National Health and Nutrition Examination Survey

2017-March 2020 Data Documentation, Codebook, and Frequencies

Dietary Supplement Use 24-Hour - Individual Dietary Supplements, First Day (P_DS1IDS)

Data File: P_DS1IDS.xpt

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Component Description

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

The objective of the dietary interview component is to obtain detailed dietary intake information from NHANES participants. This documentation describes the data files associated only with the collection of dietary supplements and non-prescription antacid use.

The objective of the 24-hour dietary supplement use component is to obtain information from NHANES participants on the types and amounts of dietary supplements (DS) consumed during the 24-hour period prior to the interview (midnight to midnight); and to estimate the intake of nutrients from those dietary supplements. From 1999-2006, the 24-hour dietary recall interviews, or dietary interviews, only asked about food and beverages consumed. Since 2007, data has been collected on the usage of all vitamins, minerals, herbals, and other dietary supplements as well as non-prescription antacids, as part of the dietary interview, directly following the collection of dietary intakes from foods and beverages.

Since 1999, NHANES has been collecting data on participants' use of dietary supplements, in the past 30 days, during the Dietary Supplements Use Section (DSQ) in the household interview. However, prior to the 2007-2008 data release, estimating total nutrient intake from all sources (foods, beverages, and dietary supplements), was difficult because of the different data collection methods, referent time frames, and data formats. These data are now collected using similar methods over the same period; therefore, nutrients from all sources can be easily combined. This allows researchers to improve the total nutrient intake estimations as well as examine associations by nutrient source, such as from foods versus supplements. The improved nutrient estimates increase researchers' ability to examine nutrient-disease or nutrient-health associations and to estimate percentages of the population with intakes over or under various nutrient standards.

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

Similar to the format of food and beverage intake files, two types of dietary supplement intake data are available from the two dietary interviews for the 2017-March 2020 survey cycle: Individual Dietary Supplements files and Total Dietary Supplements files. Each dietary supplement data file is accompanied by codebook and frequencies. This documentation applies to all files.

Distinguishing Between Foods/Beverages and Dietary Supplements in NHANES: Distinguishing between foods/beverages and dietary supplements can be challenging. In order to make sure that the food and beverage intake files and DS intake files do not contain any overlapping products, trained nutritionists at

the National Center for Health Statistics (NCHS) and U.S. Department of Agriculture (USDA) Food Surveys Research Group (FSRG) review questionable items reported in the dietary interviews. Products that are labeled as a dietary supplement, have a supplement facts panel on the label, and are in forms, such as tablets, capsules, softgels, or gelcaps. 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” products are considered dietary supplements.

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

The databases are:

USDA's Food and Nutrient Database for Dietary Studies (FNDDS) 2017-2018 and 2019-2020; and

NHANES Dietary Supplement Database 1999-2020.

24-hour Dietary Supplements Data Files: Four data files were produced from the dietary supplement use component of the dietary interviews: two Individual Dietary Supplements files and two Total Dietary Supplements 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 (MEC), 2 = second day (phone). File names are as follows:

File Names for 24-hour Dietary Supplements Data

File	Day 1	Day 2
Individual Dietary Supplements	P_DS1IDS	P_DS2IDS
Total Dietary Supplements	P_DS1TOT	P_DS2TOT

The nutrient amounts in these files reflect only nutrients obtained from non-prescription and prescription dietary supplements as well as non-prescription antacids that contain calcium and/or magnesium. Throughout the documentation, “antacid” will specifically refer to non-prescription antacids that contain calcium and/or magnesium. They do not include nutrients obtained from foods, beverages, and water. Data on intake of foods, beverages, and water are available on the NHANES 2017-March 2020 Dietary Data page.

Individual Dietary Supplements File (P_DS1IDS and P_DS2IDS): Contain detailed information about the types and amounts of individual dietary supplements and non-prescription antacids (that contain calcium and/or magnesium) reported by each participant. The names for both Day 1 and Day 2 variables are listed in **Appendix 1**.

The Individual Dietary Supplements Files include, for each interview day, one record for each dietary supplement or antacid consumed by a survey participant. Only participants’ that had reported taking a dietary supplement or antacid are included in these files. Each dietary supplement or antacid is identified by a supplement ID number (DSDPID) and each record contains the information listed below:

- Number of days of complete intake obtained from participant
- Day of the week of the intake
- Name and ID number of the supplement
- Amount of dietary supplement consumed in serving size, which is calculated as the reported amount consumed divided by the serving size from the product label
- Amounts of 34 nutrients/dietary components (listed in **Appendix 2**) from each dietary supplement and antacid, as calculated using the NHANES Dietary Supplement Database (NHANES-DSD).

This file only includes intake for a select group of nutrients. These records can be linked to the NHANES-DSD, using DSDPID, to obtain more detailed information on reported products. The NHANES-DSD datasets provide information on nutrients in the dietary supplement as reported on the product label. Botanical

ingredients are an example of nutrients not released in the Individual Dietary Supplements files but can be obtained from the NHANES-DSD files.

Total Dietary Supplements Files (**P_DS1TOT and P_DS2TOT**): Contain, for each participant, daily total nutrient intakes from dietary supplements and antacids. The names for both Day 1 and Day 2 variables are listed in **Appendix 3**.

The Total Dietary Supplements Files provide a summary record of total nutrient intakes from dietary supplements and antacids for each individual. All participants that had a complete dietary interview for foods and beverages are included in this file. This includes users and non-users of supplements and antacids. Each total intake record contains the following information:

- Number of days of complete intake obtained from participant
- Whether a dietary supplement or an antacid was consumed in the past 24 hours
- Total number of supplements and antacids reported for that participant
- Daily aggregates of 34 nutrients/dietary components (listed in **Appendix 2**) from all supplements and antacids, as calculated using the NHANES-DSD.

The food and beverage dietary intake are released in separate files available on the NHANES website. They can be linked to the dietary supplement files by the respondent sequence number (SEQN).

Starting from the 2015-2016 survey cycle, in the 24-hour Total Dietary Supplement files, the variables DR1MNRSP, DR2MNRSP, which indicate the main respondent, and the variables DR1HELPD and DR2HELPD, which indicate the person who helped with the interview, were deleted. The new variables DR1MRESP, DR2MRESP, DR1HELP, and DR2HELP were added to indicate the main respondent and the person who helped with the interview

Starting from the 2017-2018 survey cycle, the new variable DSDPID, which indicates supplement ID was added. The variable DSDSUPID now indicates the old version for supplement ID.

Eligible Sample

All NHANES participants in the 2017-March 2020 pre-pandemic sample were eligible for the dietary supplement use component of the dietary interview component.

Protocol and Procedure

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

The 24-hour dietary supplement use component was administered after the 24-hour dietary interview for food and beverage. Information was obtained on all vitamins, minerals, herbals, and other dietary supplements and 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. Non-prescription antacids were collected since a high percentage of these products contain calcium and/or magnesium. Participants were shown a hand card that lists examples of supplements (**Appendix 4**) and another for antacids. For participants who reported taking a supplement or antacid in the last 30 days during the household interview, the supplements or antacids were imported from the household questionnaire. The Interviewer verified that each dietary supplement and non-prescription antacid reported during the household interview was consumed the day before the interview (midnight to midnight). Participants were also asked how much was taken. Then the interviewers collected any additional supplement or antacid that was taken that previous day that were not reported during the household interview.

