National Health and Nutrition Examination Survey

2017-March 2020 Data Documentation, Codebook, and Frequencies

Dietary Supplement Use 30-Day - Total Dietary Supplements (P_DSQTOT)

Data File: P_DSQTOT.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 Dietary Supplement and Prescription Medication (DSQ) Section of the Sample Person (SP) Questionnaire, collects information on: 1) prescription and non-prescription dietary supplements (DS), 2) non-prescription antacids, 3) prescription medications, and 4) low-dose aspirin.

The dietary supplement sub-section collects personal interview data on use of DS during the 30-day period prior to the survey date. The NHANES 2017-2018 and 2019-2020 dietary supplement questions are similar to the NHANES 1999–2016 and NHANES III 1988–1994 questions, although, there have been additional questions added over the cycles. Analysts are encouraged to read the documentation in order to understand the names and structure of the files as well as the variables.

Questions about non-prescription antacids, which contained calcium and/or magnesium (antacids), are also included in this data file.

The DS reported in NHANES 2017-2018 and 2019-2020 are detailed in the NHANES Dietary Supplement Database (NHANES-DSD) 1999-2020.

30-Day Dietary Supplements Data Files: Two data files were produced from the 30-day dietary supplement and non-prescription antacid sub-sections of the DSQ interview: Total Dietary Supplements file and Individual Dietary Supplements file.

File Name	
Individual Dietary Supplements	P_DSQIDS
Total Dietary Supplements	P_DSQTOT

Individual Dietary Supplements File (P_DSQIDS): Contains detailed information about the types and amounts of individual DS and antacids reported by each participant. The names of the variables included in this file are listed in **Appendix 1**.

The Individual Dietary Supplements File includes one record for each dietary supplement or antacid reported by a survey participant. Only participants' that had reported taking a dietary supplement or an antacid are included in these files. Each dietary supplement or antacid is identified by a supplement ID number

(DSDPID) and each record contains, but is not limited to, the information listed below:

- Name and ID number of the supplement
- Reason(s) for using the supplement
- Amount of dietary supplement consumed, 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-DSD. If data is missing for any of the variables needed to calculate the amounts consumed for the selected nutrients, this information will be missing for individuals, even though they reported a supplement(s).

This file only includes intake for a select group of nutrients. These records can be linked to the NHANES-DSD, using supplement ID numbers (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 would be 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_DSQTOT): Contains, for each participant, average daily total nutrient intakes from DS and antacids. The names for the variables are listed in **Appendix 3**.

The Total Dietary Supplement File provides a summary record of total nutrient intakes from DS and antacids for each individual. This includes users and non-users of DS and antacids. Each total intake record contains, but is not limited to, the following information:

- Whether a dietary supplement was consumed in the past 30 days
- Whether an antacid was consumed in the past 30 days
- Total number of supplements and antacids reported for that participant
- Mean daily intake aggregates of 34 nutrients/dietary components (listed in **Appendix 2**) from all supplements and antacids, as calculated using the NHANES-DSD. If data is missing for any of the variables needed to calculate mean daily intakes, this information will be missing for individuals, even though they may have reported a supplement(s).
- 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 survey participants were eligible for the DSQ.

Interview Setting and Mode of Administration

The DSQ was asked by trained interviewers, in the home, using the Computer-Assisted Personal Interview (CAPI) system. Participants over 16 years of age answered for themselves. A proxy provided information for survey participants who were under 16 years of age and for individuals who could not answer the questions themselves. The 2017-2018 and 2019-2020 survey questionnaires can be found on the NHANES website.

Quality Assurance & Quality Control

Data were routinely examined for discrepancies and erroneous entries. Trained nutritionists 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 DS (i.e., prescription medication); and assigned matching codes (confidence codes). All coding was reviewed by NCHS.

Data Processing and Editing

Data Collection Methods

Dietary Supplements (prescription and non-prescription)

During the household interview, survey participants were asked if they had taken a dietary supplement in the past 30 days. Participants were shown a hand card that listed examples of DS (**Appendix 4**). Those who answered "yes" were asked to show the interviewer the dietary supplement containers of all the products used. For DS listed on the "Strength Only" List, only the nutrient was selected, and the strength was recorded (see **Appendix 5**). For all other DS reported, the interviewer entered the product's complete name from the container into a computer. The interviewer entered the name a second time as verification. Interviewers could record up to 20 DS. If the container(s) was not available, the interviewer asked the participant to report verbally the name of the dietary supplement. The manufacturer was either selected from the manufacturer list or entered manually.

Non-prescription antacids

During the household interview, survey participants were asked if they had taken non-prescription antacids in the past 30 days and were shown a hand card that listed examples of non-prescription antacids. Those who answered "yes" were asked to show the interviewer the containers of all the products used. For each antacid reported, the interviewer entered the product's complete name from the container into a computer. If the containers were not available, the interviewer asked the participant to verbally report the name of the antacid.

When the interviewer entered the antacids name into the computer, the name was automatically matched to a prescription drug database (which also contained non-prescription antacid products) on the computer to identify an exact match or similar text matches. The interviewer then selected the best match from a list of possible matches. The original entry of the interviewer and the product selected from the computer list were saved under separate variables for quality control purposes. If an exact match of the product was not found, the interviewer was instructed to select "drug not found on list" from the list. Interviewers recorded up to 20 non-prescription antacids. Nutritionist at NCHS then processed the data collected to determine which products contained calcium and/or magnesium. The non-prescription antacids that contained calcium and/or magnesium were released with the dietary supplement data files.

