) were computed for respondents with a recall status coded as '4'.
- While the dietary recall status variable identifies children reporting human milk, the variable **DRABF**, which identifies children for whom human milk was reported on either day, is the preferred identifier of breast-fed children.

SAMPLING WEIGHTS

- For analysis using *Day 1* intakes, use the *Day 1* dietary sampling weights **WTDRD1**.
- For analysis using both days of intakes, use the *two-day* dietary sampling weights **WTDR2D**.
- Explanations of weights and variance estimations are included in the NHANES Analytic Guidelines. <https://www.cdc.gov/nchs/nhanes/analyticguidelines.aspx#estimation-and-weighting-procedures>

DAYS BETWEEN INTAKE DAY AND DAY OF FAMILY QUESTIONNAIRE

- The variables (**DR1DBIH**, *Day 1* files and **DR2DBIH**, *Day 2* files) indicate the number of days between the intake day and the day of family questionnaire administered in the household.
- NHANES collects information on receipt of SNAP benefits, including date of last benefit received.

WWEIA DIETARY DATA TABLES available on the FSRG website include extensive summarized analysis of 2017-2018 WWEIA, NHANES on nutrient intakes and eating patterns.

Table 3. WWEIA Data Tables
WWEIA, NHANES 2017-2018

Topic	Table Numbers*
Nutrient Intakes: <i>from Food and Beverages</i>	1 - 4
Nutrient Intakes per 1000 kcal: <i>from Food and Beverages</i>	41 - 44
Percent of Energy <i>from Protein, Carbohydrate, Fat and Alcohol</i>	5 - 8
Nutrient Intakes: <i>from Food/Beverages and Dietary Supplements</i>	37 - 40
Away from Home: <i>Percent of Nutrients</i>	9 - 12
EATING OCCASIONS	
• Breakfast: <i>Percent of Nutrients</i>	13 - 16
• Lunch: <i>Percent of Nutrients</i>	17 - 20
• Dinner: <i>Percent of Nutrients</i>	21 - 24
• Snacks: <i>Percent of Nutrients</i>	25 - 28
• Snacks: <i>Distribution of Snack Occasions</i>	29 - 32
• Meals and Snacks: <i>Distribution of Meal Patterns and Snack Occasions</i>	33 - 36
RESTAURANTS	
• Full Service Restaurants: <i>Nutrient Intakes</i>	45 - 48
• Quick Service Restaurants: <i>Nutrient Intakes</i>	49 - 52
• All Restaurants: <i>Nutrient Intakes</i>	53 - 56

* The four table numbers for each topic report data by the following socio-demographic characteristics:

Gender and Age
Race/Ethnicity
Income (in Dollars)
Income (as % of Federal Poverty Threshold)

<https://www.ars.usda.gov/northeast-area/beltsville-md-bhnrc/beltsville-human-nutrition-research-center/food-surveys-research-group/docs/wweia-data-tables/>

DIETARY DATA BRIEFS, short single topic reports summarizing key results from WWEIA, are available on the FSRG website.

<https://www.ars.usda.gov/northeast-area/beltsville-md-bhnrc/beltsville-human-nutrition-research-center/food-surveys-research-group/docs/wweia-data-briefs/>

DIETARY SUPPLEMENT AND ANTACID USE

- Dietary supplement and non-prescription antacid use for the previous 24 hours is collected **following** the 24-hour dietary recall (since 2007-2008) and is **not included** in the dietary recall interview data files.
- Data are also obtained on dietary supplement use in the past 30 days: collected during the Dietary Supplements Section (**DSQ**) in the household interview.
- All dietary supplement data for 2017-2018 is accessible from the NHANES website. <https://wwwn.cdc.gov/nchs/nhanes/search/datapage.aspx?Component=Dietary&CycleBeginYear=2017>
- WWEIA Data Tables 37- 40 on the FSRG website provide results combining nutrient intake from food and beverages and dietary supplements.

EATING OCCASION and TIME OF OCCASION

- The time a respondent reported consuming a food/beverage as well as the eating occasion are collected. Eating occasions are designated by respondent and selected from a fixed list.
- Any eating occasion can be reported at any time of day. The Spanish eating occasion names should be reviewed as they may have different meaning for respondents from different countries. Table 4 provides the code and eating occasion names.
- Eating occasion and time of occasion are included in the Individual Foods Files. The variables **DR1_030Z** (*Day 1* file) and **DR2_030Z** (*Day 2* file) indicate the name of eating occasion, and **DR1_020** (*Day 1* file) and **DR2_020** (*Day 2* file) indicate the time of the eating occasion.
- WWEIA Data Tables 13 - 36 on the FSRG website provide results by eating occasions.

Table 4. Eating Occasion Variable: Code and Name
WWEIA, NHANES 2017-2018

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

EXTENDED CONSUMPTION

- An eating occasion option is *'extended consumption'*, defined as food or beverage consumed over a period of time. It is used when the respondent is unable to distinguish each time the item was consumed. Total quantity and the initial time consumption began are collected.
- An example: a respondent started drinking a liter bottle of water at 7:00 am and continued throughout the day. Because one can report the total quantity consumed, but not the time each amount was consumed, the eating occasion is designated as *'extended consumption'* and time it began.
- In the 2017-2018 dataset, approximately 2% of *Day 1* food records were coded as *'extended consumption'*; of those, about $\frac{3}{4}$ were water.

AT HOME or AWAY FROM HOME

- For every eating occasion reported, respondents are asked if the meal/snack was consumed *'at home'*. Note that a food could be **obtained** from a restaurant and consumed **at home**.
- WWEIA Data Tables 9 - 12 on the FSRG website provide results for food consumed away from home.