Interviews were conducted for survey participants less than six years of age with a proxy, whom was generally the person most knowledgeable about the survey participant's intake. Interviews of children aged 6 to 8, were conducted with a proxy and with the child present to assist in reporting intake information.

Interviews of children aged 9 to 11, were conducted with the child and with the assistance of an adult familiar with the child's intake. Dietary interviewers conducted interviews in English and Spanish. Translators were used to conduct interviews in other languages.

The in-person dietary interview was conducted in a private room in the NHANES MEC. Telephone dietary interviews were collected 3 to 10 days following the MEC dietary interview but not on the same day of the week as the MEC interview. Any participant who did not have a telephone was given a toll-free number to call so that the interview could be conducted.

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. Interviews were checked for completeness of the recalls, missing information, inconsistent reports, and unclear notes. Written notification and feedback were provided to the interviewers.

Trained nutritionists at NCHS reviewed incoming data and matched reported dietary supplement entries to known supplements from the in-house NCHS Product Label Database (PLD) where possible; sought additional product labels if feasible; assigned generic or default supplements as appropriate; transferred or removed products that were not considered dietary supplement (i.e., prescription medication, foods, beverages); and assigned matching codes/confidence codes to indicate the degree of matching certainty. All coding was reviewed by NCHS.

Data Processing and Editing

Matching reported dietary supplements to known products: Trained nutritionists, at NCHS, matched the product names entered by the interviewer (including prescription dietary supplement, non-prescription dietary supplement, and non-prescription antacid) to a known product when possible. NCHS nutritionists first determined if the product was in our in-house PLD. If it was, then the nutritionist verified whether the product label was entered into the system within the 2-year cycle of data collection. If the product label was not entered into PLD, or the product label was entered before the beginning of the 2-year data collection cycle, NCHS nutritionists attempted to obtain a new product label. NCHS obtained labels for each dietary supplement or non-prescription antacid reported by participants from sources such as the manufacturer, distributor or retailer, the Internet, company catalogs, and the Physician's Desk Reference (PDR). Label information was also obtained from The Dietary Supplement Label Database (DSLD), which is a joint project of the National Institutes of Health (NIH) Office of Dietary Supplements (ODS) and National Library of Medicine (NLM). The DSLD contains the full label contents from a sample of dietary supplement products marketed in the U.S. Nutritionists determined during processing whether or not the non-prescription antacids collected contained calcium and/or magnesium. Only non-prescription antacids containing calcium or magnesium were included in the present data files.

NCHS communicated with many major manufacturing company representatives to determine when various product re-formulations became available. Based upon manufacturer advice, we used a lag time of 5 months after the new re-formulated product had hit the market and matched products to participants' accordingly. Despite these precautions, there was no guarantee that the products taken by participants were matched to the correct formulation in our release files.

NCHS nutritionists attempted to find the exact product(s) reported by participants; however, this was done with varying degrees of precision. A "confidence code" (DS1MTCH and DS2MTCH, located in files P_DS1IDS and P_DS2IDS, respectively) accompanied each record to indicate the degree of matching certainty. The matches were: 1) Exact or near exact match; 2) Probable match; 3) Generic match; 4) Reasonable match; or 5) Default match. In some cases, no match could be made with any certainty. These products were coded as "6, No match". Products whose names were reported as "Refused" (DSDSUPP=7777) or "Don't know" (DSDSUPP=9999) have matching codes of 7 and 9, respectively.

NCHS created generic and default dietary supplements and non-prescription antacids, which were also maintained in the PLD database. Generics were created in the database when we had information about a reported supplement, such as strength of all ingredients, i.e., one which had no brand name. These were generally single ingredient supplements, which included a strength (e.g., vitamin C 500 mg) or multiple vitamins and/or mineral supplements made by a private label manufacturer that was known to NCHS and for which we had a label with identical ingredients and strengths (e.g., brand X all-purpose multivitamin was reported, and we had a label for brand Y, made by the same manufacturer). When all ingredient strengths were not known, a default supplement was created in the database. Defaults were created for single ingredient and multiple ingredient supplements based on our own data of most frequently reported supplements of that type, based on the survey cycle in which the data was collected. Created default products and the actual products or strengths that were assigned to these defaults are listed in **Appendix 5**.

After the dietary supplement data was coded and matched to a product in our in-house database, various types of reviews were conducted to ensure the quality of the data. Interviewers' comments were reviewed to ensure that they have been accounted for in coding. Decisions were made about how to code new or unusual dietary supplement products or unusual quantities, or units reported by participants. Dietary supplements that could not be matched to items in the database were resolved by NCHS nutritionists.

Product information is released from the in-house PLD as the NHANES Dietary Supplement Database (NHANES-DSD) which contains detailed information on the dietary supplements and antacids reported by survey participants since NHANES 1999. The NHANES-DSD release consists of three datasets, which contain information on products:

Dietary Supplement Product Information (DSPI)
Dietary Supplement Ingredient Information (DSII)
Dietary Supplement Blend Information (DSBI)

The supplement ID numbers (DSDPID) located in files P_DS1IDS and P_DS2IDS of this release can be used to merge with the NHANES-DSD files. For more information on the NHANES-DSD, please refer to the documentation and release files located on the NHANES website.

Specific variables and edits:

DSDPID: Supplement ID Number
Supplement ID is a unique number assigned to each product entered in the inhouse PLD.

DSDSUPP: Name of Supplement

This is the name from the front of the product label. The brand name is generally entered first (i.e., Nature's Way) and then the actual product name (i.e., lutein). Information such as the strength (i.e., 60 mg extract) of the product and other qualifiers that help distinguish a product from a similar product (i.e., mega, super, high potency, time release, chewable, extract) are also listed if they are on the front of the product label. Words like "dietary supplement" and "health claims" are not entered as part of the name.

DS1ANTA (P_DS1IDS) and DS2ANTA (P_DS2IDS): variable indicates whether a product was a dietary supplement or non-prescription antacid

This variable indicates whether the product reported was a non-prescription antacid (code=1) or a dietary supplement (code=0).

DS1MTCH (P_DS1IDS and DS2MTCH (P_DS2IDS): Match code/confidence code

Supplements are recorded during the dietary interview with varying degrees of accuracy and completeness. NCHS has created a system to specify how certain we are with matching a supplement recorded during the interview with the actual product label. Below describe how matches are made:

Exact or near exact match (DSDMTCH=1) indicates that this is the only product that could match this entry.

Probable match (DSDMTCH=2) indicates that the match is not exact, but knowledge of the company's products strongly suggests that this is the only possible match choice. For example, the entry may not specify strength or include words such as timed release, but no other options are available for this brand according to manufacturer or retailer information.

Generic match (DSDMTCH=3) indicates we had information on the strength for all ingredients, either a) as part of name (e.g., vitamin C 500 mg) or b) because the manufacturer is known and NCHS has an identical product made by this manufacturer for a different distributor or retailer. Thus, the ingredients and amounts are considered to be accurate despite an exact brand match.