Participants were also asked how long they had been taking each dietary supplement or non-prescription antacid reported, how many days it was taken in the past 30 days, the amount that was taken on those days and the reason(s) that they were taking the dietary supplement. For a non-prescription antacid, participants were asked whether they were taking it as an antacid, as a calcium supplement, or both.

Matching reported dietary supplements to known products

Trained nutritionists, at NCHS, matched the product names entered by the interviewer (including prescription supplement, non-prescription supplement, and antacids) to a known product when possible. NCHS nutritionists first determined if the product is in our in-house PLD. If it is, 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 the PLD, or the product label was entered before the beginning of the 2-year data collection cycle, NCHS nutritionist attempted to obtain a new product label. NCHS obtained labels for each dietary supplement or non-prescription antacid containing calcium and/or magnesium 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.

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

NCHS nutritionist attempted to find the exact product(s) reported by participants'; however, this was done with varying degrees of precision. A "matching code or confidence code" (DSDMTCH located in file P_DSQIDS) 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 was made with any certainty. These products were coded 6) No match. Products whose names were reported as "Refused" (DSDSUPP=7777) or "Don't know" (DSDSUPP=9999) have matching codes (DSDMTCH) of 7 and 9, respectively.

NCHS created generic and default DS and antacids, which were also maintained in the database. Generics were created in the database and used when we had collected information about a reported supplement, such as strength of all ingredients, but 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 us 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 in the database was used to code the reported supplement. 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 and generic products and the actual products or strengths that were assigned to these defaults are listed in **Appendix 6**.

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 are 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 survey participants. Dietary supplements that could not be matched to items in the database were resolved by NCHS nutritionist.

Product information is released from the in-house PLD as the NHANES-DSD, which contains detailed information on the DS 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 the Individual Dietary Supplements File 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 dietary website.

Data Editing

Non-prescription antacids containing calcium and/or magnesium that were reported in the non-prescription antacid section of the DSQ are included in the dietary supplement files.

Prescription medications, including prescription antacids, are released in the Prescription Medication Data File.

The following prescription products are included in the dietary supplement files:

- All calcium products except calcium acetate;
- All fluoride products except those in topical gel or cream forms (e.g., stannous fluoride);
- Over-the-counter niacin, niacinamide, and nicotinic acid;
- All vitamin D products, with the exception of records for Paricalcitol (D2) were retained in the 2017-2020 prescription medication data file; and
- All prenatal products, most prescription vitamins taken by mouth.

All prescription niacin, potassium, and sodium products were retained in the prescription medication file. Combination products that include prescription drug(s) and dietary supplement ingredients are retained in the

prescription medication file (e.g., combination drug alendronate with cholecalciferol or Fosamax with vitamin D3).

Specific variables and edits:

DSD010: Have you used or taken any vitamins, minerals or other dietary supplements in the past 30 days? Include prescription and non-prescription supplements

Participants with a record of having taken a product determined to be a dietary supplement in the last 30 days are coded “1.” This variable was edited and takes into account DS reported in any of the sub-sections of the DSQ. Some products were mistakenly recorded in the prescription medication sub-section. These data were moved to the dietary supplement files and are counted as supplements for DSD010 and DSDCOUNT. Participants who reported an antacid containing calcium or magnesium as part of the dietary supplement sub-section are also coded “1”; this product was considered to be taken as a calcium supplement. Participants who reported taking an antacid containing calcium or magnesium in the last 30 days that was recorded only in the non-prescription antacid sub-section but did not take any dietary supplement are coded “2.” Participants who did not take any product that was determined to be a dietary supplement in the last 30 days are also coded “2,” even if they originally reported having taken a supplement. Examples of products that were determined not to be supplements included foods (garlic cloves, raisin bran cereal, PowerBar®), drinks (Ensure®, Gatorade®, tea), over the counter drugs (aspirin, laxatives, electrolyte replacement fluids), homeopathic medicines, and prescription medicines. Prescription medicines were moved from the dietary supplement files to the appropriate prescription medication files. A small number of persons refused to answer this question (coded 7) or did not know whether they used a dietary supplement in the 30 days (coded 9).

DSDCOUNT: The number of DS taken

This variable was computed at NCHS and represents the total number of DS reported by the participant including those DS identified as unknown (DSDPID = 6666666XXX). Antacids that were reported in the dietary supplement sub-section were assumed to be taken as a dietary supplement and also included in the count. Antacids reported in the non-prescription antacid or the prescription medication sub-sections of the DSQ do not contribute to this count. There were also participants who reported the use of a dietary supplement in the past 30 days but did not know the name of the dietary supplement (DSDSUPP = 99999) or refused to report the name of the dietary supplement (DSDSUPP = 77777). Each product reported as refused or don’t know is still included in the total count of DS.

DSD010AN: Any non-prescription antacids taken?