SOURCE OF FOOD

- *'Source of food'* (where obtained) is collected for each food/beverage reported. Table 5 provides the code and source of food descriptions.
- Beginning with 2011-2012, a single response code of *'store'* was separated into three codes: **1: store grocery/supermarket**, **27: store - convenience type**, and **28: store - no additional information**.
- WWEIA Data Tables 45 - 56 on the FSRG website provide results for restaurants.

Table 5. Source of Food Variable: Code and Description
WWEIA, NHANES 2017-2018

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

FOODS AND BEVERAGES CODED AS PART OF A COMBINATION

- Items consumed **as combinations** were identified by one of fifteen unique ‘*combination food types*’ listed in Table 6, representing 42% of all foods and beverages reported in 2017-2018, Day 1. Food 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, i.e., some salads and sandwiches*
 - other combinations that do not have a unique code in FNDDS*

Table 6. Combination Type, Code, Examples, and Percent of Items Reported by Type
WWEIA, NHANES 2017-2018, Day 1

Combination Type	Code	Examples of Combination Type	% of Items
Not in combination	0	n/a	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 added 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 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	3

- Items given a combination food type are given an additional variable to identify all items within each combination. This variable, ‘*combination food number*’, is a sequential number to distinguish each set of combination foods within an individual’s intake.
- Variable names on data files for the combination food type and the sequential combination food number are listed in Table 7.

Table 7. Variable Names for Combination Coding
WWEIA, NHANES 2017-2018 Data Files

Combination Coding	Variable Name	
	Day 1	Day 2
Combination food type	DR1CCMTX	DR2CCMTX
Combination food number	DR1CCNMN	DR2CCNMN

FOOD AND NUTRIENT DATABASE FOR DIETARY STUDIES (FNDDS) 2017-2018

- The USDA FNDDS 2017-2018 converts food/beverages consumed in WWEIA, NHANES 2017-2018 into gram amounts and determines nutrient values. Because the FNDDS generates the nutrient intake data files, researchers do not need to use the FNDDS to estimate the nutrient intake for the survey respondents.
- FNDDS is available for download on the FSRG website 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.
- An 8-digit food code identifies each food or beverage available in FNDDS. A file of the frequency of reports of each of these FNDDS food codes in WWEIA, NHANES 2017-2018 for *Day 1* and *Day 2* is provided on the FSRG website.
<https://www.ars.usda.gov/northeast-area/beltsville-md-bhnrc/beltsville-human-nutrition-research-center/food-surveys-research-group/docs/dmr-food-categories/>
- The FNDDS is updated and released for each survey cycle; Table 8 provides the FNDDS version used to calculate nutrient intakes for each release of WWEIA, NHANES:

Table 8. FNDDS Version by WWEIA, NHANES Release

Survey Release	FNDDS Version	Number of Foods in FNDDS
WWEIA, NHANES 2001-2002	FNDDS 1.0	6,974
WWEIA, NHANES 2003-2004	FNDDS 2.0	6,940
WWEIA, NHANES 2005-2006	FNDDS 3.0	6,921
WWEIA, NHANES 2007-2008	FNDDS 41	7,174
WWEIA, NHANES 2009-2010	FNDDS 5.0	7,253
WWEIA, NHANES 2011-2012	FNDDS 2011-2012	7,618
WWEIA, NHANES 2013-2014	FNDDS 2013-2014	8,536
WWEIA, NHANES 2015-2016	FNDDS 2015-2016	8,690
WWEIA, NHANES 2017-2018	FNDDS 2017-2018	7,083

<https://www.ars.usda.gov/northeast-area/beltsville-md-bhnrc/beltsville-human-nutrition-research-center/food-surveys-research-group/docs/fndds-download-databases/>

- When combining dietary data from 2017-2018 and prior survey releases, consider changes between survey time periods. Foods and beverages, including nutrient values, may change in FNDDS.

DISCONTINUED FOOD CODES IN FNDDS

- A number of food codes are added and discontinued for each version of FNDDS. A resource details every discontinued food, rationale for discontinuation, and provides, if appropriate, a link to a new or existing FNDDS code.
- This resource, began with FNDDS 2013-2014, is helpful for researchers studying changes in food and beverage intakes over time.
<https://www.ars.usda.gov/northeast-area/beltsville-md-bhnrc/beltsville-human-nutrition-research-center/food-surveys-research-group/docs/fndds-download-databases/>

SALT

- WWEIA, NHANES estimations of sodium intake include inherent sodium, sodium added during processing, as well as salt added in cooking or food preparation as reflected in FNDDS nutrient profiles. They do not include salt added at the table.
- Additional information collected, during the 24-hour recall, on individual respondents' salt use behavior at the table and in food preparation is not considered in sodium intake estimations.

WWEIA FOOD CATEGORIES

- The WWEIA Food Categories, available on the FSRG website, provide an application to analyze food/beverages as consumed in the American diet.
- Each food/beverage item that can be reported in WWEIA, NHANES is placed in one of the mutually exclusive food categories that group similar items together based on usage and nutrient content. Released for each survey cycle, the WWEIA Food Categories 2017-2018 includes 167 unique categories.
<https://www.ars.usda.gov/northeast-area/beltsville-md-bhnrc/beltsville-human-nutrition-research-center/food-surveys-research-group/docs/dmr-food-categories/>

FOOD SURVEYS RESEARCH GROUP LISTSERV

- Join the Food Surveys Research Group Listserv and receive announcements when WWEIA dietary data are released as well as new FSRG research products and FNDDS updates at <https://www.ars.usda.gov/northeast-area/beltsville-md-bhnrc/beltsville-human-nutrition-research-center/food-surveys-research-group/docs/listserv/>.



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