Reasonable match (DSDMTCH=4) indicates that the product name may be incomplete or could be complete but other products of this brand also start with these same words so this cannot be assured. In these cases, the entered name is matched to either: a) the most frequently reported of these products in the NHANES 2017-March 2020 pre-pandemic data, if this could be determined; b) the best-selling product by this company that matches the entered name; or c) the most basic product by this company, as assessed by label wording.

Default match (DSDMTCH=5) indicates that the exact product could not be obtained because the name was imprecise, or the exact brand product could not be located, and no generic could be assigned. In these cases, the entered product was matched to a created default product based on: a) the most commonly reported strengths for single ingredients; b) the most commonly reported brands for major multiple ingredient products such as multivitamins and multivitamin/multiminerals for children, seniors, or adults, if available; or c) products manufactured by a large, private-label manufacturer.

Finally, a match codes of No match (DSDMTCH=6) indicates that no product could be found and there was not enough detail in the name to assign a generic or default match with any confidence. The words "no product information available" are listed as the product name (DSDSUPP).

Analysts should be aware that for default matches and matches that chose between several similarly named supplements, there is less certainty that the ingredients and ingredients amount in the supplement assigned exactly match those in the supplement actually taken. Additionally, NCHS cannot guarantee in any case that the matched product was the exact product taken or even that any product actually was taken, as these data are self-reported.

DS1ACTSS (P_DS1IDS) and DS2ACTSS (P_DS2IDS): Reported serving size/label serving size

This variable was derived using the information from the Supplement Information file (DSPI) of the NHANES-DSD and the participants' reported amount taken. File DSPI provides information on the serving size from the product label's supplement facts panel for which the nutrient amounts were based on. The participant was asked to report the amount taken during the dietary interview. The reported amount taken was divided by the serving size amount from DSPI (variable DSDSERVQ). Prior to calculating, the data needed to be edited to standardize the unit the participant used to report the amount taken and the unit used in the product serving size label. For example, if a participant reported taking 1 tablespoon of a supplement and the label serving size was 3 teaspoons, then the reported amount taken was edited as 3 teaspoons (1 tablespoon = 3 teaspoons). There were about 332 records in which data was edited. In most of the cases, using the alternative serving size (information available on some product labels), using simple conversions (i.e., teaspoons to tablespoons) or contacting the manufacturer for information on label serving size (i.e., actual amount for a "capful") provided enough information to make clear edits. However, in some cases the reported amount taken was very different from the product label serving size (n=18). For example, the participant may have reported 1 tablet, but the label serving size is 1 tablespoon. This was assumed to be an error in reporting or an interviewer data entry error. In these cases, the serving size was assumed to be the label serving size. Additionally, all records that were assigned as a default product were edited and the label serving size was assigned.

Nutrient variables from Individual Dietary Supplements files, P_DS1IDS and P_DS2IDS:

These variables are created by using files from the NHANES_DSD that contain information on the serving

size and the quantity of each nutrient from the product label's supplement facts panel. The participant's reported amount taken is divided by the serving size from the label in order to determine the actual amount of nutrient consumed. For example, a participant may report taking one tablet, but the serving size amount is 2 tablets. Therefore, only half of the nutrients on the label are being consumed. The variables DS1ACTSS (Day 1) and DS2ACTSS (Day 2) indicate the actual amount of product that was consumed. The actual amount of product consumed is then multiplied by the ingredient amount for each dietary supplement or antacid. In the example above, 0.5 would be multiplied by each ingredient/nutrient, to estimate the nutrient intake.

DS1IFDFE (P_DS1IDS) and DS1IFDFE (P_DS2IDS): Folate, DFE (mcg)

Dietary Folate Equivalents (DFE) were calculated by using a conversion factor of 1.7. This conversion is based on recommendations set by the Institute of Medicines Dietary Reference Intakes (Institute of Medicine, 2006).

Nutrient variables from Total Dietary Supplements files, P_DS1TOT and P_DS2TOT:

These variables are created by adding up each nutrient for each participant from the Individual Dietary Supplements Files (**P_DS1IDS** and **P_DS2IDS**).

Analytic Notes

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

In some cases, it may appear as though a participant reported the same dietary supplement more than once. There are a several reasons for these duplications. Participants' may have reported different brand name dietary supplements which when collected had the same generic ingredient (i.e., 2 different brands of calcium, but calcium is collected generically with only the strength recorded) or the dietary supplement may have been different forms or dosages of the same product. There were a few cases where the participant did report the exact same dietary supplement, with the same length of use, frequency of use or amount used. In these cases, since the interviewer recorded the dietary supplement separately, both mentions were retained in the file.

During the data editing process, outlier values were examined. When there was insufficient information to conclude that values were invalid, they were left in the dataset. Analysts should examine the distribution of the data and consider whether or not it is appropriate to include or exclude extreme values in a given analysis.

Each Individual Dietary Supplements File (P_DS1IDS and P_DS2IDS) is comprised of dietary supplement and non-prescription antacid records. Only participants who reported taking a dietary supplement or non-prescription antacid are included in these files. For many survey participants, there are multiple records in each file. For each Total Dietary Supplements File (P_DS1TOT and P_DS2TOT), there is one record for each participant and includes the entire dietary interview sample. 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 calcium variable in the Individual Dietary Supplements File, which identifies the amount of calcium in each supplement reported by the participant, is named DS1ICALC in the Day 1 file and DS2ICALC in the Day 2

file. **Appendices 1 and 3** list the Day 1 and Day 2 variable names for the Individual Dietary Supplements files and the Total Dietary Supplements files, respectively.

Names for the following variables are the same for both days in the Individual Dietary Supplements files and the Total Dietary Supplements files:

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

Day 1 and Day 2 variable name	Label
SEQN	Respondent sequence number
WTDRD1PP	Dietary day one sample weight
WTDR2DPP	Dietary two-day sample weight
DSDPID	Supplement ID
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 2017-March 2020 pre-pandemic sample, 12,634 participants provided complete dietary intakes for Day 1. Of those providing the Day 1 data, 10,830 provided complete dietary intakes for Day 2.

Dietary recall status code: A status code (DR1DRSTZ or DR2DRSTZ) is used in both the Individual Dietary Supplements and Total Dietary Supplements files to indicate the quality and completeness of a survey participant's response to the dietary recall section. These codes are based on the food 24-hour dietary recall interview data. The codes are the following: 1. reliable and met the minimum criteria, 2. Not reliable or did not meet the minimum criteria, 4. Reported consuming breast milk, and 5. Not done. Although there are four possible values, only codes 1 and 4 appear in the Individual Dietary Supplements Files. For more information on this variable, refer to the documentations accompanying the 24-hour dietary interview datasets for food and beverage intake on the NHANES website.

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.

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

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

A set of weights (WTDRD1PP) is provided that should be used when an analysis uses the Day 1 dietary recall data (either alone or when Day 1 nutrient data are used in conjunction with MEC data). The set of weights (WTDRD1PP) is applicable to the 12,634 participants with Day 1 data.

Day 1 weights were constructed by taking the MEC sample weights (WTMECPRP) and further adjusting for (a) the additional non-response and (b) the differential allocation by weekdays (Monday through Thursday), Fridays, Saturdays, and Sundays for the dietary intake data collection. These Day 1 weights are more variable than the MEC weights, and the sample size is smaller, so estimated standard errors using Day 1

data and Day 1 weights might be larger than standard errors for similar estimates based on MEC weights.