This variable was created at NCHS to indicate whether or not an antacid was reported. This variable only takes into account these types of antacids reported in the non-prescription antacid sub-section of the DSQ. In previous data releases, there were a few antacids reported in the dietary supplement sub-section of the DSQ and these were considered to be taken as DS and included in the DSD010 and DSDCOUNT. There was 2 antacids reported in the dietary supplement sub-section in 2017-2020.

DSDANCNT: The number of non-prescription calcium and/or magnesium - containing antacids taken

This variable was computed at NCHS and represents the total number of antacids reported by the participant. Only these antacids reported in the non-prescription antacid sub-section of the DSQ contributed to this count. Antacids that were reported in the dietary supplement sub-section were assumed to be taken as a supplement and included in the dietary supplement count.

DSDANTA: Created variable that indicates whether an antacid was reported in the DS sub-section or the non-prescription antacid sub-section of the DSQ.

Information on use of non-prescription antacids was sometimes recorded in the dietary supplement sub-section of the DSQ; other times in the non-prescription antacid sub-section. Due to their nutrient content, antacids that contain calcium and/or magnesium are released with the dietary supplement data, irrespective of where they were reported. Only non-prescription antacids that contain calcium and/or magnesium are released in these files; this is not a complete accounting of all non-prescription antacids. Thus, users are

cautioned that analyses of these data to estimate the percentage of non-prescription antacids used would not be appropriate.

DSDPID: Supplement ID Number

New 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 was 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) were also listed if they were on the front of the product label. Words like "dietary supplement" and health claims were not entered as part of the name.

DSDMTCH: Matching code confidence codes

Supplements were recorded during the DSQ of the SP questionnaire with varying degrees of accuracy and completeness. NCHS had created a system to specify how certain we were with matching a supplement recorded during the interview with the actual product label.

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

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

Generic match (DSDMTCH=3) indicated 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 was known and NCHS had an identical product made by this manufacturer for a different distributor or retailer. Thus, the ingredients and amounts were considered to be accurate despite an exact brand match.

Reasonable match (DSDMTCH=4) indicated that the product name may have been incomplete or could have been complete, but other products of this brand also started with these same words so this could not be assured. In these cases, the entered name was matched to either: a) the most frequently reported of these products in the NHANES 2017-2018 and 2019-2020 data, if this could be determined; b) the best-selling product by this company that matched the entered name; or c) the most basic product by this company, as assessed by label wording.

Default match (DSDMTCH=5) indicated 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 was assigned. In these cases, the entered product was matched to a created default product based upon: 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/multi-minerals 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) indicated that no product was 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" were listed as the product name (DSDSUPP).

Analysts should be aware that for default matches and matches that chose between several similarly named supplements, there was less certainty that the ingredients and ingredient amounts in the supplement assigned exactly matched 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 were self-reported.

DSD070: Dietary supplement container seen by interviewer?

This variable indicated whether the product container was seen by the interviewer. Containers were seen for approximately 87% of the records. A more precise name for a supplement could be recorded by the interviewer, and thus a more precise match to a known supplement can be made, when the interviewer saw the supplement container rather than recording the participant's report of the supplement name (for example, multivitamin/multiminerals were often reported as multivitamins). In general, this was reflected in the matching code, but analysts should be aware that precision was greater when a container was seen.

This variable was mostly unedited. Interviewers asked to see the containers in all three sub-sections of the DSQ. Therefore, most records included in the dietary supplement file contained this information.

DSD090: For how long have you been taking this product or a similar type of product?

This information was collected using two-part (number and unit) questions to allow participants to report how long they had been taking the product or similar product in days, weeks, months, or years. The released variables were edited to standardize the reported length of time to number of days, using the following conversion factors: 7 days per week, 30.4 days per month, and 365 days per year.

There were persons who reported the use of a dietary supplement or antacid but did not know how long they had been using the product (DSD090 = 99999) or refused to report the length of use (DSD090 = 77777).

DSD103: In the past 30 days, on how many days did you take the product?

This variable was unedited. Information was missing for dietary supplement data that was recorded in the prescription medication sub-section, since this question was not asked in that sub-section of the DSQ.

DSD122Q and DSD122U: On the days that you took the product how much did you usually take on a single day?

The data was edited to standardize the amount the participant reported taking and the amount according to the product label serving size. For example, if a participant reported taking 1 tablespoon of a supplement and the label serving size was 3 teaspoons, then the variable was edited to 3 teaspoons (1 tablespoon = 3 teaspoons). There were 581 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=23). 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 reported amount taken was assumed to be the label serving size. Additionally, all records that were assigned a default product were edited and the label serving size was assigned for DSD122Q and DSD122U.

Information was missing for dietary supplement data that was recorded in the prescription medication sub-section, since this question was not asked in that sub-section of the DSQ.

DSDACTSS: Reported serving size/label serving size

This variable was derived using the information from DSD122Q (reported quantity taken) and information from variable DSDSERVQ (serving size quantity from product label) from the "Dietary Supplement Product Information" file (DSPI) of the NHANES-DSD. File DSPI provided information on the serving size from the product label's supplement facts panel for which the nutrient amounts were based on. The reported amount taken (DSD122Q) was divided by the serving size amount from DSPI (variable DSDSERVQ). Values were set to missing if any information was missing for DSD122Q or DSDSERVQ.