When analysis is based on both days of dietary intake, only 10,830 sample participants have complete data. The NHANES protocol requires an attempt to collect the second day of dietary data at least 3 days after the first day, but the actual number of days between the two interviews is variable. A set of adjusted weights, WTDR2DPP, is to be used when an analysis uses the smaller sample with completed Day 1 and Day 2 dietary data. This two-day weight was constructed for the 10,830 participants by taking the Day 1 weights (WTDRD1PP) and further adjusting for (a) the additional non-response for the second recall and (b) for the proportion of weekend (Friday through Sunday) and weekday (Monday through Thursday) combinations of Day 1 and Day 2 recalls.

NOTE: All sample weights are person-level weights and each set of dietary weights should sum to the same overall population control total as the MEC weights (WTMECPRP). 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

- Institute of Medicine. Dietary Reference Intakes: The Essential Guide to Nutrient Requirements. Washington, DC. National Academies Press, 2006.

Codebook and Frequencies

SEQN - Respondent sequence number

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

WTDRD1PP - Dietary day one sample weight

Variable Name: WTDRD1PP

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
1266.331489 to 538404.42971	Range of Values	9744	9744	
0	Day 1 dietary recall not done/incomplete	0	9744	
.	Missing	0	9744	

WTDR2DPP - Dietary two-day sample weight

Variable Name: WTDR2DPP

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
996.36944 to 702943.59773	Range of Values	8540	8540	
0	Day 2 dietary recall not done/incomplete	1204	9744	
.	Missing	0	9744	

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	9670	9670	
2	Not reliable or not met the minimum criteria	0	9670	
4	Reported consuming breast-milk	74	9744	
5	Not done	0	9744	
.	Missing	0	9744	

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 94	Range of Values	9744	9744	
.	Missing	0	9744	

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	1204	1204	
2	Day 1 and day 2	8540	9744	
.	Missing	0	9744	

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

Variable Name: DR1DBIH

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

English Text: # of days b/w intake and HH interview

Target: Both males and females 0 YEARS - 150 YEARS

Code or Value	Value Description	Count	Cumulative	Skip to Item
-34 to 91	Range of Values	9256	9256	
.	Missing	488	9744	

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	1584	1584	
2	Monday	895	2479	
3	Tuesday	1036	3515	
4	Wednesday	887	4402	
5	Thursday	1245	5647	
6	Friday	2342	7989	
7	Saturday	1755	9744	
.	Missing	0	9744	

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	9137	9137	
2	Spanish	468	9605	
3	English and Spanish	42	9647	
4	Other	46	9693	
5	Asian Languages	34	9727	
6	Asian Languages and English	17	9744	
.	Missing	0	9744	

DS1LOC - Location supplement originally recorded

Variable Name: DS1LOC

SAS Label: Location supplement originally recorded

English Text: Location supplement originally recorded

Target: Both males and females 0 YEARS - 150 YEARS

Code or Value	Value Description	Count	Cumulative	Skip to Item
1	HouseHold Interview	8424	8424	
2	MEC Interview	1320	9744	
3	Phone Interview	0	9744	
.	Missing	0	9744	

DSDPID - NCHS Supplement ID

Variable Name: DSDPID

SAS Label: NCHS Supplement ID

English Text: NCHS Supplement ID

Target: Both males and females 0 YEARS - 150 YEARS

Code or Value	Value Description	Count	Cumulative	Skip to Item
275 to 6666667172	Range of Values	9744	9744	
.	Missing	0	9744	

DSDSUPP - Supplement Name

Variable Name: DSDSUPP

SAS Label: Supplement Name

English Text: Supplement Name

Target: Both males and females 0 YEARS - 150 YEARS

Code or Value	Value Description	Count	Cumulative	Skip to Item
Supplement Name	Value was recorded	9744	9744	
< blank >	Missing	0	9744	

DS1MTCH - Matching code

Variable Name: DS1MTCH

SAS Label: Matching code

English Text: DSDMTCH

Target: Both males and females 0 YEARS - 150 YEARS

Code or Value	Value Description	Count	Cumulative	Skip to Item
1	Exact or near exact match	3668	3668	
2	Probable match	593	4261	
3	Generic match	2507	6768	
4	Reasonable match	1267	8035	
5	Default match	1484	9519	
6	No match	168	9687	
7	Refused	7	9694	
9	Don't know	50	9744	
.	Missing	0	9744	

DS1ANTA - Antacid containing calcium/magnesium

Variable Name: DS1ANTA

SAS Label: Antacid containing calcium/magnesium

English Text: Antacid containing calcium/magnesium

Target: Both males and females 0 YEARS - 150 YEARS

Code or Value	Value Description	Count	Cumulative	Skip to Item
0	Non-antacid supplement	9459	9459	
1	Antacid containing calcium and/or magnesium	0	9459	
2	Antacids reported with antacids	285	9744	
.	Missing	0	9744	

DS1ACTSS - Reported serving size/label serving size

Variable Name: DS1ACTSS

SAS Label: Reported serving size/label serving size

English Text: Reported serving size/label serving size

Target: Both males and females 0 YEARS - 150 YEARS

Code or Value	Value Description	Count	Cumulative	Skip to Item
0.08 to 37.5	Range of Values	9469	9469	
999	Don't know	0	9469	
.	Missing	275	9744	

DS1IKCAL - Energy (kcal)

Variable Name: DS1IKCAL

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
0.45 to 560	Range of Values	2271	2271	
.	Missing	7473	9744	

DS1IPROT - Protein (gm)

Variable Name: DS1IPROT

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
0.05 to 96	Range of Values	251	251	
.	Missing	9493	9744	

DS1ICARB - Carbohydrate (gm)

Variable Name: DS1ICARB

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
0.0003 to 76	Range of Values	1657	1657	
.	Missing	8087	9744	

DS1ISUGR - Total sugars (gm)

Variable Name: DS1ISUGR

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
0.1 to 36	Range of Values	1004	1004	
.	Missing	8740	9744	

DS1IFIBE - Dietary fiber (gm)

Variable Name: DS1IFIBE

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
0.005 to 27	Range of Values	215	215	
.	Missing	9529	9744	

DS1ITFAT - Total fat (gm)

Variable Name: DS1ITFAT

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
0.02 to 30	Range of Values	890	890	
.	Missing	8854	9744	

DS1ISFAT - Total saturated fatty acids (gm)

Variable Name: DS1ISFAT

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
0.0002 to 30	Range of Values	122	122	
.	Missing	9622	9744	

DS1IMFAT - Total monounsaturated fatty acids (gm)

Variable Name: DS1IMFAT

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
0.17 to 6	Range of Values	80	80	
.	Missing	9664	9744	

DS1IPFAT - Total polyunsaturated fatty acids (gm)

Variable Name: DS1IPFAT

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
0.25 to 12	Range of Values	222	222	
.	Missing	9522	9744	

DS1ICHOL - Cholesterol (mg)

Variable Name: DS1ICHOL

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
1 to 240	Range of Values	465	465	
.	Missing	9279	9744	

DS1ILYCO - Lycopene (mcg)

Variable Name: DS1ILYCO

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
99 to 60000	Range of Values	603	603	
.	Missing	9141	9744	