DSD124: Took product on own or doctor advised

NHANES asked participants the reason or reasons that they were taking DS. For every supplement reported,

participants were asked if they were taking the supplement for their own reasons or because a doctor or other healthcare provider told them to. A follow-up question was then asked in order to collect specific reason(s) why the participant was taking the supplement or why their doctor or other healthcare provider told them to take the supplement. The participant was given a handcard with a list of reasons for taking DS and asked to select the reason or reasons. This information has been collected since the NHANES 2007-2008 survey cycle.

DSQ128A- DSD128NN: Reason(s) for taking dietary supplement

These variables indicated the reason(s) for taking each dietary supplement reported. Participants' were able to choose more than one reason. The participant was shown a handcard (**Appendix 7**) with a list of reasons. The list was created based on a pilot study done during the NHANES 2006 survey, in which an open-ended question asking about the reason(s) for taking each dietary supplement reported was added. The answers were then used to develop the hand card. If the participant could not find the reason, they were taking the dietary supplement on the hand card, the interviewer indicated "other specified" (which was indicated under variable DSQ128S) and then typed in the reason given by the participant. Based on similar "other specified" reasons given in the NHANES 2007-2008, 2009-2010 and 2011-2012 survey, more answer categories were also added to the hand card. Analyst should note that answer categories were slightly modified for the 2013-2014 cycle, "to build muscle" was removed from "muscle related issues, muscle cramps" and provided as a separate category on the hand card. Additionally, "for weight gain" was added as a category on the hand card. Items were added to the hand card when they were reported in "other, specify" at a frequency of 20 or more times during a NHANES cycle. Two new categories "for inflammation" and "for fluid/water balance" were added for the 2017-2018 cycle compared to the 2015-2016 cycle.

Additionally, based on responses given in "other specified," many were able to be coded into the original response categories. Some other categories were created after data collection (denoted by a DSD instead of a DSQ in the variable name) based on many similar responses given. However, there are some exceptions. Variables DSD128T, DSD128AA, DSD128V, DSD128Z, DSD128BB, DSD128DD, and DSD128FF were categories created for the NHANES 2007-2008 and 2009-2010 release but were added to the hand card for the 2011-2012, 2013-2014, 2015-2016, 2017-2018 and 2019-2020 NHANES. Variable names were retained to make it easier for analyst to combine and use data, but they should be aware that these were categories that were on the hand card beginning in 2011. It should be noted that "for weight gain" was a category that was provided as a category post collection in the data release files for 2007-2012. However, for the 2013-2014 NHANES cycle, it was a category on the hand card. Responses that were not able to be categorized were indicated in variable DSQ128S (other specified) as a code 91.

A few participants entered into "other specified" that they needed to take a supplement because they didn't get enough sunlight. These responses were back-edited into the "to supplement my diet, food not enough."

RXQ215A: Antacid, calcium supplement or both?

This variable has been discontinued staring survey cycle 2019-2020.

Nutrient variables in the Individual Dietary Supplements file, P_DSQIDS

These variables were 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 participants reported usual amount taken was divided by the serving size from the label in order to determine the actual amount of nutrient consumed. For example, a participant may have reported taking one tablet, but the serving size amount was 2 tablets. Therefore, only half of the nutrients on the label were being consumed. The variable DSDACTSS (Reported serving size/label serving size) indicated the actual amount of product that was consumed. The actual amount of product consumed was 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.

Analysts do need to be aware that in some cases data is missing for the amount consumed. In these cases, nutrients could not be calculated and are missing. Analyst should be aware of this, especially when estimating the prevalence of use of certain nutrients by using only the nutrient variables.

DSQIFDFE: 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[1].

Nutrient variables in the Total Dietary Supplements file, P_DSQTOT

These variables were created by calculating a mean daily intake. The calculation was based on the number of days the participant reported taking each dietary supplement (variable DSD103). For example, if participant X took calcium 600 mg 15 days out of the month, the calculation would be 600mg*15 reported days/30 days per month. If participant X took more than one supplement or antacid containing calcium, they would then be added up for the total mean daily calcium intake from DS.

Analysts do need to be aware that in some cases data is missing for the amount consumed and the number of days the supplement was taken. In these cases, nutrients could not be calculated or mean daily intake could not be estimated and therefore values are missing. Analyst should be aware of this, especially when estimating the prevalence of use of certain nutrients by using only the nutrient variables.

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. 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 sample weights in the present file should be used to calculate estimates from the combined cycles. These sample 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 NHANES 2017-2020, a total of 16,728 dietary supplements or antacids were reported by survey participants as taken in the last 30 days prior to the interview. Approximately 4.0% of these reported records are missing information on the number of days the supplement was taken and/or the amount usually consumed. This is because either no product information was available, or the product was originally recorded in the prescription medication sub-section (which did not ask for this type of information for reported products). Therefore, even though the use of particular supplements was reported, no nutrient content or mean daily intake data for selected nutrients was calculated because of the missing information on the amount usually consumed. Analysts should be cautious when estimating the prevalence of supplement use for specific nutrients. Nutrient variables released in the Individual or Total Dietary Supplements file (P_DSQIDS or P_DSQTOT) should not be used alone to produce such prevalence estimation. It is recommended that analysts merge participant datasets with the NHANES Dietary Supplement Database files to identify the reported supplements containing the nutrients of interest.