DS1ILZ - Lutein + zeaxanthin (mcg)

Variable Name: DS1ILZ

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
3 to 48000	Range of Values	733	733	
.	Missing	9011	9744	

DS1IVB1 - Thiamin (Vitamin B1) (mg)

Variable Name: DS1IVB1

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
0.01 to 250	Range of Values	1819	1819	
.	Missing	7925	9744	

DS1IVB2 - Riboflavin (Vitamin B2) (mg)

Variable Name: DS1IVB2

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
0.03 to 400	Range of Values	1808	1808	
.	Missing	7936	9744	

DS1INIAC - Niacin (mg)

Variable Name: DS1INIAC

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
0.24 to 1515	Range of Values	2007	2007	
.	Missing	7737	9744	

DS1IVB6 - Vitamin B6 (mg)

Variable Name: DS1IVB6

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
0.03 to 500	Range of Values	2544	2544	
.	Missing	7200	9744	

DS1IFA - Folic acid (mcg)

Variable Name: DS1IFA

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
4 to 10000	Range of Values	2491	2491	
.	Missing	7253	9744	

DS1IFDFE - Folate, DFE (mcg)

Variable Name: DS1IFDFE

SAS Label: Folate, DFE (mcg)

English Text: Folate, DFE (mcg)

Target: Both males and females 0 YEARS - 150 YEARS

Code or Value	Value Description	Count	Cumulative	Skip to Item
7 to 17000	Range of Values	2491	2491	
.	Missing	7253	9744	

DS1ICHL - Total choline (mg)

Variable Name: DS1ICHL

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
0.005 to 1000	Range of Values	462	462	
.	Missing	9282	9744	

DS1IVB12 - Vitamin B12 (mcg)

Variable Name: DS1IVB12

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
0.34 to 10000	Range of Values	2825	2825	
.	Missing	6919	9744	

DS1IVC - Vitamin C (mg)

Variable Name: DS1IVC

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
2 to 10000	Range of Values	3198	3198	
.	Missing	6546	9744	

DS1IVK - Vitamin K (mcg)

Variable Name: DS1IVK

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
5 to 5000	Range of Values	1263	1263	
.	Missing	8481	9744	

DS1IVD - Vitamin D (D2 + D3) (mcg)

Variable Name: DS1IVD

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
0.01 to 2500	Range of Values	3615	3615	
.	Missing	6129	9744	

DS1ICALC - Calcium (mg)

Variable Name: DS1ICALC

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
0.1 to 3200	Range of Values	2616	2616	
.	Missing	7128	9744	

DS1IPHOS - Phosphorus (mg)

Variable Name: DS1IPHOS

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
2 to 1200	Range of Values	812	812	
.	Missing	8932	9744	

DS1IMAGN - Magnesium (mg)

Variable Name: DS1IMAGN

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
0.1 to 2100	Range of Values	1583	1583	
.	Missing	8161	9744	

DS1IIRON - Iron (mg)

Variable Name: DS1IIRON

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
0.08 to 400	Range of Values	1166	1166	
.	Missing	8578	9744	

DS1IZINC - Zinc (mg)

Variable Name: DS1IZINC

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
0.00001 to 100	Range of Values	2313	2313	
.	Missing	7431	9744	

DS1ICOPP - Copper (mg)

Variable Name: DS1ICOPP

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
0.002 to 8.8	Range of Values	1452	1452	
.	Missing	8292	9744	

DS1ISODI - Sodium (mg)

Variable Name: DS1ISODI

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
2 to 1820	Range of Values	723	723	
.	Missing	9021	9744	

DS1IPOTA - Potassium (mg)

Variable Name: DS1IPOTA

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
0.01 to 2340	Range of Values	1068	1068	
.	Missing	8676	9744	

DS1ISELE - Selenium (mcg)

Variable Name: DS1ISELE

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
1 to 400	Range of Values	1376	1376	
.	Missing	8368	9744	

DS1ICAFF - Caffeine (mg)

Variable Name: DS1ICAFF

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
20 to 1200	Range of Values	24	24	
.	Missing	9720	9744	

DS1IIODI - Iodine (mcg)

Variable Name: DS1IIODI

SAS Label: Iodine (mcg)

English Text: Iodine (mcg)

Target: Both males and females 0 YEARS - 150 YEARS

Code or Value	Value Description	Count	Cumulative	Skip to Item
0.15 to 12500	Range of Values	1785	1785	
.	Missing	7959	9744	

Appendix 1. Variables in the Individual Dietary Supplements Files (P_DS1IDS and P_DS2IDS) by Position

Day 1 Name	Day 2 Name	Variable Label
(P_DS1IDS)	**(P_DS2IDS)**	
SEQN	SEQN	Respondent sequence number
WTDRD1	WTDRD1	Dietary day one sample weight
WTDR2D	WTDR2D	Dietary two-day sample weight
DR1DRSTZ	DR2DRSTZ	Dietary recall status
DR1EXMER	DR2EXMER	Interviewer ID code
DRDINT	DRDINT	Number of days of intake
DS1DAY	DS2DAY	Intake day of the week
DS1LOC	DS2LOC	Location supplement originally recorded
DR1LANG	DR2LANG	Language respondent used mostly
DSDPID	DSDPID	NCHS Supplement ID
DS1ANTA	DS2ANTA	Antacid containing calcium/magnesium
DS1MTCH	DS2MTCH	Match code/confidence code
DS1ACTSS	DS2ACTSS	Reported serving size/label serving size
DS1IKCAL	DS2IKCAL	Energy (kcal)
DS1IPROT	DS2IPROT	Protein (gm)
DS1ICARB	DS2ICARB	Carbohydrate (gm)
DS1ISUGR	DS2ISUGR	Total sugars (gm)
DS1IFIBE	DS2IFIBE	Dietary fiber (gm)
DS1ITFAT	DS2ITFAT	Total fat (gm)
DS1ISFAT	DS2ISFAT	Total saturated fatty acids (gm)
DS1IMFAT	DS2IMFAT	Total monounsaturated fatty acids (gm)
DS1IPFAT	DS2IPFAT	Total polyunsaturated fatty acids (gm)
DS1ICHOL	DS2ICHOL	Cholesterol (mg)
DS1ILYCO	DS2ILYCO	Lycopene (mcg)
DS1ILZ	DS2ILZ	Lutein + zeaxanthin (mcg)
DS1IVB1	DS2IVB1	Thiamin (Vitamin B1) (mg)
DS1IVB2	DS2IVB2	Riboflavin (Vitamin B2) (mg)
DS1INIAC	DS2INIAC	Niacin (mg)
DS1IVB6	DS2IVB6	Vitamin B6 (mg)
DS1IFA	DS2IFA	Folic acid (mcg)
DS1IFDFE	DS2IFDFE	Folate, DFE (mcg)
DS1ICHL	DS2ICHL	Total choline (mg)
DS1IVB12	DS2IVB12	Vitamin B12 (mcg)
DS1IVC	DS2IVC	Vitamin C (mg)
DS1IVK	DS2IVK	Vitamin K (mcg)
DS1IVD	DS2IVD	Vitamin D (D2 + D3) (mcg)
DS1ICALC	DS2ICALC	Calcium (mg)
DS1IPHOS	DS2IPHOS	Phosphorus (mg)
DS1IMAGN	DS2IMAGN	Magnesium (mg)