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 DS with the same generic ingredient but different brand names (i.e., 2 different brands of calcium, but calcium is collected generically with only the strength) or the 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 that a separate dietary supplement container was seen for each reported dietary supplement both mentions of the dietary supplement 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 data set. 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.

NCHS collects brand name information on supplements whenever feasible, to ensure as much accuracy as possible in finding the label information for the exact product taken and providing exact ingredient information for this product to data users. Brand names are not collected for DS listed on the "Strength Only" List (see

Appendix 5: Vitamins/Minerals). Only the nutrient is selected, and the strength is recorded. Analyst should be aware that for these specific nutrients, NCHS releases generic information (i.e., calcium 600 mg). Thus, analyses of consumer usage by brand name using NHANES data may not be accurate and is not recommended. Brand names that are available in a limited geographic area of the U.S. are not released; generic names are used for these products.

Deriving nutrient estimates from dietary supplement data

Thirty-four nutrients have already been computed for this release. In order to compute average daily intakes for nutrients or bioactives other than these 34, analyst will need to combine the Individual Dietary Supplements File (P_DSQIDS) with the NHANES-DSD files (DSPI, DSII and DSBI), which contain information on each product and ingredients and amounts in those products.

Intake of multiple supplements with the same nutrient(s), multiple use of the same supplement on the same day, and nutrients in blends should be taken into account in nutrient calculations. Nutrient names and the quantity units need to be harmonized and nutrient amounts from all these calculations must then be summed. Some nutrient amounts are for a nutrient compound (generally a foreign-made product or an antacid) and these must be converted to a nutrient elemental amount.

Analysts need to be aware of question changes over the cycles when looking at trends. Dietary supplement data was reported as times per month in 1999-2000, days in the past month in 2001-2002, and days in the past 30 days in 2003-2020.

Please refer to the on-line NHANES Dietary Tutorial, which is available on the NHANES website, for further details on how to use these datasets.

Estimating total nutrient intakes from all sources (foods, beverages and DS)

Beginning in the NHANES 2007-2008 survey cycle, data on the usage of all vitamins, minerals, herbals and other DS as well as non-prescription antacids, are collected during the Dietary Interviews, which consists of two 24-hour dietary recalls. Prior to the NHANES 2007-2008 release, estimating total nutrient intakes from all sources (foods, beverages and DS), had been 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, and nutrients from all sources can be easily combined. The 24-hour dietary supplement data are released in separate files available on the NHANES dietary website. They can be linked to the dietary files by the respondent sequence number (SEQN). For more information on the data, refer to the documentations accompanying the 24-hour dietary intakes and dietary supplement datasets.

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

DSDCOUNT - Total # of Dietary Supplements Taken

Variable Name: DSDCOUNT

SAS Label: Total # of Dietary Supplements Taken

English Text: Includes all supplements and the antacids reported with supplements, but not antacids reported with medications.

English Instructions: < blank >

Target: Both males and females 0 YEARS - 150 YEARS

Code or Value	Value Description	Count	Cumulative	Skip to Item
0 to 20	Range of Values	15548	15548	
77	Refused	5	15553	
99	Don't know	7	15560	
.	Missing	0	15560	

DSDANCNT - Total # of Antacids Taken

Variable Name: DSDANCNT

SAS Label: Total # of Antacids Taken

English Text: Includes all antacids reported with medications.

Target: Both males and females 0 YEARS - 150 YEARS

Code or Value	Value Description	Count	Cumulative	Skip to Item
0 to 3	Range of Values	15554	15554	
77	Refused	3	15557	
99	Don't know	3	15560	
.	Missing	0	15560	

DSD010 - Any Dietary Supplements Taken?

Variable Name: DSD010

SAS Label: Any Dietary Supplements Taken?

English Text: The next questions are about {your/SP's} use of dietary supplements and medications during the past month. {Have you/Has SP} used or taken any vitamins, minerals or other dietary supplements in the past month? Include those products prescribed by a health professional such as a doctor or dentist, and those that do not require a prescription. This card lists some examples of different types of dietary supplements.

English Instructions: HAND CARD DSQ1

Target: Both males and females 0 YEARS - 150 YEARS

Code or Value	Value Description	Count	Cumulative	Skip to Item
1	Yes	7041	7041	
2	No	8507	15548	
7	Refused	5	15553	
9	Don't know	7	15560	
.	Missing	0	15560	

DSD010AN - Any Antacids Taken?

Variable Name: DSD010AN

SAS Label: Any Antacids Taken?