Day 1 Name	Day 2 Name	Variable Label
DS1IIRON	DS2IIRON	Iron (mg)
DS1IZINC	DS2IZINC	Zinc (mg)
DS1ICOPP	DS2ICOPP	Copper (mg)
DS1ISODI	DS2ISODI	Sodium (mg)
DS1IPOTA	DS2IPOTA	Potassium (mg)
DS1ISELE	DS2ISELE	Selenium (mcg)
DS1ICAFF	DS2ICAFF	Caffeine (mg)
DS1IIODI	DS2IIODI	Iodine (mcg)

Appendix 2. List of Nutrients/Food Components (Unit)

Energy and Macronutrients
Food energy (kcal) €
Protein (g) €
Carbohydrate (g) €
Fat, total (g) €
Alcohol (g)

Sugars, total (g) €
Dietary fiber, total (g) €
Water (moisture) (g)*

Saturated fatty acids, total (g) €
Monounsaturated fatty acids, total (g) €
Polyunsaturated fatty acids, total (g) €
Cholesterol (mg) €

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

Vitamins, Minerals, and Other Components Vitamin A as retinol activity equivalents (µg) ¥
Retinol (µg) ¥
Carotenoids:
Carotene, alpha (µg) ¥
Carotene, beta (µg) ¥
Cryptoxanthin, beta (µg) ¥
Lycopene (µg) €
Lutein + zeaxanthin (µg) €
Vitamin E as alpha-tocopherol (mg) ¥
Added vitamin E as alpha-tocopherol (mg)
Vitamin D (D2 + D3) (µg) €
Vitamin K as phylloquinone (µg) €
Vitamin C (mg) €
Thiamin (mg) €
Riboflavin (mg) €
Niacin (mg) €
Vitamin B-6 (mg) €
Folate, total (µg)
Folate as dietary folate equivalents (µg) €
Folic acid (µg) €
Food folate (µg)
Choline, total (mg) €

Vitamin B-12 (µg) €
Added vitamin B-12 (µg)

Calcium (mg) €
Iron (mg) €
Magnesium (mg) €
Phosphorus (mg) €
Potassium (mg) €
Sodium (mg) €
Zinc (mg) €
Copper (mg) €
Selenium (µg) €
Caffeine (mg) €
Theobromine (mg)
Iodine (mcg)†

* Value reflects moisture present in all foods, beverages, and water consumed as a beverage (variables DR1IMOIS, DR2IMOIS, DR1TMOIS, DR2TMOIS)
€ Indicates nutrients in which data is available for dietary supplements and non-prescription antacids containing calcium and/or magnesium
¥ Indicates that data will be available in a later release cycle
† Only available in the dietary supplement files

Appendix 3. Variables in the Total Dietary Supplements Files (P_DS1TOT and P_DS2TOT) by Position

Day 1 Name	Day 2 Name	Variable Label
(P_DS1TOT)	(P_DS2TOT)	
SEQN	SEQN	Respondent sequence number
WTDRD1	WTDRD1	Dietary day one sample weight
WTDR2D	WTDR2D	Dietary two-day sample weight
DR1DRSTZ	DR2DRSTZ	Dietary recall status
DR1EXMER	DR2EXMER	Interviewer ID code
DRDINT	DRDINT	Number of days of intake
DS1DAY	DS2DAY	Intake day of the week
DR1LANG	DR2LANG	Language respondent used mostly
DR1MNRSP	DR2MNRSP	Main respondent for this interview
DR1HELPD	DR2HELPD	Helped in responding for this interview
DS1DS	DS2DS	Any Dietary Supplements taken in the past 24 hour?
DS1DSCNT	DS2DSCNT	Number of dietary supplements reported
DS1AN	DS2AN	Any Antacids Taken?
DS1ANCNT	DS2ANCNT	Number of Antacids Reported
DS1TKCAL	DS2TKCAL	Energy (kcal)
DS1TPROT	DS2TPROT	Protein (gm)
DS1TCARB	DS2TCARB	Carbohydrate (gm)
DS1TSUGR	DS2TSUGR	Total sugars (gm)
DS1TFIBE	DS2TFIBE	Dietary fiber (gm)
DS1TTFAT	DS2TTFAT	Total fat (gm)
DS1TSFAT	DS2TSFAT	Total saturated fatty acids (gm)
DS1TMFAT	DS2TMFAT	Total monounsaturated fatty acids (gm)
DS1TPFAT	DS2TPFAT	Total polyunsaturated fatty acids (gm)
DS1TCHOL	DS2TCHOL	Cholesterol (mg)
DS1TLYCO	DS2TLYCO	Lycopene (mcg)
DS1TLZ	DS2TLZ	Lutein + zeaxanthin (mcg)
DS1TVB1	DS2TVB1	Thiamin (Vitamin B1) (mg)
DS1TVB2	DS2TVB2	Riboflavin (Vitamin B2) (mg)
DS1TNIAC	DS2TNIAC	Niacin (mg)
DS1TVB6	DS2TVB6	Vitamin B6 (mg)
DS1TFA	DS2TFA	Folic acid (mcg)
DS1TFDFE	DS2TFDFE	Folate, DFE (mcg)
DS1TVB12	DS2TVB12	Vitamin B12 (mcg)
DS1TCHL	DS2TCHL	Total choline (mg)
DS1TVC	DS2TVC	Vitamin C (mg)
DS1TVK	DS2TVK	Vitamin K (mcg)
DS1TVD	DS2TVD	Vitamin D (D2 + D3) (mcg)
DS1TCALC	DS2TCALC	Calcium (mg)
DS1TPHOS	DS2TPHOS	Phosphorus (mg)

Day 1 Name	Day 2 Name	Variable Label
DS1TMAGN	DS2TMAGN	Magnesium (mg)
DS1TIRON	DS2TIRON	Iron (mg)
DS1TZINC	DS2TZINC	Zinc (mg)
DS1TCOPP	DS2TCOPP	Copper (mg)
DS1TSODI	DS2TSODI	Sodium (mg)
DS1TPOTA	DS2TPOTA	Potassium (mg)
DS1TSELE	DS2TSELE	Selenium (mcg)
DS1TCAFF	DS2TCAFF	Caffeine (mg)
DS1TIODI	DS2TIODI	Iodine (mcg)

Appendix 4: Dietary Supplement Handcard

VITAMINS MINERALS	Calcium, Vitamin C, Calcium and Iron, Vitamin E, Magnesium, Zinc, Calcium plus Vitamin D
MULTI-VITAMIN--MULTI-MINERALS	Flintstones, One a Day, Prenatals, Tri-Vi-Flor, B-Complex, Centrum
HERBALS AND BOTANICLAS	Echinacea, Garlic, Saw Palmetto, Ginkgo, Ginseng
FIBER	Metamucil, Fibercon, Benefiber
AMINO ACIDS	Lysine, Methionine, Tryptophan
OTHERS	Fish Oil, Chondrotin, Glucosamine

Appendix 5: Created Default Supplements and Antacids

Default Supplement	Assigned Strength or Supplement	Selection of Assigned Strength or Supplement Based On:
Aloe Vera Gel	25 mg	Commonly Available Strength
Aloe Vera Liquid	15 ml	Commonly Available Strength
American Ginseng	500 mg	Commonly Available Strength
Apple Cider Vinegar Tablets	Nature's Bounty Apple Cider Vinegar 480 mg Per Serving	Commonly Available Product
Ashwagandha	500 mg	Commonly Available Strength
Astaxanthin	4 mg	Most Commonly Reported Strength
B-Complex With Vitamin C	Nature Made B-Complex with Vitamin C	Commonly Available Product
Bee Pollen	550 mg	Commonly Available Strength
Beet Powder	7 grams	Commonly Available Strength
Bilberry	80 mg	Commonly Available Strength
Biotin	1000 mcg	Most Commonly Reported Strength
Black Seed Oil (Black Cumin Seed Oil)	Amazing Herbs Black Seed 100% Pure Cold-Pressed Black Cumin Seed Oil	Commonly Available Product
Black Seed Oil Softgels (Black Cumin Seed Oil)	Amazing Herbs Black Seed 100% Pure Cold-Pressed Black Cumin Seed Oil 500 Mg	Commonly Available Product
Calcium	600 mg	Most Commonly Reported Strength
Calcium & Magnesium	Calcium 500 mg, Magnesium 250 mg	Most Commonly Reported Strengths
Calcium 500 mg With Vitamin D	Calcium 500 mg, Vitamin D 200 IU	Most Commonly Reported Strengths
Calcium 600 mg With Vitamin D	Calcium 600 mg, Vitamin D 800 IU	Most Commonly Reported Strengths
Calcium Magnesium & Zinc	Calcium 333 mg, Magnesium 133 mg & Zinc 5 mg	Commonly Available Strengths
Calcium Polycarbophil Caplets	Fibercon Calcium Polycarbophil Bulk-Forming Laxative Fiber Therapy For Regularity	Most Commonly Reported Product
Calcium With Vitamin D	Calcium 600 mg, Vitamin D 800 IU	Most Commonly Reported Strengths
Children’s Multivitamin/ Multimineral	Flintstones Complete Children’s Multivitamin	Most Commonly Reported Product
Chondroitin	600 mg	Commonly Available Strength
Cinnamon	500 mg	Most Commonly Reported Strength
Cistanche	200 mg	Commonly Available Strength
Cod Liver Oil Softgels	Finest Nutrition Cod Liver Oil 415 mg Per Serving	Commonly Available Product
Coenzyme Q-10	100 mg	Most Commonly Reported Strength
Collagen	1000 mg	Most Commonly Reported Strength
Collagen & Vitamin C	Neocell Super Collagen+C Collagen Type 1&3	Most Commonly Reported Product

Default Supplement	Assigned Strength or Supplement	Selection of Assigned Strength or Supplement Based On:
Collagen Powder	Neocell Super Collagen 6,000 Mg Collagen Type 1&3 Powder	Commonly Available Product
Cranberry	500 mg	Most Commonly Reported Strength
Creatine Monohydrate	5000 mg	Most Commonly Reported Strength
Curcumin	500 mg	Commonly Available Strength
Dairy Digestive Caplets	Lactaid Original Lactase Enzyme	Commonly Available Product
Echinacea	380 mg	Most Commonly Reported Strength
Echinacea Liquid	1.0 ml	Commonly Available Strength
Elderberry	575 mg	Commonly Available Strength
Elderberry & Zinc	Nature's Way Sambucus Elderberry Zinc Lozenges	Commonly Available Product
Elderberry Liquid	Nature's Way Sambucus Standardized Elderberry Original Syrup	Commonly Available Product
Enzymes	Genuine N-Zimes Dr. Howell's Original Formula Digestive Enzyme	Commonly Available Product
Evening Primrose Oil	1000 mg	Commonly Available Strength
Fiber Capsules	Metamucil Psyllium Fiber 3-In-1 Fiber Multiple Health Benefits	Most Commonly Reported Product
Fiber Powder	Metamucil Psyllium Fiber 4-In-1 Fiber Made With Real Sugar Unflavored Stone Ground Texture	Commonly Available Product
Fish Oil	Nature's Bounty Fish Oil 1000 Mg | 300 mg Of Omega-3	Commonly Available Product
Flax Seed Oil	1000 mg	Most Commonly Reported Strength
Fluoride Tabs	0.5 mg	Commonly Available Strength
Folic Acid	1 mg	Most Commonly Reported Strength
Forskolin	250 mg	Commonly Available Strength
Foti Root Extract Powder	2.5 grams	Commonly Available Strength
Garcinia Cambogia	500 mg	Commonly Available Strength
Garlic	1000 mg	Most Commonly Reported Strength
Ginger	550 mg	Commonly Available Strength
Ginkgo Biloba	120 mg	Most Commonly Reported Strength
Ginseng	250 mg	Most Commonly Reported Strength
Glucosamine	1000 mg	Most Commonly Reported Strength
Glucosamine & MSM	750 mg & 750 mg	Most Commonly Reported Strengths
Glucosamine Chondroitin	750 mg & 600 mg	Most Commonly Reported Strengths

Default Supplement	Assigned Strength or Supplement	Selection of Assigned Strength or Supplement Based On:
Grape Seed	100 mg	Commonly Available Strength
Grapefruit Seed Extract Liquid	100 mg	Commonly Available Strength
Greens Powder	Newvitality Royal Greens Original Blend	Commonly Available Product
Gripe Water	Mommy's Bliss Gripe Water Original Liquid	Commonly Available Product
Gummy Adult Melatonin	Vitafusion Melatonin Sugarfree Gummy 3 Mg Of Melatonin Per Serving	Commonly Available Product
Gummy Adult Men's Multivitamin / Multimineral	Vitafusion Men's Powerful Multi Complete Multivitamin	Commonly Available Product
Gummy Adult Multivitamin / Multimineral	Vitafusion Multivites Essential Multi Complete Multivitamin Essential Daily Formula	Commonly Available Product
Gummy Adult Prenatal Multivitamin	Vitafusion Prenatal Essential Multi Folate & 50 Mg Dha Per Serving	Commonly Available Product
Gummy Adult Probiotic	Schiff Digestive Advantage Daily Probiotic Gummies	Commonly Available Product
Gummy Adult Vitamin C	Vitafusion Power C Gummy Vitamins High Potency Vitamin C	Commonly Available Product
Gummy Adult Women's Multivitamin / Multimineral	Vitafusion Women's Supercharged Multi Complete Multivitamin	Commonly Available Product
Gummy Bear Calcium + Vitamin D	L'il Critters Calcium + D3 Powered By Vitafusion	Most Commonly Reported Product
Gummy Bear Fiber	L'il Critters Fiber Powered By Vitafusion	Most Commonly Reported Product
Gummy Bear Multivitamin	L'il Critters Gummy Vites Complete Multivitamin With Lutein 50 Mcg Powered By Vitafusion	Most Commonly Reported Product
Gummy Bear Probiotic	Schiff Digestive Advantage Kids Daily Probiotic Gummies	Commonly Available Product
Hair, Skin And Nails	Nature's Bounty Optimal Solutions Hair, Skin & Nails With Biotin 3000 mcg Per Serving	Commonly Available Product
Hawaiian Spirulina	500 mg	Commonly Available Strength
Hyaluronic Acid	50 mg	Commonly Available Strength
Iron	65 mg	Most Commonly Reported Strength
Korean Ginseng	500 mg	Commonly Available Strength
Krill Oil	Schiff MegaRed Superior Omega-3 Krill Oil 350 mg	Commonly Available Product
Lactobacillus Acidophilus	0.5 mg	Commonly Available Strength
L-Arginine	1000 mg	Commonly Available Strength
L-Carnitine	500 mg	Most Commonly Reported Strength
Liquid B Complex	Nature's Bounty Sublingual Liquid B Complex With B12	Commonly Available Product
Liquid Calcium	500 mg	Commonly Available Strength
Liquid Flaxseed Oil	Barlean's Fresh Flax Oil Organic Pure & Unrefined Fresh Cold Pressed	Commonly Available Product
Liquid Trace Minerals	Trace Minerals Research Low Sodium Concentrace Trace Mineral Drops	Commonly Available Product