English Text:

Target:

Both males and females 0 YEARS - 150 YEARS

Code or Value	Value Description	Count	Cumulative	Skip to Item
1	Yes	1472	1472	
2	No	14082	15554	
7	Refused	3	15557	
9	Don't know	3	15560	
.	Missing	0	15560	

DSQTKCAL - Energy (kcal)

Variable Name: DSQTKCAL

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
0.1 to 1270	Range of Values	3198	3198	
.	Missing	12362	15560	

DSQTPROT - Protein (gm)

Variable Name: DSQTPROT

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
0.002 to 67	Range of Values	380	380	
.	Missing	15180	15560	

DSQTCARB - Carbohydrate (gm)

Variable Name: DSQTCARB

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
0.0005 to 254.5	Range of Values	2686	2686	
.	Missing	12874	15560	

DSQTSUGR - Total sugars (gm)

Variable Name: DSQTSUGR

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
0.02 to 24	Range of Values	1820	1820	
.	Missing	13740	15560	

DSQTFIBE - Dietary fiber (gm)

Variable Name: DSQTFIBE

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
0.003 to 26	Range of Values	296	296	
.	Missing	15264	15560	

DSQTTFAT - Total fat (gm)

Variable Name: DSQTTFAT

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
0.004 to 27	Range of Values	1222	1222	
.	Missing	14338	15560	

DSQTSFAT - Total saturated fatty acids (gm)

Variable Name: DSQTSFAT

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
0.0001 to 15	Range of Values	222	222	
.	Missing	15338	15560	

DSQTMFAT - Total monounsaturated fatty acids (gm)

Variable Name: DSQTMFAT

SAS Label: Total monounsaturated fatty acids (gm)

English Text: Total monosaturated fatty acids (gm)

Target: Both males and females 0 YEARS - 150 YEARS

Code or Value	Value Description	Count	Cumulative	Skip to Item
0.01 to 6	Range of Values	141	141	
.	Missing	15419	15560	

DSQTPFAT - Total polyunsaturated fatty acids (gm)

Variable Name: DSQTPFAT

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
0.01 to 12	Range of Values	361	361	
.	Missing	15199	15560	

DSQTCHOL - Cholesterol (mg)

Variable Name: DSQTCHOL

SAS Label: Cholesterol (mg)

English Text: Cholesterol (mg)

Target: Both males and females 0 YEARS - 150 YEARS

Code or Value	Value Description	Count	Cumulative	Skip to Item
0.1 to 250	Range of Values	718	718	
.	Missing	14842	15560	

DSQTLYCO - Lycopene (mcg)

Variable Name: DSQTLYCO

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
8 to 100000	Range of Values	945	945	
.	Missing	14615	15560	

DSQTLZ - Lutein + zeaxanthin (mcg)

Variable Name: DSQTLZ

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
2 to 48000	Range of Values	1135	1135	
.	Missing	14425	15560	

DSQTVB1 - Thiamin (Vitamin B1) (mg)

Variable Name: DSQTVB1

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
0.001 to 251.5	Range of Values	2764	2764	
.	Missing	12796	15560	

DSQTVB2 - Riboflavin (Vitamin B2) (mg)

Variable Name: DSQTVB2

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
0.001 to 401.7	Range of Values	2761	2761	
.	Missing	12799	15560	

DSQTNIAC - Niacin (mg)

Variable Name: DSQTNIAC

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
0.1 to 1520	Range of Values	3021	3021	
.	Missing	12539	15560	

DSQTVB6 - Vitamin B6 (mg)

Variable Name: DSQTVB6

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
0.01 to 500	Range of Values	4026	4026	
.	Missing	11534	15560	

DSQTFA - Folic acid (mcg)

Variable Name: DSQTFA

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
1 to 16000	Range of Values	3902	3902	
.	Missing	11658	15560	

DSQTFDFE - Folate, DFE (mcg)

Variable Name: DSQTFDFE

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
2 to 27200	Range of Values	3902	3902	
.	Missing	11658	15560	

DSQTCHL - Total choline (mg)

Variable Name: DSQTCHL

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
0.0003 to 666.6667	Range of Values	811	811	
.	Missing	14749	15560	

DSQTVB12 - Vitamin B12 (mcg)

Variable Name: DSQTVB12

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
0.02 to 10002	Range of Values	4291	4291	
.	Missing	11269	15560	

DSQTVC - Vitamin C (mg)

Variable Name: DSQTVC

SAS Label: Vitamin C (mg)

English Text: Vitamin C (mg)

Target: Both males and females 0 YEARS - 150 YEARS

Code or Value	Value Description	Count	Cumulative	Skip to Item
0.33 to 30000	Range of Values	4576	4576	
.	Missing	10984	15560	

DSQTVK - Vitamin K (mcg)

Variable Name: DSQTVK

SAS Label: Vitamin K (mcg)

English Text: Vitamin K (mcg)

Target: Both males and females 0 YEARS - 150 YEARS

Code or Value	Value Description	Count	Cumulative	Skip to Item
0.1 to 7000	Range of Values	2076	2076	
.	Missing	13484	15560	

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

Variable Name: DSQTVD

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
0.004 to 2570	Range of Values	4952	4952	
.	Missing	10608	15560	

DSQTCALC - Calcium (mg)

Variable Name: DSQTCALC

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
0.18 to 3750	Range of Values	4060	4060	
.	Missing	11500	15560	

DSQTPHOS - Phosphorus (mg)

Variable Name: DSQTPHOS

SAS Label: Phosphorus (mg)

English Text: Phosphorus (mg)

Target: Both males and females 0 YEARS - 150 YEARS

Code or Value	Value Description	Count	Cumulative	Skip to Item
0.67 to 1403	Range of Values	1306	1306	
.	Missing	14254	15560	

DSQTMAGN - Magnesium (mg)

Variable Name: DSQTMAGN

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
0.08 to 3390	Range of Values	2375	2375	
.	Missing	13185	15560	

DSQTIRON - Iron (mg)

Variable Name: DSQTIRON

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
0.002 to 260	Range of Values	1773	1773	
.	Missing	13787	15560	

DSQTZINC - Zinc (mg)

Variable Name: DSQTZINC

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
0.0001 to 450	Range of Values	3708	3708	
.	Missing	11852	15560	

DSQTCOPP - Copper (mg)

Variable Name: DSQTCOPP

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
0.0002 to 7.05	Range of Values	2222	2222	
.	Missing	13338	15560	

DSQTSODI - Sodium (mg)

Variable Name: DSQTSODI

SAS Label: Sodium (mg)

English Text: Sodium (mg)

Target: Both males and females 0 YEARS - 150 YEARS

Code or Value	Value Description	Count	Cumulative	Skip to Item
0.01 to 1820	Range of Values	1309	1309	
.	Missing	14251	15560	

DSQTPOTA - Potassium (mg)

Variable Name: DSQTPOTA

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 6750	Range of Values	1440	1440	
.	Missing	14120	15560	

DSQTSELE - Selenium (mcg)

Variable Name: DSQTSELE

SAS Label: Selenium (mcg)

English Text: Selenium (mcg)

Target: Both males and females 0 YEARS - 150 YEARS

Code or Value	Value Description	Count	Cumulative	Skip to Item
0.02 to 2100	Range of Values	2129	2129	
.	Missing	13431	15560	

DSQTCAFF - Caffeine (mg)

Variable Name: DSQTCAFF

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
2 to 1200	Range of Values	32	32	
.	Missing	15528	15560	

DSQTIODI - Iodine (mcg)

Variable Name: DSQTIODI

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
0.4 to 12500	Range of Values	3059	3059	
.	Missing	12501	15560	

Appendix 1: Variables in the Individual Dietary Supplements File (P_DSQIDS)

Variables	Variable Label
SEQN	Respondent sequence number
DSDPID	NCHS Supplement ID
DSDANTA	Antacid reported as a dietary supplement
DSD070	Was container seen?
DSDMTCH	Matching code
DSD090	How long supplement taken (days)
DSD103	Days supplement taken, past 30 days
DSD122Q	Quantity of supplement taken per day
DSD122U	Dosage form
DSDACTSS	Reported serving size/label serving size
DSD124	Took product on own or doctor advised
DSQ128A	FOR GOOD BOWEL/COLON HEALTH , REFUSED, DON’T KNOW
DSQ128B	FOR PROSTATE HEALTH
DSQ128C	FOR MENTAL HEALTH
DSQ128D	TO PREVENT HEALTH PROBLEMS
DSQ128E	TO IMPROVE MY OVERALL HEALTH
DSQ128F	FOR TEETH, PREVENT CAVITIES
DSQ128G	TO SUPPLEMENT MY DIET (BECAUSE I DON'T GET ENOUGH FROM FOOD OR FROM SUNLIGHT)
DSQ128H	TO MAINTAIN HEALTH (TO STAY HEALTHY)
DSQ128I	TO PREVENT COLDS, BOOST IMMUNE SYSTEM
DSQ128J	FOR HEART HEALTH, CHOLESTEROL
DSQ128K	FOR EYE HEALTH
DSQ128L	FOR HEALTHY JOINTS, ARTHRITIS
DSQ128M	HEALTHY SKIN, HAIR, AND NAILS
DSQ128N	FOR WEIGHT LOSS
DSQ128O	FOR BONE HEALTH, BUILD STRONG BONES, OSTEOPOROSIS
DSQ128P	TO GET MORE ENERGY
DSQ128Q	FOR PREGNANCY/BREASTFEEDING
DSQ128R	FOR ANEMIA, SUCH AS LOW IRON
DSQ128S	OTHER SPECIFY
DSD128T	TO MAINTAIN HEALTHY BLOOD SUGAR LEVEL, DIABETES
DSD128V	FOR KIDNEY AND BLADDER HEALTH, URINARY TRACT HEALTH, NEUROPATHY
DSD128W	FOR RESPIRATORY HEALTH, ASTHMA
DSD128X	FOR ALLERGIES
DSD128Z	TO IMPROVE DIGESTION
DSD128AA	FOR MENOPAUSE, HOT FLASHES
DSD128BB	FOR MUSCLE RELATED ISSUES, MUSCLE CRAMPS
DSD128DD	FOR RELAXATION, DECREASE STRESS, IMPROVE SLEEP
DSD128EE	FOR NERVOUS SYSTEM HEALTH