Default Supplement	Assigned Strength or Supplement	Selection of Assigned Strength or Supplement Based On:
Liquid Vitamin B-12	5000 mcg	Most Commonly Reported Strength
Liquid Vitamin B-6	10 mg	Commonly Available Strength
Liquid Vitamin C	1000 mg	Commonly Available Strength
Liquid Zinc	15 mg	Commonly Available Strength
Lutein	20 mg	Commonly Available Strength
Lycopene	10 mg	Commonly Available Strength
Lysine	500 mg	Most Commonly Reported Strength
Maca	500 mg	Most Commonly Reported Strength
Magnesium	250 mg	Most Commonly Reported Strength
Magnesium Liquid	250 mg	Commonly Available Strength
MCT Oil	Viva Naturals Organic MCT Oil	Commonly Available Product
Melatonin	1 mg	Most Commonly Reported Strength
Men’s 50+ Multivitamin / Multimineral	One A Day Men's 50+ Complete Multivitamin Multivitamin/Multimineral Bayer	Commonly Available Product
Men’s Multivitamin/ Multimineral	One A Day Men's Complete Multivitamin Multivitamin/Multimineral Bayer	Most Commonly Reported Product
Milk Thistle	175 mg	Most Commonly Reported Strength
Moringa Powder	6 grams	Commonly Available Strength
Multimineral	Puritan's Pride Super Chelated Multi-Mineral	Commonly Available Product
Multivitamin / Multimineral	Centrum Adults Multivitamin/Multimineral	Most Commonly Reported Product
Nettle	435 mg	Commonly Available Strength
Niacin (Vitamin B-3)	500 mg	Most Commonly Reported Strength
Omega 3	Carlson Wild Caught Super Omega-3 Gems 600 Mg Omega-3s	Commonly Available Product
Papaya Enzyme	Puritan's Pride Papaya Enzyme	Commonly Available Product
Pediatric Iron Drops	Enfamil Fer-In-Sol Essential Iron For Infants & Toddlers Iron Drops	Most Commonly Reported Product
Poly-Vitamin Drops	Enfamil Liquid Multivitamin Poly-Vi-Sol For Babies Transitioning To Solid Foods	Commonly Available Product
Potassium	99 mg	Most Commonly Reported Strength
Prenatal Vitamins	Spring Valley Prenatal Multivitamin / Multimineral With Folate	Commonly Available Product
Probiotic	Shaklee Bifidus & Acidophilus Optiflora Probiotic Complex	Commonly Available Product
Psyllium Fiber	Metamucil Psyllium Fiber 4-In-1 Fiber Made With Real Sugar Unflavored Stone Ground Texture	Commonly Available Product

Default Supplement	Assigned Strength or Supplement	Selection of Assigned Strength or Supplement Based On:
Red Ginseng Extract Liquid	Prince of Peace Red Panax Ginseng Extractum Ultra Strength	Commonly Available Product
Red Yeast Rice	600 mg	Most Commonly Reported Strength
Resveratrol	100 mg	Commonly Available Strength
Rhodiola Rosea	500 mg	Commonly Available Strength
Salmon Oil	1000 mg	Most Commonly Reported Strength
Saw Palmetto	450 mg	Commonly Available Strength
Selenium	200 mcg	Most Commonly Reported Strength
Senior Multivitamin / Multimineral	Centrum Silver Adults 50+ Multivitamin/ Multimineral	Most Commonly Reported Product
Sodium Fluoride Drops	0.5 mg	Commonly Available Strength
Stress B-Complex	Nature Made Stress B-Complex With Key B Vitamins +Vitamin C & Zinc	Commonly Available Product
Strontium	340 mg	Commonly Available Strength
Super B-Complex	Nature Made Super B-Complex Key B Vitamins + Vitamin C	Commonly Available Product
Super Papaya Enzyme Plus	Nature's Bounty Super Papaya Enzyme 45 Mg Of Papain Per Serving Contains 6 Naturally Sourced Enzymes	Commonly Available Product
Tribulus Terrestris	500 mg	Commonly Available Strength
Turkey Rhubarb	500 mg	Commonly Available Strength
Turmeric	500 mg	Most Commonly Reported Strength
Turmeric & Ginger	250 mg Turmeric & 250 mg Ginger	Commonly Available Strengths
Vitamin A	8000 IU	Most Commonly Reported Strength
Vitamin B-1 (Thiamin)	100 mg	Most Commonly Reported Strength
Vitamin B-12	1000 mcg	Most Commonly Reported Strength
Vitamin B-2 (Riboflavin)	100 mg	Most Commonly Reported Strength
Vitamin B-6	100 mg	Most Commonly Reported Strength
Vitamin B-Complex	GNC B-Complex 50	Commonly Available Product
Vitamin C	500 mg	Most Commonly Reported Strength
Vitamin C Packet	Emergen-C 1,000 mg Vitamin C Fizzy Drink Mix	Most Commonly Reported Product
Vitamin C Powder	1000 mg	Commonly Available Strength
Vitamin D	2000 IU	Most Commonly Reported Strength
Vitamin D Liquid	5000 IU	Most Commonly Reported Strength

Default Supplement	Assigned Strength or Supplement	Selection of Assigned Strength or Supplement Based On:
Vitamin E	400 IU	Most Commonly Reported Strength
Vitamin E Liquid	400 IU	Commonly Available Strength
Whey Protein	Body Fortress Super Advanced Whey Protein	Commonly Available Product
Women's 50+ Multivitamin / Multimineral	One A Day Women's 50+ Complete Multivitamin Multivitamin/Multimineral Bayer	Most Commonly Reported Product
Women's Multivitamin / Multimineral	One A Day Women's Complete Multivitamin Multivitamin/Multimineral Bayer	Most Commonly Reported Product
Zinc	50 mg	Most Commonly Reported Strength

Default Antacid	Antacid Assigned	Selection of Assigned Antacid Based On:
Default Antacid Liquid	Walgreens Advanced Antacid Liquid Regular Strength	Commonly Available Product
Default Antacid Plus Tablets	Rolaids Advanced Antacid Plus Anti-Gas Multi-Symptom	Commonly Available Product
Default Calcium Antacid	Tums Calcium Carbonate Antacid Regular Strength 500 GSK	Most Commonly Reported Product
Default Children’s Antacid	Pepto Kids Chewables Calcium Carbonate / Antacid	Commonly Available Product