Variables	Variable Label
DSD128FF	FOR LIVER HEALTH, DETOXIFICATION, CLEANSE SYSTEM
DSD128GG	FOR ANTIOXIDANTS
DSD128HH	WORD OF MOUTH, ADVERTISEMENT
DSD128II	FOR THYROID HEALTH, GOUT
DSD128JJ	FOR WEIGHT GAIN
DSD128KK	LOW LEVELS IN BLOOD
DSD128LL	FOR SUPPORT AFTER SURGERY
DSD128MM	HEADACHES AND DIZZINESS
DSQ128NN	TO BUILD MUSCLE
DSD128OO	FOR INFLAMMATION
DSD128PP	FOR FLUID/WATER BALANCE
DSQIKCAL	Energy (kcal)
DSQIPROT	Protein (gm)
DSQICARB	Carbohydrate (gm)
DSQISUGR	Total sugars (gm)
DSQIFIBE	Dietary fiber (gm)
DSQITFAT	Total fat (gm)
DSQISFAT	Total saturated fatty acids (gm)
DSQIMFAT	Total monounsaturated fatty acids (gm)
DSQIPFAT	Total polyunsaturated fatty acids (gm)
DSQICHOL	Cholesterol (mg)
DSQILYCO	Lycopene (mcg)
DSQILZ	Lutein + zeaxanthin (mcg)
DSQIVB1	Thiamin (Vitamin B1) (mg)
DSQIVB2	Riboflavin (Vitamin B2) (mg)
DSQINIAC	Niacin (mg)
DSQIVB6	Vitamin B6 (mg)
DSQIFA	Folic acid (mcg)
DSQIFDFE	Folate, DFE (mcg)
DSQICHL	Total choline (mg)
DSQIVB12	Vitamin B12 (mcg)
DSQIVC	Vitamin C (mg)
DSQIVK	Vitamin K (mcg)
DSQIVD	Vitamin D (D2 + D3) (mcg)
DSQICALC	Calcium (mg)
DSQIPHOS	Phosphorus (mg)
DSQIMAGN	Magnesium (mg)
DSQIIRON	Iron (mg)
DSQIZINC	Zinc (mg)
DSQICOPP	Copper (mg)

Variables	Variable Label
DSQISODI	Sodium (mg)
DSQIPOTA	Potassium (mg)
DSQISELE	Selenium (mcg)
DSQICAFF	Caffeine (mg)
DSQIIODI	Iodine (mcg)

Appendix 2: List of Nutrients/Dietary 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 included in the dietary supplement files**

Appendix 3: Variables in the Total Dietary Supplement File (P_DSQTOT)

Variables	Variable Label
SEQN	Respondent sequence number
DSD010	Any Dietary Supplements Taken?
DSDCOUNT	Total # of Dietary Supplements Taken
DSD010AN	Any Antacids Taken?
DSDANCNT	Total # of Antacids Taken
DSQTKCAL	Energy (kcal)
DSQTPROT	Protein (gm)
DSQTCARB	Carbohydrate (gm)
DSQTSUGR	Total sugars (gm)
DSQTFIBE	Dietary fiber (gm)
DSQTTFAT	Total fat (gm)
DSQTSFAT	Total saturated fatty acids (gm)
DSQTMFAT	Total monounsaturated fatty acids (gm)
DSQTPFAT	Total polyunsaturated fatty acids (gm)
DSQTCHOL	Cholesterol (mg)
DSQTLYCO	Lycopene (mcg)
DSQTLZ	Lutein + zeaxanthin (mcg)
DSQTVB1	Thiamin (Vitamin B1) (mg)
DSQTVB2	Riboflavin (Vitamin B2) (mg)
DSQTNIAC	Niacin (mg)
DSQTVB6	Vitamin B6 (mg)
DSQTFA	Folic acid (mcg)
DSQTFDFE	Folate, DFE (mcg)
DSQTCHL	Total choline (mg)
DSQTVB12	Vitamin B12 (mcg)
DSQTVC	Vitamin C (mg)
DSQTVK	Vitamin K (mcg)
DSQTVD	Vitamin D (D2 + D3) (mcg)
DSQTCALC	Calcium (mg)
DSQTPHOS	Phosphorus (mg)
DSQTMAGN	Magnesium (mg)
DSQTIRON	Iron (mg)
DSQTZINC	Zinc (mg)
DSQTCOPP	Copper (mg)
DSQTSODI	Sodium (mg)
DSQTPOTA	Potassium (mg)
DSQTSELE	Selenium (mcg)
DSQTCAFF	Caffeine (mg)
DSQTIODI	Iodine (mcg)

Appendix 4: Dietary Supplement Hand card

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: Vitamins/Minerals on the "Strength Only" List

- Vitamin A
- Vitamin B6
- Vitamin B12
- Vitamin C
- Vitamin D (D3)
- Vitamin E
- Calcium
- Chromium (Chromium Picolinate)
- Folate (Folic Acid)
- Iron (Ferrous Xxxate)
- Magnesium
- Potassium
- Selenium
- Zinc (Zinc Gluconate)

Appendix 6: 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

Appendix 7: Reasons for Using Dietary Supplements Hand card

To:
Build muscle
Gain weight
Get more energy
Improve digestion
Improve my overall health
Maintain health (to stay healthy)
Maintain healthy blood sugar level, diabetes
Prevent colds, boost immune system
Prevent health problems
Supplement my diet (because I don’t get enough from food)

For:
Anemia, such as low iron
Bone health, build strong bones, osteoporosis
Eye health
Good bowel/colon health
Healthy Joints, arthritis
Healthy skin, hair, and nails
Heart health, cholesterol
Kidney and bladder health, urinary tract health
Liver health, detoxification, cleanse system
Menopause, hot flashes
Mental health
Muscle related issues, muscle cramps
Pregnancy/breastfeeding
Prostate health
Relaxation, decrease stress, improve sleep
Teeth, prevent cavities
Weight loss
Inflammation
Fluid/water balance